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"... the e.One Stream has a great deal to commend it." HiFi News (April 2019)



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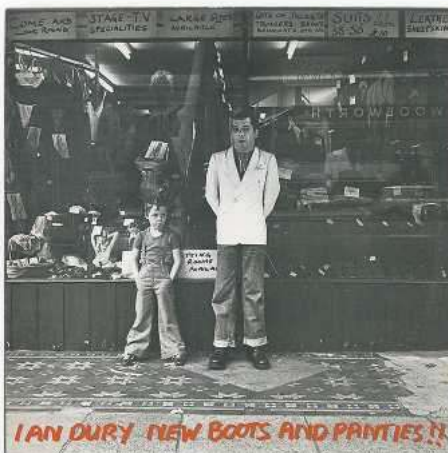
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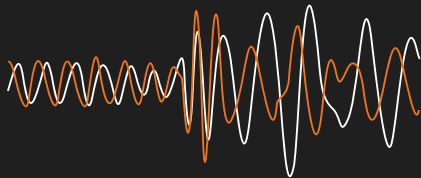
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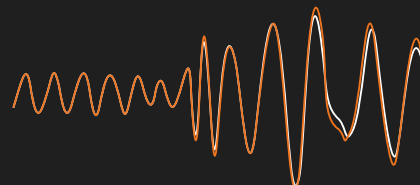
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WRITER'S CHOICE AWARD

"Truly, the Gold Note PH-10 Phono Stage is a stunning bargain, and the partnering Gold Note Mediterraneo turntable is an absolute delight. I'm fully confident that anyone hearing the Gold Note PH-10 phono stage and Mediterraneo turntable will agree that both deliver sweet, sterling sound and exceptional value."

HIFI PIG
HIGHLY RECOMMENDED

"The Mediterraneo from Gold Note is a bit of a stunner. It looks absolutely spectacular in an understated kind of way and goes to prove that high-end sound does not need to come at the sacrifice of beautiful aesthetics... it favours no one genre and can rock along, rave along when required but it can also be cool and refined."

HIGH FIDELITY.PL

"Mediterraneo looks, sounds and makes one feel like a wonderful, high quality Italian product should. Chic and style plus many years of experience."

MONO & STEREO
HIGHLY RECOMMENDED
PRODUCT

"If you want a turntable with great looks, easy handling, practicality and great sound, you really must consider this stunning Italian. All the technical stuff tucks neatly out of sight and all the necessary anti-vibration measures were applied in the most elegant way possible. Looks and brains combine to offer a great musical experience."

STEREO TIMES USA
RECOMMENDED

"... the Mediterraneo makes music sound beautiful... It is, without a doubt, one of the most beautiful turntables I've ever listened to."

POSITIVE FEEDBACK
HIGHLY RECOMMENDED

"All my music sounded simply wonderful. Clean and ever so there with a lively presence that was fast on its feet... pace and rhythm. Details were in evidence and aplenty, though they were not forced or in the least bit analytical. Bass was deep, solid, and propulsive...I could find nothing to criticize. [...]"

THE AUDIOPHILE
MAN
GROOVY

"Able to provide crisp detail without sounding bright and an attention-demanding focus without sounding compressed, the Mediterraneo sounds mature in its sonic approach... As such, Gold Note has taken an aesthetic approach that will appeal to many traditionalists in terms of its style and form, will catch the eye of those looking for a sense of style and class, and will please both groups in terms of its capabilities."



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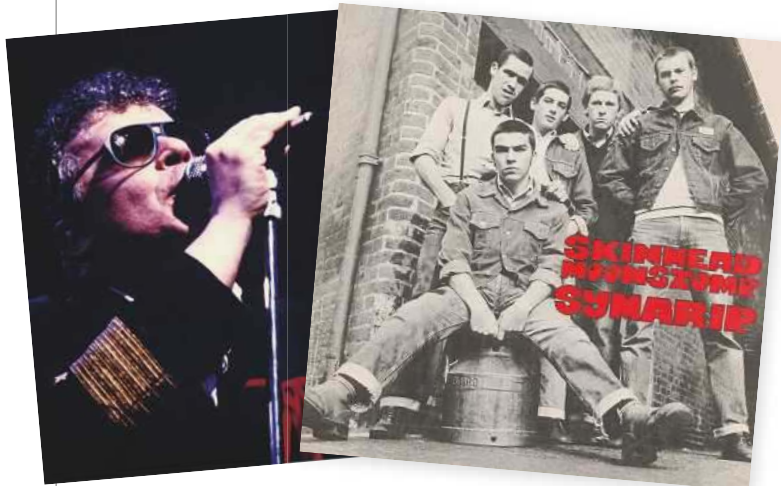




RIGHT: Audeze's most sensitive planar magnetic headphones yet, the LCD-1, are pure 'Budget Esoterica'. See p68

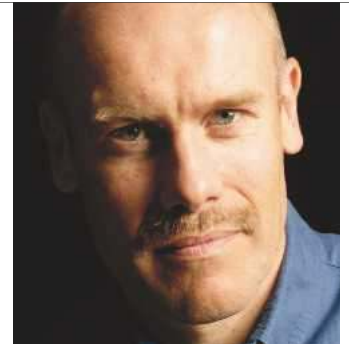


ABOVE: A retro-styled preamp to partner Luxman's MQ-300 tube amps, the CL-1000 finds our reviewer hitting the high notes. See p52



MUSIC: Ian Dury's provocative debut album *New Boots...* is our Vinyl Icon (p82) while Steve Sutherland recalls a '70s ska classic as Symarip's *Skinhead Moonstomp* is re-released on 180g LP (see p80)

RIGHT: *Hi-Fi News & RR* is the UK's representative of EISA's Hi-Fi Expert Group. Editor Paul Miller took over as EISA's President in June 2016



A chance meeting with D'Agostino's CEO and designer, Dan, at an international hi-fi show a few years ago found us pondering one of life's great questions: 'how big is big enough?'. In this instance we were looking at his Momentum series of amplifiers – physically very dense with their solid copper and alloy chassis, visually distinctive with their green-illuminated watchface meters, and plenty powerful too [see *HFN* Jul '11 and Oct '16].

But what they offered in sheer performance they lacked in physical stature. 'I am being asked by high-end customers for something *bigger*', he admitted.

Then, silence... until Munich's High End event in May '18 when Dan's magnum opus – the Relentless monoblock amplifier – was unveiled to some fanfare in front of an eager press pack. Just the one, and on static display only, lit to grand effect on a suitably robust pedestal. 'Big enough, do you think?' I asked Dan, to which his response was a wry smile and almost imperceptible nod.

I never got to hear the Relentless until our own Hi-Fi Show *Live* at Ascot last October (quick plug – it's 19/20th September this year) and, my worries that the pair of them might trip out the Grandstand being assuaged, these massive

monoblocks went on to drive a pair of Wilson Audio's latest Alexx floorstanders with the confidence of an Olympic shot-putter playing with conkers.

But the die was cast and an agreement hatched to install a pair of hi-fi's most talked-about, lusted-after and most outrageous amplifiers in *Hi-Fi News'* listening room. Just for a month...

Not for us a 'review' cooked up after 30 minutes in a dealer's

"I am being asked for something even bigger", admitted Dan'

showroom. This is the real deal, from manhandling the 350kg+ wooden crates (each!), extensive listening sessions with our key reviewers and – naturally – the world's first and, likely as not, only in-depth lab tests.

Previously seen in silver and copper livery, our set arrived in black and copper – a surprise, but not as surprising as its sound. Discover the Relentless on p36.

PAUL MILLER GROUP 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



DAVID PRICE
An avid collector of audio treasures, and life-long hi-fi addict, DP lends his ears and experience from analogue to digital



KEN KESSLER
is a long-serving contributor, luxury goods writer and champion for the renaissance in valves and 'vintage hi-fi'



KEITH HOWARD
has written about hi-fi for 40 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



ANDREW EVERARD
has reviewed hi-fi for over 30 years and is still effortlessly enthusiastic about new technology, kit and discovering new music



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

Levinson N°5105

HARMAN'S LUXURY BRAND INTRODUCES ITS FIRST IN-HOUSE-DESIGNED TURNTABLE

Mark Levinson has introduced a second turntable, the £6000 N°5105, to join its costlier VPI-built N°515 [HFN Oct '17]. A machined-from-solid aluminium plinth almost 2in thick forms a substantial basis for the entire structure, supported on three adjustable aluminium feet inside each of which is a 'mixed material' suspension system. A bubble level on the turntable allows the feet to be adjusted for accurate plinth levelling. Within the plinth, an oil-free, maintenance-free main bearing supports a 6.35kg platter, also of solid aluminium, which features a record clamp that mimics the form of the hourglass-shaped knobs on Levinson's electronics products. Belt drive is from a compliantly isolated 12V synchronous motor with a digitally generated control signal, which offers 33 and 45rpm operation. The integrated pick-up arm has a nominal effective length of 10in, to generate slightly less lateral tracking error distortion than conventional 9in alternatives. The arm features a high-

gloss, high-stiffness carbon fibre composite tube and fused solid aluminium headshell with integrated finger-lift, and again echoes the hourglass motif in the shape of its bearing housing.

Harman International Ind., CA, USA,
01223 203200; www.marklevinson.com



Modern Master

M33 AMP IS THE FIRST TO FEATURE PURIFI

NAD's feature-packed flagship DAC/amplifier, the £3999 M33, is the first such product in the world to incorporate Purifi Audio's Eigentakt analogue Class D power amp module which claims 'negligible THD and IMD', 'extraordinary low noise' and 'exceptionally clean clipping'. Available soon, the M33 claims 200W output into 8 or 4ohm loads and incorporates an ESS Sabre-based streaming DAC that supports 20 online music services. Dirac Live digital room correction is included, and the M33 can be networked with other BluOS products to create an integrated multiroom system.

Lenbrook Inc, Ontario, Canada,
01732 459555; <http://nadelectronics.com>;
www.sevenoakssoundandvision.co.uk



HI-FI NEWS' NUGGETS

RHODIUM OPERETTA 2

Black Rhodium has added a high-end version of the Operetta – the Operetta 2 DCT – to its range of interconnect cables. As 'DCT' suggests, deep cryogenic treatment is applied to this hand-assembled cable which also features a woven silver-plated copper screen, PTFE/air dielectric and bespoke gold-plated connectors. Price for a 1m pair with phono plugs is £600.
www.blackrhodium.co.uk

T+A TWO TRACK

German audio manufacturer T+A has announced a new distribution arrangement within the UK, which will see its previous distributor Kog Audio joined by newcomers The Audio Business. Responsibility is split, with Kog focusing on T+A's traditional and high-end products, while The Audio Business concentrates on personal audio and system-based items, specifically the Cala receiver, Caruso multi-source player and the Pulsar series of loudspeakers.
www.taelektroakustik.de

AC by Audiotricity

NEW POWER CONDITIONING BRAND HITS UK



The mains conditioners and cables manufactured by Portuguese brand Audiotricity will shortly be available in the UK through Scotland-based Elite Audio. (The Chimera Signature mains conditioner was demonstrated at last October's Hi-Fi Show Live.) Announcing the distribution deal, Elite Audio's Mark Cargill emphasised Audiotricity's bespoke service which customises its products to fit the particular needs of individual users. Audiotricity offers five power conditioners ranging from the entry-level Mormo to reference Stheno, and three ranges of mains cable from the entry-level Proteus to high-end Charon. Availability is soon but UK prices have yet to be announced.
Audiotricity, Portugal, 01732 459555;
www.audiotricity-hifi.com;
www.eliteaudiouk.com

Compact Classic

ICONIC JBL L100 SPEAKER REIMAGINED AS A BOOKSHELF

If you've hankered after the L100 Classic [*HFN* May '19] but the three-way is too large, JBL's design team have created the L82 Classic two-way 'bookshelf' model for you. Like its larger cousin, the 473x281x296mm (hwd) L82 promises 'classic JBL sound quality' with classic JBL aesthetics, particularly the retro chocolate bar Quadrex grille foam available in black, orange or blue, and satin walnut veneer cabinet. Behind the foam is a traditional two-way speaker built as mirror-

image pairs, allowing you to tune room sound by having the tweeters nearer to or further from the side walls. Drivers are a 200mm cast chassis bass-mid unit with white poly-coated pulp cone and 25mm titanium tweeter with acoustic lens and traditional adjustable L-pad level control. Reflex loading is via a front-firing Slipstream port. Price is £2000 and the optional JS-80 floor stands are £175.

Harman Luxury Audio Group,
01223 203200;
www.jblsynthesis.com



New Q Acoustics

MIDRANGE ADDITION TO AWARD-WINNING 3000i SERIES

Q Acoustics had added a third two-way standmount, its largest yet, to the 3000i series speaker lineup, the £329 3030i. With an internal volume more than twice that of the smaller 3020i, and a re-engineered version of the bass driver from the 3050i floorstander, the 325x200x329mm (hwd) 3030i extends the bass capability of the 3000i series standmounts, claiming a -6dB frequency of 46Hz. Despite this, specified sensitivity is high at 88dB SPL, partly secured by a 4ohm nominal impedance, with a minimum of

3ohm. The cabinet features Q Acoustics' familiar P2P internal bracing, and the 3030i is offered with an optional stand. Finishes are arctic white, carbon black, graphite grey and English walnut (pictured).

Q Acoustics (Armour Home Electronics), Herts,
01279 501111;
www.qacoustics.co.uk;
www.armourhome.co.uk



Hunky Halos

PARASOUND'S NEW FLAGSHIP MONOBLOCKS



Parasound has introduced the Halo JC 1+ monoblock power amplifier as a replacement for its venerable and highly regarded JC 1. Again designed by John Curl, the Halo JC 1+ is a thorough re-engineering of its predecessor. With an estimated UK price tag of £8000 (each), it claims to deliver a full 450W/8ohm, 850W/4ohm and 1.3kW/

2ohm, and boasts an amazing peak current capability of 180A. The PSU transformer has a 20% higher rating, reservoir capacitance is boosted from 132,000µF to 198,000µF, and Bybee Music Rails are used to filter the DC supplies.
Parasound Products Inc,
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Upcoming Events

IMPORTANT DATES FOR YOUR HI-FI DIARY

- 21-23 FEB** Bristol Hi-Fi Show, Marriott City Centre Hotel, Bristol; www.bristolshow.co.uk
- 14-17 MAY** High End 2020, MOC, Munich; www.highendsociety.de
- 20-21 JUN** North West Audio Show, Cranage Hall (De Vere Cranage Estate), Cheshire; <http://audioshow.co.uk>
- 19-20 SEPT** The UK Hi-Fi Show *Live*, Ascot Racecourse Grandstand, Ascot Berkshire SL5 7JX; www.hifishowlive.com
- 17-18 OCT** World of Hi-Fi, Dorint Kongresshotel, Düsseldorf Neuss; www.highendsociety.de/world-of-hifi

Audiojumble, Tonbridge

Words & pictures: Ken Kessler



Any fears that the Audiojumble is the preserve of decrepit audiophiles has been dispelled. The Tonbridge show always embraced used vinyl (plus some new releases), so it's now roughly 70:30 hardware-to-LPs. Oh, and tapes, too. If you need proof that, at grass roots level, both cassettes and reel-to-reel are engendering new interest, then this is the

place to be. I even bought two more open-reels at the event.

Content, though, is changing. While the hunt for turntables, cartridges and arms dominates still, the 'usual suspects' seem harder to find. For example, there has been a notable lessening of the number of LS3/5A speakers and Radford valve amps, typically the fastest-moving items.

Ah, how times change! This forlorn, grille-less pair of Linn Isobariks seem a world away from their heyday, when they were deemed the greatest speakers on the planet in some quarters. I'm sure Linn can still service them, and now speakers requiring replacement B139s need no longer be avoided thanks to new units being offered by Falcon.



With the Technics SP-10R and new VPI HW-40 Anniversary turntables [HFN Apr '19] causing a rethink about direct-drive, the king of the original, vintage DD-turntables is in feverish demand. This one is an SP-10 MkII [HFN Nov '10], while a MkI was there for £350.



Prices are all over the place for Leak Stereo 20 amps, but this example, at £850, has it all, including the underside baseplate. It was in mint condition, fully serviced, re-valved with NOS Mullard EL84 output tubes and fitted with modern gilded phono sockets so allowing it to be used with tweaky RCA plugs.



With Revox best-known for tape decks, demand is increasing for matching units, designed to work with (and look great with) A77s and B77s. This is the A78 80W/ch integrated amplifier with – presciently given the current market – not one but two headphone outputs. It also provided MM and MC phono inputs, filters and a mono button.



I love Beam Echo! This clean Avantic SPA21 was on offer for £300. It's precisely 60-years-old, and in production circa 1958-1960. Output was 12W/ch from EL84s and was notable for a phase-inverting switch, predating the audiophile trend by a good two decades. It also offered various phono EQ settings.



Pimp My Quads! Stopping me dead in my tracks were these hot-rodged Quad II Control Units and the matching tuner. The alterations date from 1978 – I didn't get the information on them, but apparently they enjoyed a complete rebuild, plus the addition of these machined knobs. As a pedantic purist, I prefer the factory stuff, but I kinda get it.



As I now own seven or eight open-reel decks, I had to pull myself away from this tempting Sony TC-630 'Stereo Center'. I love the idea of an all-in-one with stereo speakers, a portable system with sound-on-sound, noise suppression and other non-essential features. You can keep your cassette boom boxes!



No, you're not hallucinating: enjoying their debut at the Audiojumble, thanks to John Howes' expertise in horns, were freshly-made Lowthers, now under new management. Visit www.lowtherloudspeakers.co.uk for a vast selection of drivers, the refurbishment programme and a choice of cabinets and plans. Here's hoping for a successful return of a great name!



Though now the subject of a fervent cult – especially among those who worship anything Swiss – Lencos are still absurdly affordable. Online prices range from £100 for beaters to £1000 for minters, with plenty in between. This L75 is a classic idler-drive, and idlers, like direct-drive, are enjoying a renaissance.

Though no longer plentiful, one could find a Radford unit or two at the Audiojumble. This is a nice STA-25 stereo power amp, adjudged by many of the brand's devotees as the definitive model, in production from 1965-1971 and good for 2x25W from EL34s. The 'swan song' Series IV produced by Sondex in the mid-'80s used the near-mythical KT77 from the M-O Valve Company.



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Kicking myself for missing this gem, the Marantz PMD510 Professional Cassette Deck. This robust, studio-grade, rack-mountable unit contained two completely independent, quick-reverse cassette decks with Dolby B and C, CD Sync, remote operation, accurate digital timers and was the choice for those needing to make tape copies within a single chassis.

Curiously still affordable – maybe because Revox made so many? – the all-valve G36 is a best buy for the newly-convinced open-reel enthusiast. Available in a few configurations, supported by numerous repairers, they remain among the best-sounding decks, and they handle tape with a delicate touch. I love mine.



Every time I see a Dual 1019, I choke up because it was my first-ever turntable, purchased on the never-never in 1968 from a now long-gone retailer in Portland, Maine. Idler-drive, fully automatic and with a fabulous owner's manual, this deck taught me everything, including how to install a cartridge, which I had never done before. The Pickering P-AC1 pick-up somehow survived.

Rogers' tasty T75 Series 2 FM tuner was produced to match the A75 integrated amp. My radio-addicted friends rate it, and another reckons FM is unlikely to be switched off before 2030. You can find one for as little as £99: 4-gang FET input front-end, variable output, switches for mono and AFC – who needs DAB?



It's a testimony to Quad's solid-state gear that so much of it appears at Tonbridge and often in fantastically good nick. You cannot imagine the effort it took to resist this bargain offer of two complete 33/303/FM2 systems for £600. Then again, I need three sets of Quads like I need less hair.



If I hadn't ceased my tape deck acquisitions (eight are enough) I would have grabbed this Ferrograph Series Seven, with rare branded spools – oh, mama! Showing restraint, I resisted asking which format this example featured, as the Ferrographs were offered in mono or stereo, choice of speeds, etc. If you're hunting for one, note that there are specialists still servicing them.



Tokyo Audio Show

Words & pictures: Ken Kessler



Small but perfectly formed, the 37th Tokyo International Audio Show highlighted the best of Japanese high-end equipment and the finest imported gear. Its importance can be gauged by the number of overseas notables who attended, including Wilson Audio's Daryl Wilson, there to unveil the XVX Chronosonic loudspeaker, McIntosh's Charlie Randall and personnel from Pro-Ject, EAT, Magico, and others. A model

of superb organisation, it also boasts rooms that are massive by normal show standards.

As ever, both local high-end and multinational manufacturers were there with important debuts – you had to fight your way into the Accuphase, Denon, Esoteric and Luxman rooms, packed throughout the event – while specialists including Air Tight and Triode also debuted mouth-watering products.

Denon's latest high-end separates form the SX1 Limited Edition pairing, consisting of the DCD-SX1 SACD player and PMA-SX1 integrated amplifier as shown here. Rated at 2x50W, the 29.5kg amp has one balanced XLR input and an MM/MC phono stage. Price is around £5500. www.denon.jp



Scoop reviewed in this month's issue [see p52], this is the magnificent Luxman CL-1000 Vacuum Tube Control Amplifier enjoying its home-turf debut. Features include two sets of single-ended and balanced XLR main outputs, MM/MC phono stage and defeatable tone controls. www.luxman.co.jp



Hailing from Budapest, Bayz Audio's unusual-looking Courante is an omni-directional, full-range speaker employing Zoltán Bay's cylindrical, 360° dispersion driver, the patented Bayz Radial Speaker (BRS) with 'radial tweeter'. The BRS consists of a pulsating cylindrical membrane made from a proprietary ultra-light material, working with a custom-designed woofer chosen for its speed. The Courante stands 1390mm tall and has a claimed sensitivity of 90dB/W/m. www.bayz-audio.eu



Styling changes are rare for McIntosh, but the MC2152 70th Anniversary Amplifier has a look that's both utterly fresh and yet wholly respectful of the most tradition-bound brand of them all. Power is 2x150W on paper and the valve complement consists of eight KT88s for output, four 12AX7As and four 12AT7s; input can be single-ended or balanced. Part of the new look is carbon fibre for the side panels, while the three transformers are housed in glass-topped extrusions. www.mcintoshlabs.com

Tim de Paravicini again provided an open-reel tape demo, but this time for an unexpected twist he added to his Denon DH-710F a fully-restored four-channel Sony TC-854-4 recorder for a true quadraphonic experience. Heard through Italy's Diapason Adamantes, the power came from the evergreen EAR-Yoshino 509 100W monoblocks. Tim dazzled all with the playback of a super-rare jazz master tape from the legendary audiophile label, Three Blind Mice. www.earyoshino.com



TechDAS' Nishikawa-san stands next to his ultimate creation, the Air Force Zero, arguably the last word in turntables. I was privileged to undertake a series of demonstrations using this magnificent deck with a selection of Mobile Fidelity titles. If you ever get the chance to hear it... www.techdas.jp

While hardly omnipresent here, Accuphase is a brand that always grabs my attention. Among a plethora of new models was the impressive A-48 Class A stereo power amplifier. Factory rating is 45W/ch into 8ohm while to the far right of the fascia can be found a four-step gain control. www.accuphase.co.jp



Extreme headphone amps are now the rule rather than the exception, and Woo Audio's two-chassis, direct-heated triode Class A WA33 is one to tempt tube devotees addicted to cans. Power comes from one of my fave valves, the 2A3, a quartet of them delivering 10W/ch, with four 6C45 drivers and a 5U4G rectifier. The WA33 can also be used as a balanced, three-input preamp, and it handles every flavour of balanced headphone. www.woaudio.com

Aah, Air Tight – a brand I adore... I'd love to get my hands on this, the forthcoming ATM-2211 monoblock power amplifier, an update of the ATM-211. Output is said by the company to be 32W in single-ended triode mode from the eponymous 211 valve. www.airtight-anm.com





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Among Esoteric's new models in the Grandioso range is the 35kg (!) K1X SACD/CD/CD-R/CD-RW player. Transport features the company's VRDS clamping system, inputs include XLR, RCA and BNC, optical and USB-B, while processing covers DSD5 12, LPCM up to 768kHz/32-bit, MQA-CD, and more. www.esoteric.jp



Yamaha offers a plethora of goodies that don't seem to reach these shores, recalling the '70s and '80s, including some fine record decks. I was taken by this, the 100W/ch balanced-or-single-ended M-5000 stereo power amplifier. jp.yamaha.com

Triode's massive range is overwhelming, so it was with relief I only saw two new models, identical save for their output valves: the KT150-equipped Musashi and this, the TRZ-300W with four 300B triodes delivering 2x20W. It accommodates four line sources via RCAs, and has an MM phono stage. www.triode.co.jp



Fostex produces just the sort of loudspeakers we love in the UK. This gem is the FE103A 70th Anniversary Model full-range driver, demonstrated in a luxury enclosure occupying just 330x200x25cm (hwd). It filled the packed room so deceptively I was looking for a subwoofer. www.fostex.jp

Wilson Audio's mighty XVX Chronosonic speakers, performing at their absolute best, unsurprising since the designer – Daryl Wilson – spent days setting them up. Power came from a pair of Constellations, source was the TechDAS Air Force Zero. 'Majestic' is the only word that springs to mind. www.wilsonaudio.com

Far be it for me to suggest that stacking pairs of speakers is 'a thing' once more, but this isn't an enthusiast accident. Kiso sells the W Stack Stand that allows its two-way HB-X1 mini-monitor to be arrayed in vertical pairs. The sound was quite remarkable. www.kisoacoustic.co.jp



Next month
HFN reports from Serbia –
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BELOW: A pair of Quad ESL loudspeakers flank a Quad 22 control unit (top of rack) and a brace of Quad II amps. In production from 1957 to 1985, 54,000 Quad ESLs were sold worldwide



PHOTO: HIFIPICS / ANDRUCOLOU.CO.UK



Building a vintage system

One-make set-up, mix 'n' match? **Tim Jarman** offers a step-by-step guide

Putting a hi-fi system together can be one of life's great pleasures, but it can also become expensive and complicated if not done with care. Vintage hi-fi enthusiasts have three basic options. The first is to assemble a 'one make' system, normally using a combination suggested in an old catalogue as a starting point. Another is to assemble a mixed system of vintage components. The third is to add some vintage components to a modern set-up, or complete a vintage system using modern products.

ONE-MAKE SYSTEMS

This should be easy, and it certainly can be in many instances. Difficulties arise because over the years the differing life expectancies of various components mean that some are now more difficult to find than others, despite being sold in roughly equal numbers when new. As a rule, preamplifiers and tuners last the longest, so

either been damaged or messed about with, got turfed out during domestic redecoration or become irretrievably scruffy. The 'correct' speakers can become a long-term stumbling block in reuniting a brochure cover star of yesteryear.

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AGE MATTERS

If you can, stick to components from roughly the same price level and year. Compatibility may be stretched if you try to combine units that differ greatly in age, even if they all have the same name on the front. Also check carefully if you are trying to build up a set of boxes that match

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RIGHT: The bedrock of many a budding audiophile's first separates system, the Dual CS505 turntable can still be used as a building block in a first vintage system

visually. Many may well look like they do in the period catalogues but can be found to be slightly different in size, shape and colour when placed next to each other.

The truly dedicated may also try to find all the original accessories: stands and racks, cables, timers, headphones, recording media, demo records, etc. This is fun, but can easily cost as much as the main hardware for the more popular makes and models – unless good fortune smiles upon you.

MIXED VINTAGE SYSTEMS

This is what the hi-fi hobby was all about during the boom years – mixing and matching the key parts of a system to achieve the best possible results at a given price point. When the LP was the dominant source it was common to play the characteristics of the cartridge, arm, turntable, amplifier and loudspeakers against one another to obtain a balanced sound – a bright-sounding cartridge helping to offset a dull-sounding pair of loudspeakers, for example.

This worked well for single-source systems but fell down when an additional source, such as a tuner or a cassette deck, was added. The arrival of CD marginalised this approach further, the differences

RIGHT: One of the classic – and costly – ‘Linn ‘n Naim’ combos featuring a Linn LP12 and Linn Sara speakers with Naim amplification. The two British companies collaborated until the mid ‘80s



between players being insufficient to cover an exaggerated aspect of a system’s performance elsewhere.

REFINE AND UPGRADE

Nevertheless, today one could use a CD player (either vintage or modern) to benchmark

the sound of a vintage amplifier and loudspeaker pairing. Once this has been resolved to your liking, a turntable can be added and tuned (with different cartridges, etc) in order to obtain the same tonal balance. A system built up like this is much easier to refine and upgrade than one that only sounds ‘right’ in one combination and becomes distinctly worse when anything is altered.

A valve tuner is useless without its amp partner

Of course, many ‘classic’ systems of mixed components have been suggested over the years, from the ‘student grant’ budget set-up of Dual CS505 turntable [HFN Feb ‘13], NAD 3020 amp [HFN Nov ‘12] and Wharfedale Diamond speakers

to various costly ‘Linn ‘n Naim’ combos.

These remain a good starting point today, especially if you wish to hear the music of the time on something authentic. If this is your area of

interest, buying and studying old hi-fi magazines is the place to begin.

Building up a system from mixed components may well introduce technical problems concerning electrical compatibility. More on this later, but if possible, always ☺

BELOW: Arcam’s Delta 100 cassette deck (bottom left), Quad’s 33/303 pre/power amps [HFN Jul ‘11] and (bottom right) the Aurex Micro System 15 [HFN Apr ‘16], also sold under the Toshiba brand

TOP ONE-MAKE SYSTEMS

During the ‘70s and ‘80s, many hi-fi magazines dedicated pages to solving their readers’ system-building and upgrading issues. Useful guidelines emerged, but advice was more than often accompanied by a reminder to audition equipment ‘at your dealer’.

Of course, you can’t do that easily if you are buying vintage equipment today. So here is our selection of six tried-and-trusted one-make set-ups to get you on your way.

ARCAM DELTA: Unusually for a British system, the early ‘90s Delta range included a Dolby S cassette deck, the Delta 100, which was made in the UK but boasted Japanese (Denon)



mechanicals. This was arguably the leading British one-make system of its era.

QUAD ‘33’: 33, 303, FM3, ‘ESL 57’. Perhaps a bit dated-sounding now but still stylish and capable of superb results with BBC Radio 3. Impeccable industrial design is a key attribute.

SONY PRE-ESPRIIT: TA-E88B, TA-N88B, ST-J88B, TC-K88-B, PS-B80. The peak of Sony’s audio engineering talent is richly displayed here. One drawback is that all units can be tricky to repair.

B&O BEOLAB 8000: Beomaster 8000, Beogram 8000, Beocord 8002, Beovox MS150. Ultra high-tech Danish statement system that showed rivals

Revox and Tandberg how it was done. Remote control too, and the set-up can be completed with an SC 80 cabinet.

TOSHIBA/AUREX MICRO SYSTEM 15: SC-M15, SY-C15, ST-F15, PC-D15. It may be tiny, but its performance casts a big shadow over plenty of combos with larger components. It’s reliable too.



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try to hear units working together before laying out large amounts of money when you are unsure of the technical details involved.

The third approach is to include vintage pieces in an otherwise modern system, and there are many good reasons to do this. The main one is that some still useful items are no longer made, or are expensive or limited in choice. Tape recorders (cassette and open reel) and FM tuners fit into this category, but other items such as linear-tracking or direct-drive turntables and certain types of loudspeaker are more widely available on the vintage market than new.

SOURCE FIRST

A good approach to building this type of system is to start with your most important source (probably one of the modern ones) and 'voice' the vintage components around that. High-quality tape recorders were built to be 'neutral', but everything else can vary to a significant degree in sound. There's quite a difference between the fairly dry presentation of a Yamaha CT-7000 [HFN Aug '12] tuner compared to the mellow tones of a Beomaster 5000 [HFN Dec '12] of the same era. Both are excellent designs, but the optimum choice will depend on the rest of the system.

A valve tuner can be a satisfying addition, but do bear in mind that many of them were powered from their original matching amp and are pretty useless without it. The Quad FM2 is a good place to start, though its built-in (transistor) stereo decoder is perhaps not the best.

Vintage turntables, once correctly overhauled, are a fine addition to a modern set-up. Linear-tracking decks with servo-controlled arms are a rarity today but were commonplace in the vintage era. Big decks such as the Sony PS-X800 and Pioneer PL-L1000 give a good demonstration of what linear tracking can do, while one has to go a long way to improve usefully on the little Technics SL-10

'Cartridges are a minefield and these are best avoided'

are a minefield and are best avoided by all but the most committed.

Similar comments could be made about loudspeakers, and it is unusual to see vintage loudspeakers used in

[HFN Apr '19] and its derivatives.

An old deck equipped with a modern arm is another popular combination. Micro Seiki's DDX or DQX-1000 is probably the ultimate choice in this respect, but there are plenty of Thorens TD160s, Technics SL-150s [HFN Oct '15] and old Rega decks out there for those who wish to

experiment at a more modest level of expenditure. If available, a modern pick-up is advisable in any system where originality is not paramount. In fact, vintage cartridges

are a minefield and are best avoided by all but the most committed.

Similar comments could be made about loudspeakers, and it is unusual to see vintage loudspeakers used in



ABOVE: From 1975, Yamaha's CT-7000 tuner is still one to consider



ABOVE: Micro Seiki's DQX-1000 quartz-locked, direct-drive deck

ABOVE LEFT: Linear-tracking SL-10 turntable from Technics

BELOW: Another top Technics deck is its SL-150 from 1976

an otherwise modern system. There are exceptions, of course, Quad electrostatics and the various BBC-based designs have characteristics that have not been completely replicated elsewhere. So if you like their sound, the originals are the ones to go for. The same holds true for the Philips Motional Feedback series [HFN Jan '13]. Nothing like it has really been made since, so again, if you appreciate the way these speakers sound, the old ones are your only choice.

TECHNICAL ISSUES

Combining sources and amps from different parts of the globe is complicated by the fact that two basic standards existed throughout the vintage era. In the '60s and '70s, the bulk of Japanese and American equipment used 'line level' signals, whereas the DIN standard was common across Europe. British makes used either, sometimes employing the connectors from one standard with the signal levels of the other. The Nytech CTA-252XD receiver [HFN Jun '17] is an example.

The DIN standard had its own connectors, ranging from three to eight pins but most commonly seen with five. This allows for stereo recording and playback through one simple cable, and on the whole the manufacturers got the pinning right so everything worked smoothly. Equipment that works at line level typically uses RCA connectors which, of course, are still familiar today.

The output level from a DIN-standard source is much the same as that from a line level one, so apart from having to make or buy the adapters needed there are normally no difficulties here. The recording output from an amplifier is quite different though. Line level recording outputs are the same as the source inputs, but under the DIN standard they are much

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lower, similar to the signal obtained directly from a microphone.

Connecting a DIN-standard recorder to a line level amplifier may result in overloaded recordings at any setting of the level control, while connecting a line level recorder to a DIN amplifier may give results that are not only very quiet but noisy.

Because the DIN standard specifically does not allow for 'off tape' monitoring from a three-head recorder, various non-standard arrangements exist to provide this function – even in those models made by otherwise strict adherents to the DIN system (eg, Philips). Two separate sockets are often used, the input one sometimes having line level sensitivity. Being able to make one's own cables helps a lot when dealing with set-ups such as these.

SENSE ON SENSITIVITY

DIN connections for turntables use the outer shell of the plug for the 'chassis ground' and pin two (the centre one in the arc of five) for the 'signal ground'. This avoids the need for a trailing earth wire, but it also means that simple adapters (eg, those intended for tape decks and tuners, etc) can't be used.

The easiest way to judge input sensitivity is to be aware of the position of the volume control when playing a source at a moderate volume. If the sound is clipped and distorted or it's difficult to set the control at low listening levels then the amplifier's sensitivity is probably too high for the source in use. This is often a problem when using a CD player with equipment made well before the CD era. Attenuators are available to solve this problem, and these connect between the source component and the amplifier, reducing the signal to a more manageable level.

Loudspeaker matching is not helped by the vague nature of the specifications given by manufacturers of the vintage period. However, over-driving a speaker will cause the voice coils to burn and distort their formers, jamming the centre of the cone in the magnet assembly

CLASSIC COMPONENTS FOR MODERN SYSTEMS

It's not just that adding a classic component to a modern system widens your choice. You can also take advantage of the greater availability of many items while availing yourself of products, such as high-quality cassette decks, not to be found new.

TURNTABLE: Technics SL-7. Fitted with a new cartridge, such as an Audio-Technica AT85EP, this plentiful little deck is hard to beat.



CASSETTE: Sony TC-K611S. Not only a great sounding recorder but one that's easy to look after too.

TUNER: Hitachi FT-5500 MkII. Compact, reliable and with a sound that's superb, this is the top vintage tuner choice.

CD PLAYER: Philips CD104. A durable, high-quality machine and perhaps the first to impress hardened audiophiles [HFN Apr '14].



AMPLIFIER: Quad QC22/II. The classic valve amp combo and one with just enough power if you have the right loudspeakers.

LOUDSPEAKERS: Yamaha NS-1000M. A top buy provided the drive units are sound [HFN Oct '18].

or causing it to rub. This is rare, however. One usually encounters open-circuit tweeters that have been overloaded by the distortion produced by a struggling amp.

As for impedance, this is of little consequence unless you intend to use the full power of the amplifier. It was a critical factor with low-powered valve amplifiers since it was desirable to achieve the highest efficiency possible. An amplifier built to drive two sets of loudspeakers will

ABOVE: Quad's QC22/II valve amps and (top right) Yamaha's NS-1000M monitor

BELOW: Philips' 22RH544 Motional Feedback loudspeaker from 1975

normally drive one pair of almost any impedance with ease. Again, at listening levels associated with 'high fidelity' one is unlikely to encounter any problems associated with loudspeaker impedance matching.

ON THE CONTRARY

Sensitivity is another issue that comes into play when matching loudspeakers. Contrary to what one would expect, larger loudspeakers tend to require less power for a given perceived sound intensity than do small ones, so a

bigger amplifier is often required to drive small speakers. Sensitivities of 90dB/W/1m and above can be considered 'high' for matching purposes, and you won't need a very big amplifier to make a lot of noise with a speaker having such a rating. On the other hand, anything in the mid-to-low 80s is considered 'low', meaning a large amp may be required to achieve realistic listening levels (assuming that the speakers can take it!).



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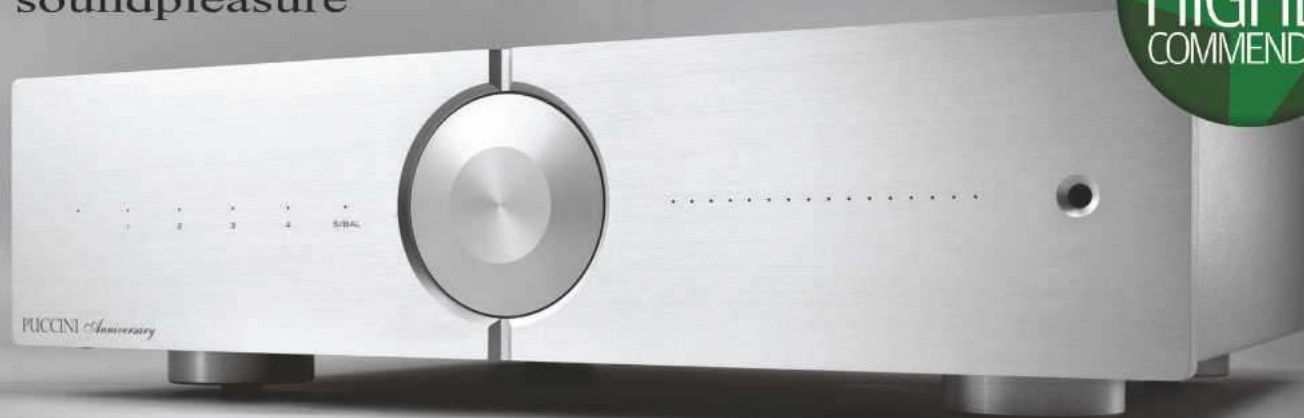
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D'Agostino Relentless

The culmination of one man's 'relentless' quest to develop his 'dream amplifier – an amplifier without any limits' is revealed in this special six-page, in-depth review...
 Review: **Paul Miller** with **Ken Kessler & Andrew Everard** Lab: **Paul Miller**

It is not unusual for products featured in *Hi-Fi News* to rival a family car for cost. But a pair of monoblocks that weigh as much as a car and cost as much as a house? While that is surely breaking new territory for us all, the prospect of 'stretching the envelope' in power output, industrial design and sheer audio performance was clearly uppermost in CEO Dan D'Agostino's mind as he contemplated the next step on from his 400W/8ohm Momentum monoblocks [*HFN* Oct '16].

Enter the Relentless, a battleship to sink all other flagships, and a statement of intent rivalled only by Wilson's WAMM Master Chronosonic or Magico's Q7 MkII loudspeakers in the elusive quest to inch us that little bit closer to the 'real thing'. We saw the Relentless displayed at Munich's High End 2018, and 2019, but we only heard it for the first time in Europe at our Hi-Fi Show *Live* in Ascot last October. So this is the first – and possibly the only – full and independent technical test you will read of the hi-fi world's most luxurious, most powerful, heaviest and costliest amplifier... ever. Time to assemble the *HFN* crew!

BETTER BY THE TON

Pictures alone cannot convey the sheer scale of this amplifier, so here's the Relentless by numbers: each chassis is over a half metre in width (572x280x826mm, whd), weighs over a quarter ton (258kg) and is composed of interlocking slabs of precision-milled copper and aluminium alloy. The latter is a very costly 'aircraft-grade' alloy that guarantees the quality of the

RIGHT: The main 5kVA toroidal PSU transformer and bank of six [blue] 100V reservoir electrolytics dominate the interior, powering the input [far right] and output stages [top and bottom]. High current relays afford protection [silver, on floor of amp]

1µm-deep diamond cut finish, gloss black and silver (natural) anodising and hard, synthetic enamel coating. The price, if you need to ask, is an astonishing £125,000 per mono chassis, in either colour. As I say, best not to ask...

Power output is rated at 1.5kW/8ohm, with a theoretically 'perfect' doubling to 3kW/4ohm and 6kW/2ohm [see Lab Report, p41]. This is at least partially reflected in the 0-1.6kW scale embedded into the eye-catching meter that glares from its fascia. By now a hallmark of the D'Agostino brand, the design resembles watch dials from the 19th century, while the needle is a facsimile of the hour hand created by Abraham Louis Breguet – the greatest watchmaker of all time.

In use you'll regularly see that needle flicking up beyond 300W, but this is 'fake news' – the meters are made to move

all the time so that 'users are confident something is going on', admitted Dan, 'fun to look at, but please don't take the numbers too seriously'.

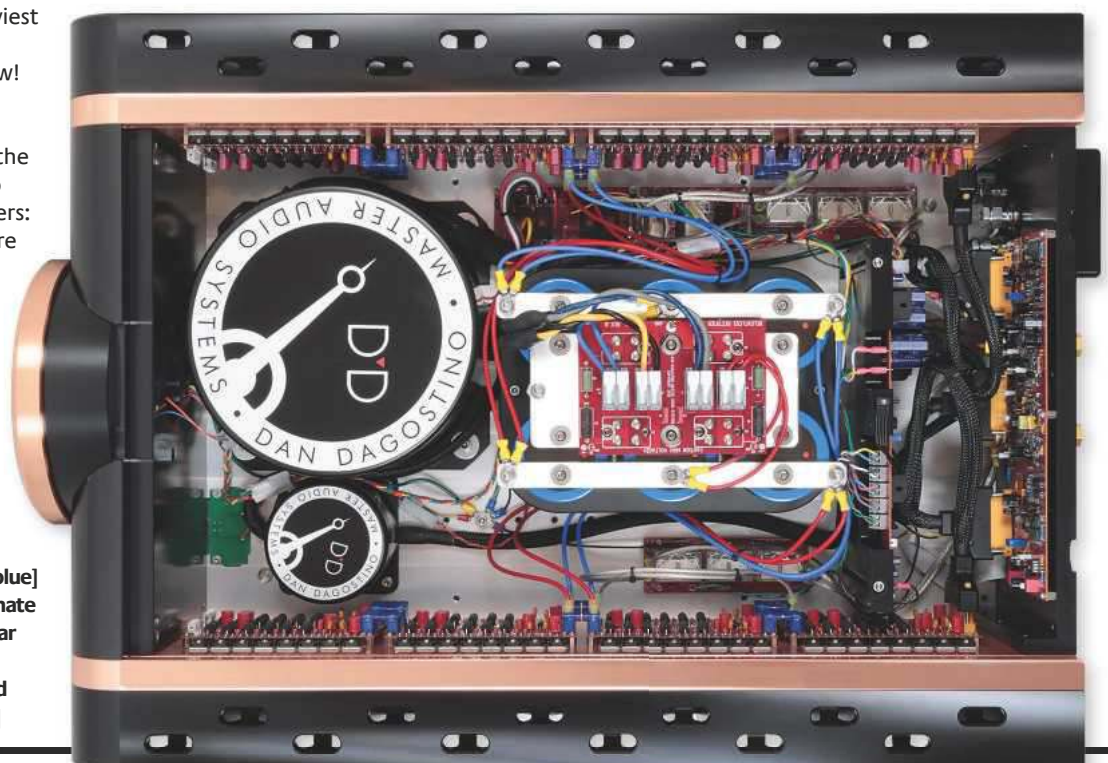
DECORATIVE BY DESIGN

Why? Simply put, the early Momentum amplifiers had accurate meters and, with typical real-world outputs being just a

few watts for much of the time, the needles were barely moving. I think D'Agostino just got fed up with customers complaining that their amplifiers were faulty! I tested the meter calibration here and

can report that with just 1W/8ohm at the output the scale reads 400W, while 20W/8ohm is indicated as a full 1kW. During the real power tests [see p41], those needles were slammed into their end stops and all but bending under the strain.

'It is over half a metre wide and weighs a quarter of a ton'





Under the bonnet, D'Agostino has specified a suitably robust power supply, with a fully-screened 5kVA toroidal mains transformer that weighs some 35kg in its own right. The 'standby' and control circuitry transformer, adjacent, looks small but is still bigger than those fitted to some modest integrated amplifiers!

This custom PSU is supported by a bank of six huge 100,000µF electrolytics that are clamped firmly into place by a Delrin 'Coke can holder' designed to mitigate any potential microphony [see Investigation, *HFN* Jul '18]. The transformer has a split secondary winding that feeds two sets of rectifiers – these are not destined for each half of the amplifier but are combined to feed *both* sides of the amplifier in tandem. This is a mono chassis, but the amplifier is a story of two perfectly balanced sides.

ARE YOU WARM YET?

With 1000s of watts on tap, and a fully floating output that cannot be permitted to see a sniff of ground, the Relentless presents some special challenges for anyone intending to work up a full lab test. This is not a task for the inexperienced! But there are more subtle factors that need to be considered, in particular the impact of D'Agostino's low feedback scheme on performance as this mass of copper and aluminium very slowly heats up. When first taken out of standby, a 'cold' Relentless incurs some 0.006% distortion (1kHz/ 10W/8ohm) but over the first hour or so this reduces to 0.0035% [black trace, inset Graph] as the heatsinks gradually adapt to the 512W of idle power consumption. Just leaving a pair of these amps powered-up draws as much from the wall as a one-bar electric heater, the chassis typically rising to 25°C over ambient (so about 45°C in a 20°C living space). After 24hrs the Relentless's thermal latency is almost entirely resolved, the linearity of its output stage maintained by sheer mass at a low 0.0015% distortion [red dotted trace, inset Graph]. For more exclusive performance figures, see Lab Report, p41.

In order to achieve a very high power, typically beyond about 500W/8ohm, most high-end amplifiers employ a bridged output, doubling the available voltage by combining two amplifiers, one out of phase with the other. The Relentless is a true balanced design that uses a *single* differential input amplifier, a current mirror circuit, to derive the mirrored (plus and minus) audio rails.

TRANSISTOR FARM

Even-order distortions are suppressed, if not entirely cancelled by this technique, which is just one reason why D'Agostino has reduced the overall feedback, or compensation, employed in the design [see boxout, below]. Also key is the 'super rail'

ABOVE: Unmistakably 'D'Agostino', albeit on a very grand scale, the black livery is offered as an alternative to silver. Illumination for the 200mm diameter display is dimmable/defeatable but the meter calibration is deliberately inaccurate!

PSU that offers a headroom of some 20% for this input stage. The following current gain stage runs on the same rails as the output stage, the latter employing purely complementary drivers and output devices, all from ON Semiconductor.

This output stage is a huge 'transistor farm' staged over eight separate parallel amplifier modules – it is simply impractical to fabricate a single PCB to host this many devices. Each module [see picture, p38] has eight complementary pairs of bipolar power transistors, adding up to 128

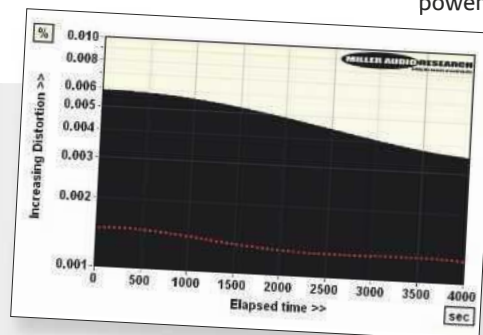
devices per mono chassis.

Moreover, every power transistor is hand-matched to create the ideal complementary pair and each pair grouped to ensure optimum symmetry. So, with as many drivers as output devices, the Relentless functions as 32 smaller, fast power amps in parallel per balanced side.

There's no Zobel or other stabilising network on the output as the Relentless is specified as unconditionally stable into any likely load.

TURNING UP THE HEAT

Unsurprisingly, this many richly-biased devices generates a good deal of heat that requires dissipation. The amplifier modules are bolted to two 23kg copper slabs that are clamped to its custom external heatsinking – a variation on the passive Venturi cooling system first seen on the ↻



MONO POWER AMPLIFIER

THE HD PREAMP

The perfect partner for D'Agostino's flagship monoblocks? The Momentum HD Preamp, seen here in silver/copper livery, is certainly an aesthetic match for the Relentless but it was designed primarily to service the Momentum M400 [HFN Oct '16] and S250 power amplifiers. We learned during our interview with designer/CEO Dan D'Agostino [see opposite page] that the HD Preamp already benefits from a lot of the thinking that has informed the soon-to-be-released Relentless Preamplifier, including the use of a fully discrete differential FET input stage, comprehensive PSU filtering and isolation, plus over-voltage rails (+36%) for the output stage. Convenience features are enhanced too, including the remote control which is now a Bluetooth device offering out-of-sight, long-range operation. Owners of the existing Momentum Preamplifier [HFN Nov '13] are able to upgrade to the new Momentum HD model. A separate in-depth review of the £48,000 HD Preamplifier is scheduled for next month's *Hi-Fi News*, and I used one during the course of my extended sessions with the Relentless, typically partnered with dCS's Vivaldi One digital hub [HFN Feb '18].

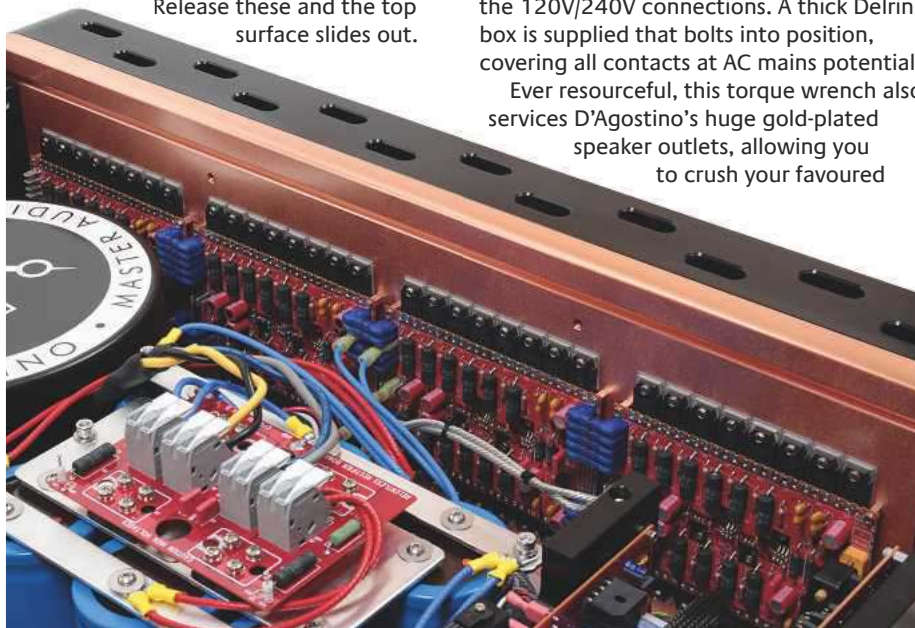


Momentum, machined here into two 22kg alloy blocks [see pic, p39]. So the Relentless is also an effective, albeit costly, storage heater, raising the temperature in my listening room by 5°C over a 48hr period.

DO NOT TOUCH

Much of what I have described is readily identifiable from our 'lid off' shot [p36]. While I absolutely do not recommend lifting the lid, neither is this an inelegant pressed metal top plate. It's another milled-from-solid interlocking section, complete with six decorative vents, and secured in place by just two large Allen bolts at the rear.

Release these and the top surface slides out.



'A crushing force deployed with exquisite delicacy'

While dancing around the subject of safety, I should also make mention of D'Agostino's AC inlet solution. Not for the Relentless a standard 13/15A IEC mains socket, instead the rear of the amp includes three 500A lugs to which the live, neutral and earth connections are cranked very tightly into place [see p41]. A torque wrench is provided for the purpose, Dan's view being 'enthusiasts can use whatever AC mains cable

they like here, or even wire straight to a fusebox'. There's a note in the packing crate recommending that purchasers have a qualified electrician on hand to wire-up the 120V/240V connections. A thick Delrin box is supplied that bolts into position, covering all contacts at AC mains potential.

Ever resourceful, this torque wrench also services D'Agostino's huge gold-plated speaker outlets, allowing you to crush your favoured

bare-wire/spade cable terminations into position. The line input is achieved by less violent means – a simple balanced XLR connection suffices here.

COUNTDOWN TO LIFTOFF

Once you have the Relentless(s) positioned – adjacent to your loudspeakers seems *de rigueur* – and securely clamped to the AC mains, a breaker switch is accessed on the rear panel. This puts the amp into standby and that 200mm watchface meter is illuminated in red. The main power button is hidden just underneath the front face, near the stainless steel foot on the right hand side. Turn-on is absolutely silent, and aside from the faint ticking of relays as the PSU 'boots up', there are no pops or other extraneous noises. Output protection too, is 100% 'analogue' for DC, over-temperature and over-current. If you run it into a short it will shut off. Or your speaker wires may melt, whichever occurs first.

THE ULTIMATE JOURNEY

Let's cut to the chase: this past month the rumour mill was working overtime and just about every audiophile I know was asking 'so just how *good* are these amplifiers?'. Certainly, I had the luxury of living with these behemoths for longer than is decent, but to merely describe their sound in the hi-fi vernacular is perilously close to missing the point. It would be like defining a McLaren Speedtail by its top speed or the top notes of that 2003 Sassicaia I have tucked away in the cellar by the DNA of its Cabernet Sauvignon grapes.

Yes, the Relentless paints an astonishing musical picture – one bursting with ripe detail, with unprecedented grip and slam, and with a seemingly limitless palette of colours that depict every twist and turn in harmonic accent. And that sense of latent power that hangs over every piece of music is so palpable that I'd hesitate to define its dynamic envelope, its untapped reserve, as merely 'unburstable'.

The Relentless represents a crushing force deployed with exquisite delicacy – a 15lb hammer welded with the precision

LEFT: Each balanced side of the Relentless (positive and negative-going) comprises four modules. Each of these has eight complementary pairs of bipolar power transistors from ON Semiconductor. This adds up to 128 devices per mono amplifier!



DAN D'AGOSTINO

'Once the decision was made, it took about a year to design and then get a working sample up and running', confirmed founder and CEO Dan D'Agostino. Few would argue with Dan's contribution to the art and engineering of cutting-edge amplification, and the Relentless not only incorporates lessons learned from the development of the Momentum series but also the entirety of his 40 years at the forefront of high-end design.

But what of digital – will there be a network-connected front-end to partner the Relentless? 'The people doing digital are doing such a fine job – dCS for example – that we feel we have little to add here', Dan acknowledged, 'but we will be introducing a Relentless phono stage – extending the Relentless marque across the analogue scene'. And a partnering preamp? 'In practice, the current HD preamp [see p38] is the result of early research on the Relentless preamp which, itself, is an ongoing project, due for release at this year's Munich High End in May.'

The Relentless is clearly Dan's most determined amplifier to date, including the MRA model that he developed while at Krell Industries. Dan agreed as much during our conversation, but as a man known to all as an innovator and breaker of boundaries, it is tempting to think that something even bigger, more powerful, more outrageous... might still be a possibility.

'We have no plans for anything more ambitious just yet', said Dan, 'But never say never!'



of a micrometer. *HFN* readers will surely grasp this idea, but only when you *hear* the Relentless in action does the penny truly drop. For the Relentless amplifier is a game-changer and proof-positive that (almost) limitless power brings with it limitless musical possibilities.

The Relentless is the culmination of Dan's life work, a 40-year drive to build an amplifier without compromise – a period during which I've also been lucky enough to audition and lab test amplifiers from every corner of the globe. So when I was finally face-to-face with the green glow from a pair of these toasty-warm monoblocks it was impossible not to hear the man's life-long voyage, his ambition and his personality expressed in every note played.

There's a little of Dan in every one of these hand-assembled amplifiers. So you are not just invited to audition a *sound* – rather, you are treated to an experience where once-familiar albums are transformed as you are chaperoned along their musical journey.

DARK DESERT HIGHWAY

And by familiar, I mean very familiar. I dialled up the 2001 remix of The Eagles' *Hotel California* [192kHz rip from DVD-A] and with only the slightest hesitation from Melco's music library, that iconic opening chord progression rang into the room, heard countless times before but somehow fresher now, more vibrant, intense and beguiling. This is music taking form, achieving a physicality that is not just reaching out to touch you (or pound you in the case of Massive Attack or Yello) but take you by the arm, embrace you and gently draw you from the audience to the stage. So there I was, admiring the layered sound of Walsh and Felder's guitar solos while the faint draft from Henley's cymbals raised the hairs on the back of my neck.

ABOVE: Seen in silver, D'Agostino's 'Venturi effect' sidecheeks not only wick thermal waste away from the copper heatsinks but also contribute to its distinctive industrial design

Channel Classics' DSD release of Stravinsky's *Rite of Spring* [Iván Fischer/BFO; CCS SA32112, DSD64] provided another, entirely separate journey as, once again, the orchestra crafted sound shapes of breathtaking earthly beauty, with fresh timbres and structures of unlikely physicality. As befits the work of this composer, the musicians interlocked to create a single, huge percussion instrument, from the resonant might of the tympani to the shrill interjection of the piccolo. And the silence! Breathtaking – as the vital, rhythmic contortions of brass, winds and strings lapsed into moments of reflection, so the ambience of Budapest's Millennium City Palace of Arts was revealed. Caught in the moment, the urge to lift my head towards the invisible ceiling was irresistible.

By now the Relentless was straining at the leash, urging me to order up some fireworks from the Melco's menu. The 2014 remaster of Deep Purple's 1972 *Made In Japan* [Universal 0602537719365; 96kHz FLAC] features the band's legendary 'mklI' lineup recorded live in Osaka with, famously, 'everything louder than everything else'. The Relentless thrusts you perilously close to the action as 'Machine Head', 'Highway Star' and 'Space Truckin' are all thrashed out with casual disregard to both hearing and syncopation.

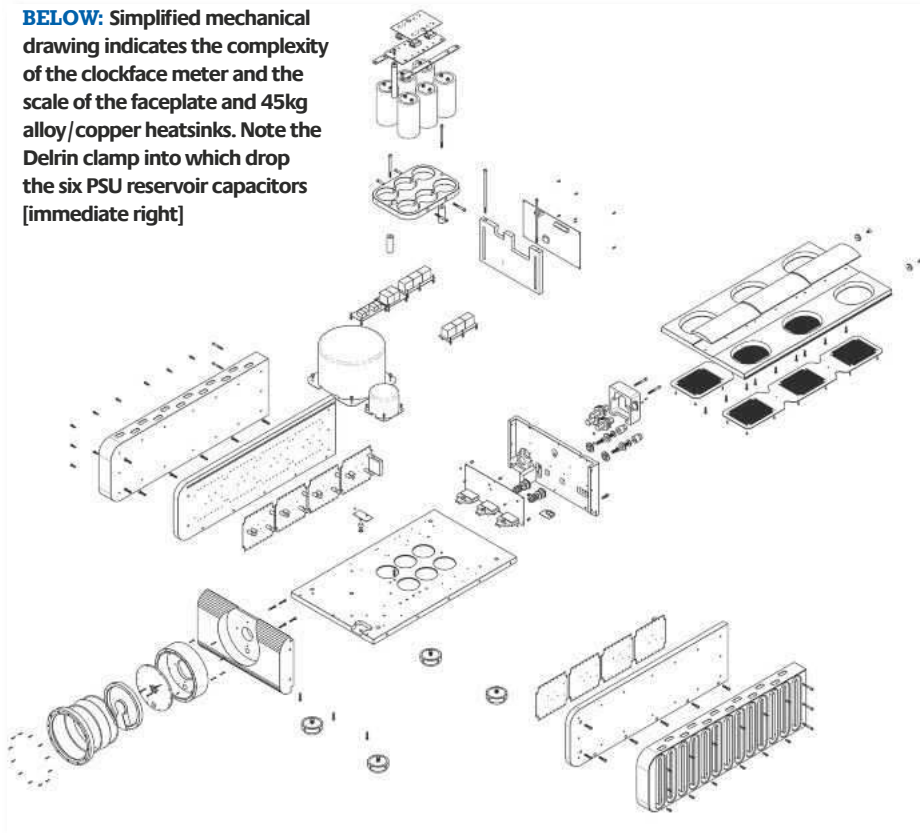
HEAVY METAL AMP

Blackmore is gunning his Stratocaster like a man possessed while Jon Lord's organ is a frenzy of feedback – the perfect backdrop to Ian Gillan's barely-controlled screaming. They don't make 'em like this any more, ➔

'The intrusion between source and ears has been eliminated'

MONO POWER AMPLIFIER

BELOW: Simplified mechanical drawing indicates the complexity of the clockface meter and the scale of the faceplate and 45kg alloy/copper heatsinks. Note the Delrin clamp into which drop the six PSU reservoir capacitors [immediate right]



but with the Relentless in tow and my trusty B&W 800 D3s [*HFN* Oct '16] being warmed to within an inch of their voice coils, I was back to my youth, with denim, hair – lots of hair – inhaling the heady atmosphere of the Hammy Odeon. Over to you, Ken...

KEN ON RELENTLESS

In any field, writes Ken Kessler, on rare and therefore memorable occasions, we get to experience what are close-to-once-in-a-lifetime events. For a golfer, it's that first hole-in-one. A fisherman? Landing a massive swordfish. Mine have included driving the Bugatti Veyron and seeing The Kinks play live. They may be superseded some day – I await the Bugatti Chiron with as much hope as expectation – but the D'Agostino Relentless amplifier will be a tough act to follow.

For me, the Relentless also represents a sort of continuity if not closure, as the very first time I ever heard what Dan D'Agostino could do was another memorable event: listening to the original Apogee Full Range Loudspeaker System, driven by his massive Krells [*HFN* Sept '85].

Nothing, however, prepared me for one specific element of the Relentless, which may come to define both the amplifier's signature sound *and* what it represents in the evolution of high-end audio. And it has everything to do with unbridled power.

Manufacturers, marketing types and, yes, reviewers, bandy about terms like 'cost-no-object' and 'zero-compromise' with abandon. We should leave that to the likes of Ferrari and Lamborghini, as rarely has it ever been realised in audio. Aside from some unfeasible, never-to-be produced designs with €1m price tags that turn up at shows, I can think of no other amplifier in my half-century-plus in audio which even approaches the sheer chutzpah demonstrated by Dan's Relentless monoblocks.

NO COMPROMISE

Dan has been threatening to produce a true, no-limits amplifier for as long as I have known him. This is it. What I heard the Relentless amps do was – without any notion of hyperbole – demonstrate what sound without power limitations can be. This is not to suggest for a moment that one cannot live with less; neither is it to insinuate that there are no other systems so blissfully free of constraint. That said, they are few in number, and must be built around the most sensitive of speakers. The Relentless needs no such accommodation.

From the first notes, the liberation of the sound through these behemoths is something I had never heard before in

my life – and I have been blessed with exposure to some of the finest privately-owned installations on the planet. It is not restricted to one aspect of the sound, such as bass slam or dynamic contrasts. Rather, it affects everything, and those who have lived with either Krell or D'Agostino electronics will recognise the sound's character – only more of it.

Massive soundstage, super-fast transients, punch where needed, finesse as required. What's different is the notion of unbridled possibility. It's as if a whole stage of intrusion between source and ears has been eliminated. It needs to be heard, before anyone – like the idiot trolls I've seen online – condemns it as an irrelevance whether for price, size, weight or other trait. Rather, the Relentless needs to be appreciated for doing one thing without any display of restraint: it is showing us what is possible, and for that I salute it.

ANDREW AUDITIONS

As one might hope, given their price, mass, sheer size and prodigious power output, writes Andrew Everard, the Relentless amps have the wherewithal to make almost any electronics we've had through editor PM's listening room sound somewhat limited if not lacklustre. Driving the B&W 800 D3 speakers – careful with that volume control! – it's clear from the first notes of Foy Vance's 'She Burns' from his *The Wild Swan* set [Gingerbread Man Records/Atlantic 554739], that we're on to something special.

It's not just the wide-open, crisply-focused soundstage, and the jaw-dropping levels of detail and timbral texture: when that deep, deep bassline kicks in, it does

so with both solidity and definition. There's not a hint of cartoonish bloom masquerading as extension – instead we get sheer, effortless power.

With another favourite tester, the Espen Eriksen Trio's 'In The Mountains',

from *Never Ending January* [Rune Grammfon RCD 2173; 96kHz/24-bit], what the Relentless monoblocks deliver is about as close as you're ever going to get to a live experience, with that real 'listen around the trio' sense of performance.

Andreas Bye's drums, opening the track, are big and sonorous, but oh so tight, Lars Tormod Jensen's bass is rich and resonant with fine snap, and the weight and presence of Eriksen's piano is remarkable. What can sound overblown and a little forced elsewhere is here just a trio of musicians locked together and anticipating

'The deep
bassline kicks
in with solidity
and definition'

D'AGOSTINO RELENTLESS

One thing is for certain: this amplifier is the most powerful – more accurately, the most load-tolerant – in current hi-fi memory, besting the last-most-powerful amplifier, Musical Fidelity's Tri-Vista kW [HFN Aug '03]. D'Agostino quotes 1.5kW/8ohm doubling to 3kW/4ohm and 6kW/2ohm although we obtained a slightly higher 1.605kW/8ohm and a slightly lower 2.73kW/4ohm. Not that 2.7kW can realistically be described as 'low' for, under dynamic conditions, the Relentless's massive power supply serves up 1.74kW, 3.35kW, 6.36kW and 11.325kW into 8, 4, 2 and 1ohm loads, respectively, the latter equivalent to 106.4A for 10msec at <1% THD [see Graph 1, below]. Yes, over 100A! (D'Agostino quotes '400A peak' but no period, frequency or THD limit is specified). However you look at it, the Relentless will surely drive any high-end loudspeaker without pause (figuratively and literally – neither DC, over-current or thermal protection was tripped during these in-depth lab tests).

Output impedance is close to the specified 0.03ohm at 0.04ohm from 20Hz-10kHz, rising thereafter to 0.06ohm/100kHz and 0.335ohm/100kHz. The frequency response follows suit with a very gentle treble roll-off amounting to -0.5dB/10kHz, -1.1dB/20kHz down to -7.6dB/100kHz (identical in both units) just as distortion hovers at a minimum of 0.0009% at 1W from 5Hz-200Hz, rising very gently to 0.0013%/1kHz, then 0.0035%/10kHz and 0.006%/20kHz [see Graph 2, below]. Versus output, distortion rises very gently indeed, reaching 0.005% through bass and midrange at 100W/8ohm and 0.03% at 1kW/8ohm. Bearing in mind the size of the PSU, noise is low at just -75dBV and the A-wtd S/N wide at 91dB (re. 0dBW). PM



ABOVE: Custom loudspeaker terminals are supplied with a special tool to crank them tight against spade or bare wire terminations [the same tool is used to bolt-down the AC mains cable – see left]. A single balanced XLR input is fitted

levels (ever cautious of the 800 D3's 1kW maximum unclipped power handling), the amps handle it with aplomb. Brass and percussion are delivered with a gorgeous edge, then again that inexhaustible power and total control as the music whirls and swirls to its conclusion.

SUBTLETY AND SLAM

Yet these massive monoblocks can apply the most delicate of touches to Britten's 'Moonlight' [Four Sea Interludes Op. 33a, Bernstein/New York Phil; Sony Classical SS 87981, DSD64], with its rich, velvety string textures, before unleashing the power with no less control for the 'Storm' interlude. With beautifully ripe brass, the layers of the orchestra raging with each other, and skittering strings and woodwinds, the piece builds to an explosive, literally sofa-shaking conclusion. ☺

HI-FI NEWS VERDICT

I am typically wary of 'great expectations' because they may just as easily resolve into dismay. Not so here, for the anticipation and auto-suggestion planted into the minds of eager audiophiles the world over by the astonishing scale and price of these amplifiers is realised in every facet of their performance. Just as their sound is forever etched in my memory, their 11kW will be permanently scorched into the record books!

Sound Quality: 95%



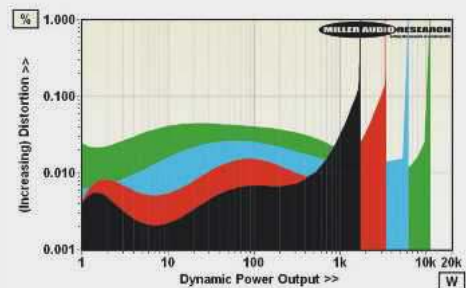
each other's moves, and it's all presented with so little effort from the electronics, making other amps sound like they're trying too hard.

OUT OF THE GATES

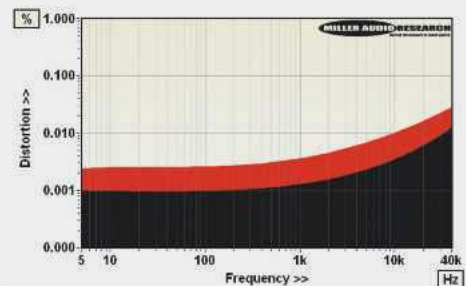
These amps really do that 'from the first note' thing, the opening of the second movement of Elgar's Symphony No 1 [Barenboim/Staatskapelle Berlin; Decca 478 9353], has that immediate sense of the presence of the orchestra and the venue even before the music starts. From there on the sound just builds, with percussion especially vivid, such as in the way cymbals clash and then are instantly muted.

That same magical suggestion of the scale and acoustic is readily apparent in Masaaki Suzuki's recordings of Bach for the organ [BIS 2241], as is the delicious sense of the air being moved through the pipes, not to mention the sheer size of the sound of the Garnier instrument in the chapel of Kobe's Shoin University.

There's never any shortage of musicality or expression here: witness the slow build of 'The Carousel Waltz' from The John Wilson Orchestra's *Rodgers & Hammerstein At The Movies* [EMI Classics 50999 3 19301 2 3]. There's a real sense of expectation as the piece spins into motion, and if you advance the volume to thrilling



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 106A (!)



ABOVE: Distortion versus extended frequency (1W/8ohm, black; 100W/8ohm, red)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	1605W / 2730W
Dynamic power (<1% THD, 8/4/2/1ohm)	1740W/3350W/6360W/11325W
Output impedance (20Hz-20kHz)	0.039-0.060ohm
Freq. response (20Hz-20kHz/100kHz)	+0.0dB to -1.1dB/-7.6dB
Input sensitivity (for 0dBW/1.5kW)	139mV / 5335mV (balanced)
A-wtd S/N ratio (re. 0dBW/1.5kW)	90.7dB / 122.5dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.0025-0.016%
Power consumption (Standby/Idle)	35W / 512W
Dimensions (WHD) / Weight (each)	572x280x826mm / 258kg



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Duevel Venus

Still going strong after 20 years, the Venus is nothing if not the ambassador for the room-friendly 'omni'
 Review: Adam Smith Lab: Keith Howard

Mention 'omnidirectional' and most worldly-wise audiophiles will remember seeing MBL's remarkable Radialstrahler loudspeakers at one hi-fi show or another. Once seen and heard they are not easily forgotten, but they are also devastatingly expensive! By the same token, affordable omnidirectional speakers have never quite made it into the mainstream of hi-fi despite Sonab being a major player back in the 1970s and Canon's models from the 1980s also finding favour with many listeners.

Fast forward a few decades and the only company I can think of that's concentrated its resources on sensibly-priced omnidirectional speakers is Duevel. The Venus compact floorstander we have here is the middle model in its five-strong range. It retails for £3995 in standard finishes that include Black, Macassar, Maple and Padouk (which is similar to rosewood), although others can be specified for a £250 premium.

Based in Germany, Duevel is the brainchild of Markus and Anette Duevel. Markus is a trained electronics engineer who originally started out developing software to simulate the behaviour of loudspeakers for other companies. Specialising in horn configurations, the development of his own designs followed as he gravitated towards omnidirectional topologies as a way of overcoming what he saw as the 'cupped hands' distortion afflicting horns.

PLANETS OF SOUND

The first loudspeaker to bear the Duevel name was the Jupiter in 1997 and this included a horn-loaded omnidirectional 4.5in titanium midrange/tweeter above a 12in bass driver. The Venus followed in 2000 – the current Venus, Sirius and Bella Luna all being descendants, though only the Bella Luna and Sirius utilise horn-loading for the top end. The Duevel model lineup is completed by the Enterprise and

Planets loudspeakers, plus a set of speaker isolation feet that will work with any of the company's models.

The Venus has been continually updated over its 20-year lifespan with Duevel's latest technological developments, this latest iteration occupying a stylish hexagonal enclosure that is rear-ported and has bracing along with damping pads on each internal surface.

DISC ASSESSMENT

This is topped by an upward-facing 220mm bass driver, with carbon fibre cone, that fires onto the underside of a circular reflector disc mounted on pillars above the cabinet. Above this, further pillars support a 33mm soft dome tweeter that fires downwards.

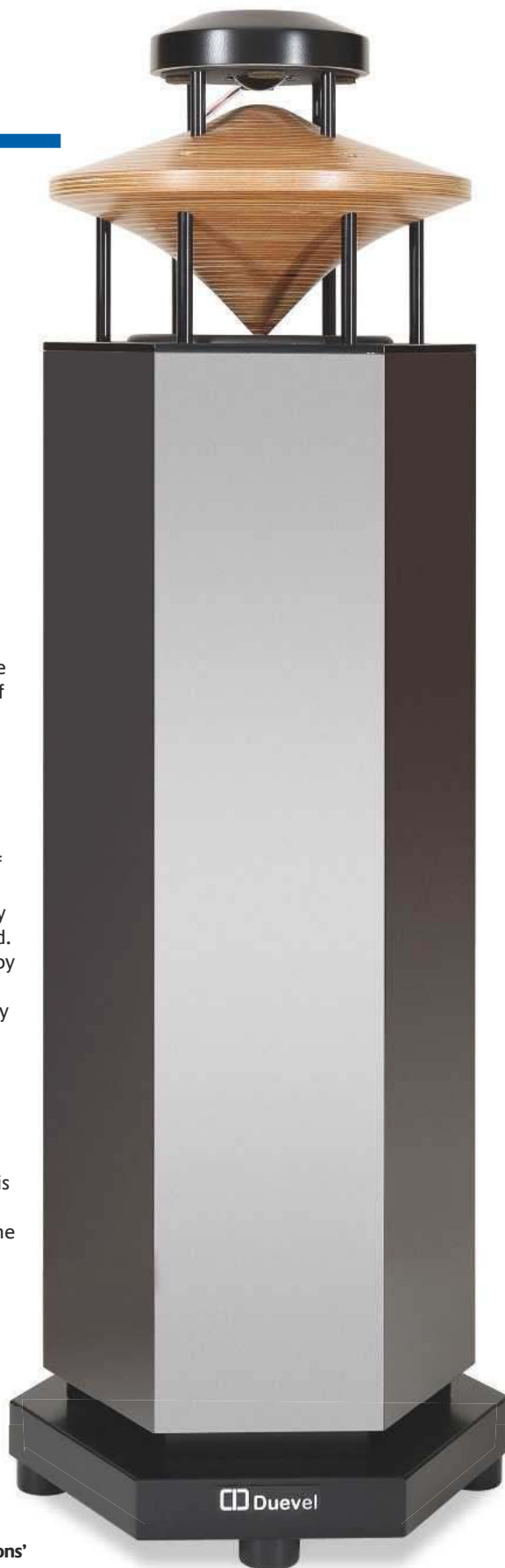
The upper and lower profiles of the disc are different, ostensibly reflecting (if you'll pardon the pun) the different frequency ranges being dispersed.

Also, and revealed by our pictures [p45], the Venus includes an array of five small circular absorption pads stuck in place – four around the faceplate of the tweeter and one on the upper side of the reflector at what is notionally the rear of the loudspeaker. The size and positioning of these little foam pads is said by Duevel to 'reduce unwanted reflections' although the output of the speaker looks to be far from uniform [see KH's Lab Report, p47].

Little detail is provided about the 'phase linear crossover', though the PCB is located in the base of the cabinet away from the magnetic field and local output of the bass/

RIGHT: Juxtaposed either side of the multi-layer (wood) reflector are a 33mm Audax soft-dome tweeter and 220mm carbon-fibre reinforced bass/mid driver. Small circular felt pads 'minimise reflections'

'Play the Venus blindfolded, and you'd never locate them'



SOUND IN THE ROUND

For as long as there have been loudspeakers there has been disagreement about how they should radiate sound. At one extreme are those who maintain that a loudspeaker should radiate over as narrow an angle as possible in order to minimise room contribution; at the other, those who believe that natural sound can only be obtained with omnidirectional loudspeakers that radiate sound with equal intensity to all points of the compass. Duevel attempts this by aiming both bass/mid unit and tweeter across a tapering conical radiator [see inset picture].

However, as it happens, neither ideal is easy to achieve, and most loudspeakers fall between the two stools. At low frequencies, where the wavelength of sound is long, sound diffracts around the cabinet and the radiation is omnidirectional. At higher frequencies, as wavelength shortens and the dimensions of the radiating diaphragm and cabinet become more significant, sound is progressively 'beamed' along the forward axis. In recent decades, nobody was a more ardent campaigner for wide speaker directivity than the late Siegfried Linkwitz [*HFN* Mar '16], who believed that the spectral content of the speaker's direct sound and that of early room reflections should match. But 'omni' speakers remain the exception rather than the rule. KH



mid driver. Finally, a single set of 4mm input terminals is fitted, these being chunky, easy to grip and tighten, and far enough apart not to cause potential issues when using bare wire connections.

SOFA SURFING

For my auditioning, I initially placed each Venus column in the spot occupied by my usual loudspeakers, all hooked up to my Naim Supernait amplifier [*HFN* Oct '07], Naim CD5XS/Flatcap XS CD player, and Michell Gyro SE/SME 309/Clearaudio MC Essence vinyl-playing front-end. However, a spot of experimentation led me to move them a touch further into the room and around two feet away from the side walls, which removed both a slight congestion within the soundstage and a hardness to the upper treble.

If you are unfamiliar with omnidirectional loudspeakers, then a short period of re-adjustment may be necessary. Instead of a succession of musicians and performers set in a soundstage with pinpoint accuracy, these designs offer up a huge swathe of sound across the front of the listening area.

In addition, they have the knack of being able to disappear more effectively than any other loudspeaker design I can think of. While many conventional speakers set up a very convincing soundstage, even with one's eyes shut it's not difficult to work out where the actual

enclosures are located in the room. Were you to play the Venus speakers blindfolded, I'd wager you'd never locate them.

The real strength of the design comes from the image stability it offers. Provided you've positioned the cabinets to take into account unwanted reflections from nearby

surfaces, it's surprising the degree to which you can move around your listening area with there being very little change in the speakers' presentation. My wife looked on with some alarm as I slid up and down the length of the sofa in the room, bobbing my head with a big grin on my face...

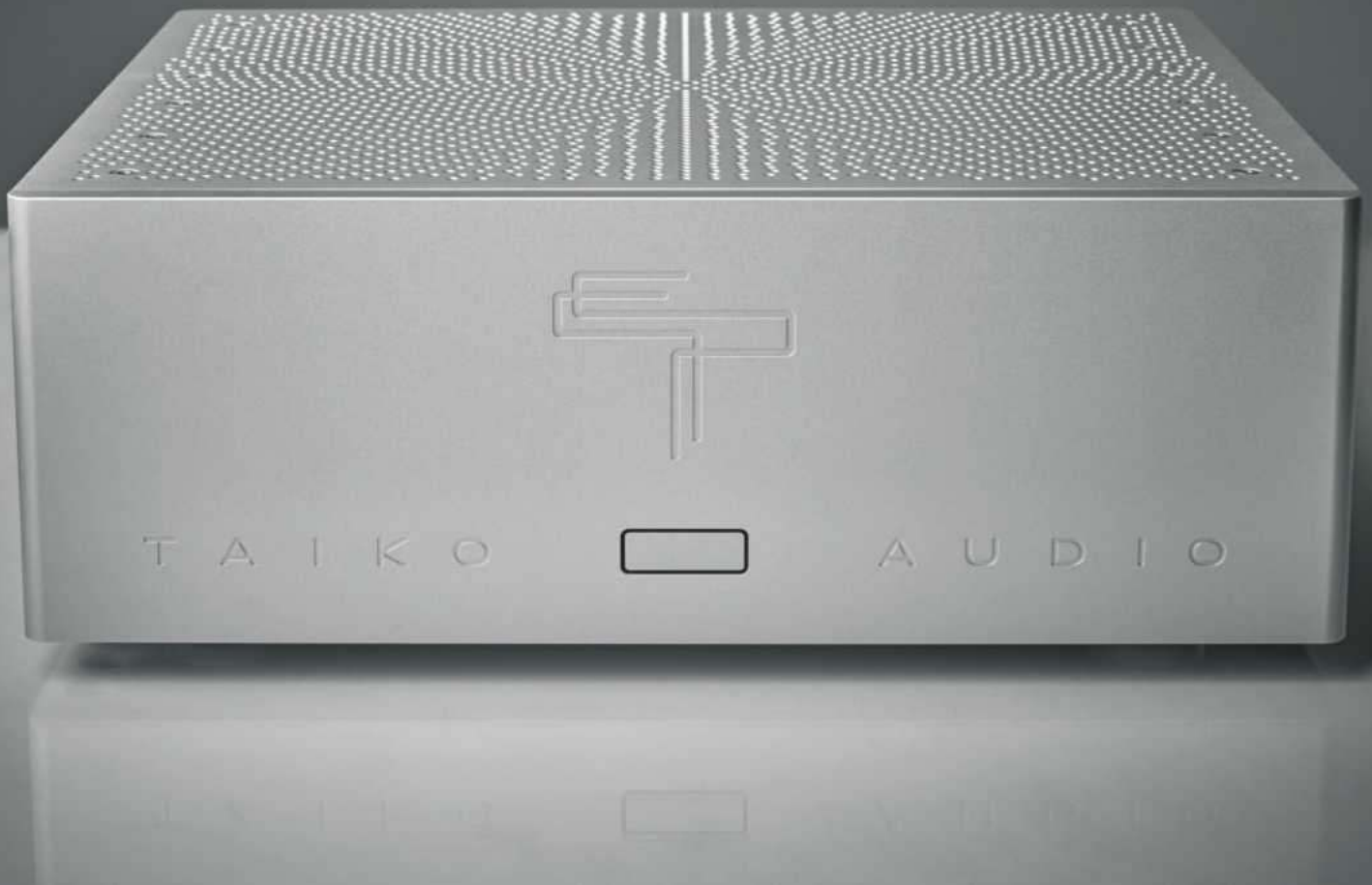
In practice I had to be almost up against the left and right walls before the soundstage started to falter. Equally, there was only a softening of the treble and a loss of focus in the vertical plane when I was either fully standing, or crouching at floor level. Away from these extremes, the Venus was virtually immune to movement around the listening space – perfect if you prefer not to listen alone.

SPACE ODYSSEY

As a result of its spacious character, the way in which the Venus presents music is a little different to the norm. Rather than a main vocalist appearing to be centre stage in a reach-out-and-touch kind of way, the performer is simply 'there'. On the title track from the eponymous LP by country supergroup The Highwomen [Elektra 0075678651731], each vocalist stepped into the limelight in turn, with backing instrumentation layered expertly behind. Yet rather than having the sensation of being right in front of the group as they performed, the feeling was of being further back, with plenty of space around and between both listener and performers.

If you are the sort of enthusiast who likes to perch on the edge of your seat with eyes shut in order ➞





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With the SGM Extreme, Taiko Audio have clearly advanced the state-of-the-art of digital audio.



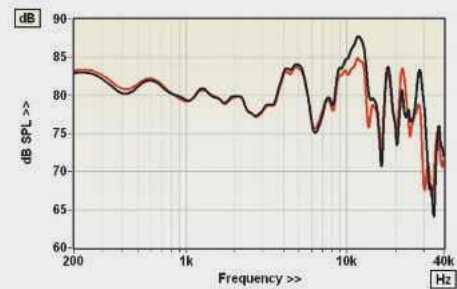
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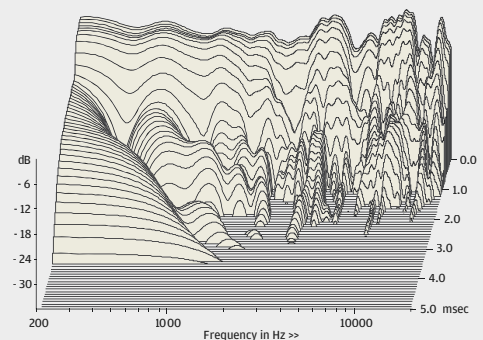
DUEVEL VENUS

One of the core problems of designing a 'horizontal omni' like the Venus, which attempts to achieve 360° radiation in the horizontal plane using drivers facing upwards and downwards, is that you listen off-axis to the drivers. Compensating for that inevitably results in low sensitivity, and even then the frequency response is typically uneven. Both problems are reflected in the Venus. Duevel claims 88dB sensitivity but our measured pink noise figure was way below that at 81.3dB SPL for 2.83V input at 1m. And even this has taken moderately low impedance to achieve. Our measured minimum modulus of 3.7ohm accords well with Duevel's nominal 4ohm but high impedance phase angles mean that the EPDR (equivalent peak dissipation resistance) dips to lows of 1.7ohm/601Hz and 1.9ohm/87Hz. Coupled with the low sensitivity, this makes the Venus quite a challenging amplifier load.

Measured with the microphone at a typical seated ear height of 95cm, the Venus's frequency response [Graph 1, below] is characterised by a distinct downwards trend up to 3kHz, beyond which the output becomes highly uneven with large peaks and troughs. Response errors from 200Hz-20kHz are high at ±8.5dB and ±6.1dB, respectively, and the pair matching error over the same frequency range is very high too at ±3.7dB, although this falls to a much better ±0.8dB below 9kHz. Its good bass extension of 34Hz (-6dB re. 300Hz) is some compensation for the low sensitivity, but its poor high frequency extension is a consequence of the highly uneven upper-treble. Despite the high-frequency switchback, the cumulative spectral decay waterfall [Graph 2] evinces only low-level treble resonances. KH



ABOVE: Forward response indicates a downward trend albeit with large swings in output from 3kHz-20kHz



ABOVE: The very uneven presence/treble response is seen here again but resonances seem swiftly damped

LEFT: The hexagonal cabinet is broken only on its rear panel by a single set of 4mm binding posts (so no bi-wiring here) and reflex port. Up top, the high-pass signal is routed through one of six metal supports and out to the treble driver

expect a vague and rather dull sound to result. Not a bit of it with the Venus. Instead, treble was insightful and detailed, with vocal sibilants being a particular stand-out delight. The precision with which these arrived at the listening seat, delivered their message with crispness and then simply vanished, was not what you might anticipate.

OH MY GOSH

The Venus continued to impress when it came to the low-end. Bass is deep – surprisingly so, given the relatively modest dimensions of the cabinets. Fortunately, it's also taut and precise, with the result that there is never any confusion or wallow. 'Gosh' from Jamie XX's *In Colour* album [Young Turks YTLP122] thundered through my listening room, the track's subsonics giving the Venus's modestly-sized bass drivers a good workout but never causing them to lose their grip.

Subtler still, the acoustic upright double-bass on 'Indigo River' from Julianna Raye's *Restless Night* CD [3Crows CD-4391] was conveyed with exactly the right amount of fruity warmth. In fact, listening to this performance with my eyes tightly shut, I was almost convinced I could smell the cigarette smoke in the track's 'jazz club' atmosphere, so vividly did the Venus bring it to life in my room. ☺

HI-FI NEWS VERDICT

Duevel's single-minded dedication to omnidirectional loudspeakers has not been in vain. The 'presentation' of the musical event is necessarily different from that of a standard forward-firing design, but the way these Venus towers fill the listening space with sound – virtually eliminating the traditional 'sweet spot' – is quite remarkable. I'm going to miss these when they go back!

Sound Quality: 80%



to work out the positioning of the second violinist to within an inch or two, then you may find the Venus a tad vague in this respect. Also, a hefty amplifier is a prerequisite when driving these speakers. For most of my auditioning the volume knob on my Supernait was in the region more usually associated with parties [see KH's Lab Report, adjacent].

But these are minor distractions because the Venus's presentation of music, almost irrespective of genre, has a disturbingly addictive quality! What's more, Duevel's technique of integrating the drive units via the two surfaces of an acoustic reflector is not only imaginative, it's also surprisingly effective.

Imagine turning a tweeter to face down at the floor – you might

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – Mean/IEC/Music)	81.6dB / 81.3dB / 80.8dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	3.7ohm @ 134Hz 69.3ohm @ 2.8kHz
Impedance phase: minimum & maximum (20Hz–20kHz)	-54° @ 4.9kHz 70° @ 1.8kHz
Pair matching/Resp. error (200Hz–20kHz)	±3.7dB/ ±8.5dB/±6.1dB
LF/HF extension (-6dB ref 300Hz/10kHz)	34Hz / 14.5kHz/14.5kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	4.8% / 0.6% / 2.5%
Dimensions (HWD) / Weight (each)	970x280x260mm / 20kg

Sumiko Starling

One-time distributor of Grace, Kiseki, Supex and other brands from the vinyl vault, Sumiko is also a manufacturer with a legacy. Here's its new open-bodied MC flagship
 Review: Adam Smith Lab: Paul Miller

One testament to the continuing love for vinyl is that the steady trickle of brand new cartridges making their way onto the market shows no sign of abating. The latest company to pep up the party is US-based distributor and manufacturer Sumiko.

To begin with, it has introduced a range of four new moving-magnet designs in the form of the Rainier, Olympia, Moonstone and Amethyst. Costing £160, £225, £325 and £625 respectively, these are positioned in the main at the more affordable end of the market. However, to whet the whistle of vinylistas with greater means, it has also debuted two new moving-coil designs in the form of the £899 Songbird and £2099 Starling we have on test here.

Sumiko has been making cartridges for around 40 years [see PM's boxout, p49] and, although a US company, it has sourced its models from the same Japanese factory all that time. Its affordable MM designs have earned a reputation as being consistent performers while the sensibly-priced Blue Point MCs have been reliable go-tos for a number of years now. The hitch was that there were a couple of gaps in the Sumiko range that needed to be filled.

BUILT FOR BUSINESS

With the latest and highly-regarded version of the Blue Point Special Evo III retailing for £599 [HFN Mar '11], there was something of a hop and a skip to the next model in the range – the Blackbird [HFN Nov '13] at £1399. A fairly enthusiastic leap was then required to reach the most expensive models in the series – the £3499 Pearwood Celebration II and flagship Palo Santos Presentation [HFN Jul '10] at £5000 with its rosewood body and line-contact stylus.

But back to the Starling which, like the Songbird and Blackbird, features an exposed generator assembly. This can pay big dividends when it comes to both mass

reduction and resonance optimisation while it also lends the cartridge a business-like, if not high-tech, appearance.

NAKED TRUTH

The downsides to this arrangement are that not only is a naked assembly prone to attracting dust, but care and a steady pair of hands are needed when fitting the pick-up to the arm, or damage can easily occur.

Both models are based around a milled aluminium alloy top plate but differ in their cantilever materials and stylus configuration. Also, while the Songbird is available in both high (2.5mV) and low output flavours only a single, low-output version of the Starling is offered.

As one might expect given that the Starling is Sumiko's flagship open-bodied

cartridge, a good deal of technology lurks within its minimalist frame. The coils are configured in an 'X' arrangement and are connected to a boron cantilever with 'Micro-Ridge' stylus. The suspension of the stylus assembly is based around a synthetic rubber material said to ensure that the cartridge's compliance will be better controlled in different climates and over years of use. What this promises for the end-user is a pick-up that should meet its original specification for longer and even extend the product's lifespan – within

the constraints of total playing time and wear and tear on the stylus, of course.

The Starling is supplied in a very stylish wooden box [see pic, p51] complete with mounting hardware and comes ensconced in a very sturdy protective plastic guard. The user manual, downloaded from Sumiko's website, is no less than 15 pages long and is an absolute masterclass in everything a manual should be. After providing some explanation of the design ethos behind the cartridge it then sets aside the ten pages that follow to guiding the owner through both installation and set-up in order to ensure that optimum performance can be achieved.

RIGHT ON TRACK

Duly adhering to the guidelines set out in the manual, I initially installed the cartridge into my SME 309 arm. The Starling mounts from above via threaded holes in its top plate, but I was still thankful for the SME's removable headshell on this occasion. One other thing to note is that the cartridge connection pins, with their chamfered edges, seem a little smaller than usual – I had to gently squeeze the headshell tags closed a little in order for them to grip effectively. Still, this done, the Starling was aligned and set to track at its median value of 2.0g on my Michell Gyro SE turntable.

While the Starling has a rising top-end [see PM's Lab Report, p51] you have no reason to fear that this is an overtly 'bright'

'I found every vocal tremor sent a shiver up my spine!'



RIGHT: The gold-plated yoke and magnet assembly of this flagship open-bodied MC contrasts with the anodised black of the Starling's resonance-deadening 'half shell'



or raw-sounding MC. Its stylus profile, together with its remarkable tracking abilities, mean that this is far from being one of those hard and brittle-sounding designs that threatens to shatter glass when the going gets tough. Rather, it's a wonderfully even-handed cartridge in the way it handles music.

That said, there *is* a sparkle to the Starling's performance. What this means, however, is bags of glorious detail dragged effortlessly from the depths of the grooves and served up in a capacious soundstage with instruments perfectly ordered. If you want to shut your eyes and visualise

exactly where your favourite performers are sitting when they play, then the Starling will make the perfect listening companion. What's more, it doesn't simply dissect the music in a surgical manner but always endeavours to remain faithful to the musical message as a whole.

FINGER PICKIN' GOOD

Even better, the sound of the Starling can be tweaked by changing the tonearm with which it is used. My SME 309 is an essentially neutral performer and adds no warmth or euphony to the presentation – a fact

LEFT: The Starling's massive alloy mounting plate has threaded inserts for locking tight into a headshell. The boron cantilever moves up into position, and the coils aligned, once tracking at 2g

the Starling made abundantly clear. However, set up on an Audio Note Arm Two/II, which has a rather more languid nature, the balance of the overall performance shifted in a slightly softer direction. The Starling can be quite neatly fine-tuned in this respect. Ultimately I preferred the sheer dynamics and exuberance it was capable of when used with the SME 309 and that was how I listened to it for the rest of the review. But there could be no denying that the Audio Note Arm Two/II and Starling combination exhibited a subtlety that was highly appealing.

The Starling also works wonders when it comes to revealing filigree detail. Nothing remains hidden from this pick-up! The merest brush of a cymbal or the faintest squeak of finger on fretboard is laid bare, but never does this forensic ability threaten to disturb the main flow of the music.

In fact, I don't think I have ever heard Tony Bowers' fingers sound quite as distinct when playing the walking bass line that introduces Simply Red's 'Sad Old Red' from their *Picture Book* LP [Elektra EKT 27 960452-1]. And while the Starling was busy revealing the movement of his hands up and down the fretboard, it was equally as adept at delivering all the richness of the notes, each starting and stopping in such a way as to propel the music along.

DEPTH CHARGE

The word 'detail' kept cropping up in my listening notes when considering the Starling's handling of the low-end.

There is always a concern that a cartridge that delivers exceptional top-end extension might be found a little wanting lower down the frequency range. But this was not the case here. The level of bass detail it pulled from the depths of each track played was highly impressive.

What's more, the Starling seemed to know precisely what to do with this information and, as a result, is one of the most involving cartridges I have encountered at the price. The solid yet syncopated bass line that underpins ➔



SUMIKO'S STORY

Most distributors are just that: importers of equipment. Sumiko, though, started out as much a manufacturer as it did an importer, its roots appropriately being in cartridges and tonearms. In the 1970s, the MC revival had yet to spread from Japan to the West, and legendary designer and Sumiko co-founder Dave Fletcher is credited with bringing Grace tonearms and Supex cartridges to the USA. He is also said to have introduced Linn's founder, Ivor Tiefenbrun, to the Grace/Supex combination that partnered the fledgling Linn LP12 turntable, until Linn's own arm and Asak cartridge took precedence. Over the decades Sumiko gave us the MDC-800 (known as 'The Arm') and the Virtuoso DTi pick-up, among many other cartridges, before evolving into one of the USA's top suppliers of high-end hardware. More recently it has joined the Fine Sounds Group team, distributing in-house brands including Sonus faber – the latter also supplying Sumiko's active subwoofer range. This success in distribution has not come at the expense of its own design innovation or build quality as the exquisite micro-ridge diamond, boron cantilever and X-shaped 'moving coils' illustrate here [see inset picture]. PM

Continuity of Materials

Different materials introduce breaks in continuity and breaks mean potential signal degradation. In our high-end cables, if we use an OCC conductor, the connector pins will also be OCC.

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Our 'Transpose' Modular Connection System and calibrated plug assembly process requires fewer steps, allowing us to combine high performance and reliability with maximum flexibility.

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D E S I G N E D & H A N D M A D E I N S C O T L A N D

CARTRIDGE

RIGHT: Another view of the magnet, cantilever and (just visible) coils. The chamfered cartridge pins are clearly labelled but care must be taken to ensure a snug fit

Sade's cover of 'Why Can't We Live Together' from her *Diamond Life* LP [Epic EPC 26044] motored along with gusto, forming an unshakable foundation for the remaining instrumentation and Ms Adu's voice.

Having already applauded the Starling's bass detail and extension, I should contrast this against bass *impact*. Given that this cartridge could lock onto a rhythm with precision and capture the finest low-end detail of any song playing, a little more sheer weight would not have gone amiss. Rush's epic instrumental, 'Leave That Thing Alone' from their album *Counterparts* [Atlantic 7567-82528] highlighted this. Geddy Lee's bass was a joy to behold, but a slight lack of grunt from the late Neil Peart's kick-drums held the performance back from being one of perfection.

REAL SCOOP

What was absolutely beyond reproach, however, was the superb level of midrange clarity, air and atmosphere that the Starling generated. Alison Goldfrapp's vocals on the track 'Annabel', from Goldfrapp's *Tales Of Us* album [Mute Artists STUMM356], were gloriously emotional, every vocal tremor sending a shiver up my spine. Equally, the acoustic guitar backing was crisp, immediate and set at just the right position in the soundstage to give a fine sense of depth and space around the performers.



Of course, we don't all own pristine audiophile albums, so a good test of a cartridge is how well it is able to deal with something a little less perfect. My copy of Bach's *Concerto In C Minor For Two Harpsichords And Orchestra* [Nonesuch H-71019] is well-used but certainly still has plenty of magic to be found in its old grooves.

Fortunately, the Starling MC cut through any haze like a warm spoon through ice-cream. The two harpsichords providing the main action in the *Allegro* movement were dynamic and natural-sounding, with the interplay between them a delight. Meanwhile, the supporting strings appeared at just the right distance in the soundfield to augment the harpsichords, never overwhelming them while still maintaining their own clarity. ☺

HI-FI NEWS VERDICT

Sumiko's attempt at filling what it sees as a gap in its lineup has been a huge success. The Starling may be nerve-racking to fit but the challenge is rewarded once the music starts. Yes, it is very crisp and detailed but it has a poise, polish and panache that is alluringly addictive. The way in which it disdainfully shrugs off poorer pressings is also a revelation. This is a welcome addition to a fine range.

Sound Quality: 86%

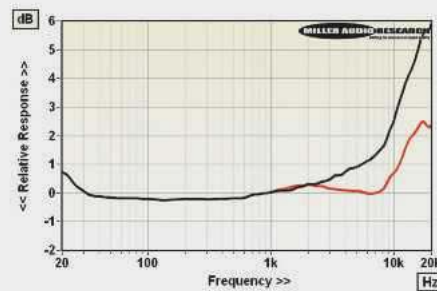


ABOVE: The Starling is packed in a fragrant wooden box and includes a clip-on stylus guard (removed here)

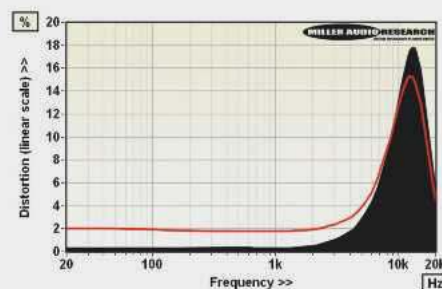
SUMIKO STARLING

While certain design features – not least the X-shaped coils, the pre-tensioning of the suspension, superb tracking performance and extended but 'bright' treble response – all have a Lyra-esque quality [*HFN* May '13], the Starling is otherwise quite distinct. There is some slight asymmetry in the generator here, so the right channel has the hotter response with a +1dB lift through midrange and presence leading to a kick above 10kHz that reaches +6dB/20kHz on lateral (L+R) cuts and +2.3dB/20kHz with vertical (L-R) traces [Graph 1, below]. The left channel has a milder +2.5dB/20kHz (lateral) and +1.5dB/20kHz (vertical) response, but distortion is uniformly high on both channels – up to 20%/15kHz (–8dB re. 5cm/sec) – not because the Starling is especially non-linear, but because it has an uncommonly extended HF response.

Output is a dB or so higher than Sumiko's 0.5mV spec. at 580µV (re. 1kHz/5cm/sec), the channel balance is tight at 0.2dB and separation modest at 25dB through the midrange. The 'micro-ridge' stylus is well polished and precisely mounted on its boron cantilever, and although VTA looks closer to 26° than the claimed 20° its 10-11cu suspension compliance, combined with the modest 7.8g bodyweight, renders it very compatible with most of today's 9-14g effective mass tonearms. Moreover, and despite the relatively low (stiff) compliance, the Starling is a very secure tracker at its recommended 2.0g downforce, achieving >80µm/80µm via the left/right channels, respectively, and keeping hold of a high +15dB groove modulation (re. 315Hz/5cm/sec) at <0.5% THD. In common with previous Sumikos, this is the antithesis of the soft-sounding MCs of hi-fi yore! PM



ABOVE: Frequency response curves (–8dB re. 5cm/sec) lateral (L+R, black) versus vertical (L–R, red)



ABOVE: Lateral (L+R, black infill) and vertical (L–R, red) tracing and generator distortion (2nd-4th harmonics) vs. frequency from 20Hz-20kHz (–8dB re. 5cm/sec)

HI-FI NEWS SPECIFICATIONS

Generator type/weight	Moving-coil / 7.8g
Recommended tracking force	18-22mN (20mN)
Sensitivity/balance (re. 5cm/sec)	578µV / 0.23dB
Compliance (vertical/lateral)	10cu / 11cu
Vertical tracking angle	26 degrees
L/R Tracking ability	>80µm / 80µm
L/R Distortion (–8dB, 20Hz-20kHz)	0.37–21% / 0.35–18%
L/R Frequency resp. (20Hz-20kHz)	+2.4 to –0.4dB / +5.9 to –0.5dB
Stereo separation (1kHz / 20kHz)	25dB / 15dB

Luxman CL-1000

Continuing its modern take on traditional Japanese purist amplification, Luxman finally offers a MM/MC phono/line preamp partner for its ultra-retro MQ-300 valve amplifier
 Review: **Ken Kessler** Lab: **Paul Miller**

Just over three years ago I had my first taste of cost-no-object Luxman [*HFN* Nov '16] in an achingly long time. The company has had its ups-and-downs, but fortunately its new owners – IAG, home to Quad, Wharfedale, Audiolab and Castle Acoustics – realise what a plum brand Luxman is, so it was expected that the flagship MQ-300 power amplifier which so charmed me would be followed by a worthy preamp. Enter the alluring CL-1000, at £16,000 a grand more than the power amp and looking every penny of its price.

To clarify what Luxman offers, the company has three main amplification ranges (as well as turntables [*HFN* Oct '19] and digital source components). The three comprise the NeoClassico 'minis' [*HFN* Nov '19], the solid-state models [*HFN* Jan '18] and the vacuum tube offerings, of which this is the dearer of two preamps.

MODERN CLASSIC

But this isn't any ol' high-end preamp, for it is, after a staggering 45 years, the successor to 1975's C-1000. This should have special resonance in the UK because I believe that our own Tim de Paravicini, of EAR Yoshino fame, had a hand in the design of that much-sought-after classic. You have to put them side-by-side to tell them apart. Rotaries and toggles in similar locations, a lavish wooden sleeve – Luxman knows how to handle retro with panache.

Aside from the lack of remote control, this is absolutely a 21st century offering. Valves long ago ceased to be anachronistic or sentimental, and are now permanently a sub-genre of contemporary high-end, just as this unit also benefits from numerous advances not available in 1975 – hence its true modernity. In keeping with current practice, it accepts one balanced source, three RCA line sources and phono via an input labelled 'Ext In'.

RIGHT: The LECUTA relay-switched, transformer-based volume control and E88CC tube buffer [far right, and see boxout, p53] feed the main E88CC triode line stage [centre], all powered via a screened linear PSU [left]

Why the odd tag? I grabbed the Japanese catalogue at the Tokyo show [p22], and found inside a photo of the rear of the CL-1000 *without* phono stage rotaries, so I'm guessing it's an option in some markets. What we get are adjustments for MM with three gain levels and six capacitance values and MC with three impedance/gain settings to match most cartridges. I tried two of each of varying characteristics and found gain, headroom and other parameters perfectly suitable, while the phono stage is deathly quiet, to boot [see PM's Lab Report, p55].

Another nice touch are two sets of RCAs and two balanced XLRs for outputs. Though you can only run either/or, selected from the front panel, both pairs within the

chosen type operate concurrently. Hence you can feed either two amp/speaker combinations simultaneously, or you can bi-amp via a split crossover. You just cannot run one balanced and one single-ended, or all four, at the same time.

SHEER MAGNETISM

That loaded fascia may reek of the era before the minimalists took over, but every function purists deem deleterious to the sound can be defeated. The tone controls have user-selectable turnover points, there are polarity inversion switches for main output and balanced input, a 'line straight' bypass, a low-cut filter and – for those who have archive recordings on LP or tape – a mono/stereo selector and balance rotary.





Meanwhile, above the balance knob is a light that blinks when the unit switches on, and which glows steadily in playback state. Then there's the 'Articulator Function'. This is a procedure in which the device generates a special toneburst to demagnetise the transformer cores, 'for an even higher degree of sonic purity' according to Luxman.

Ready to listen, I was first treated to a waiting period when the row of lights next to the Articulator went through their sequence. It degausses the system, a practice that's not so whacky

as to be unique: some years ago, Gryphon sold a system demagnetiser, Air Tight offered a cartridge demagnetiser, as does Luxman in its EQ-500 phono stage.

Unlike switchable polarity inversion, degaussing is difficult to assess here because the CL-1000 goes through the process every time you turn it on, and

'One might even suggest it is a time machine...'

I cannot find any way to defeat it from activating at switch-on. It's not impossible, though, if you do want to try to hear a difference beyond the automatic degaussing when powering on because you can manually activate the process whenever you like simply by pressing the button on the fascia.

Despite never hearing that demagnetising was an issue that needed quotidian attention, I am not prepared to suggest whether or not Luxman is making a mountain out of a molehill. It remains to be seen (or heard) and I prefer to be generous and to look upon it as a form of automatic maintenance, as the switch-on sequence is hardly an intrusion, and it relieves us of having to worry about it, like valve auto-biasing or a self-defrosting fridge. And after


ABOVE: Nearly all of the functions are self-explanatory, everything – tone controls, filters, etc – are defeatable for purists, while the phono settings are relegated to the rear panel [p55]. Its only oddity is the 'Articulator' (see text)

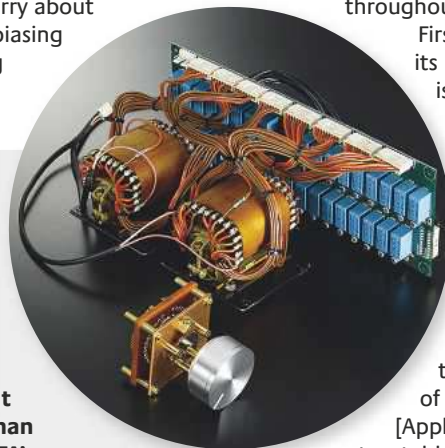
all, anything that makes my life easier is welcomed with open arms.

SILK DEGREES

Used with Audio Research REF75SE and D'Agostino Momentum Stereo [HFN Jul '11] power amps, which are balanced-input-only, I also had the opportunity to try it with the Audio Research REF160S [HFN Feb '20] in both single-ended and balanced modes – and you already know I preferred the latter configuration. Even from cold, the CL-1000 exhibited two initial impressions that stayed with me throughout the listening sessions.

First and most notable is its utter gracefulness. There is no shortage of subtle, refined preamps on the market, but this unit exhibits such finesse that I found myself turning to overly familiar works just to hear if it could eke out more low-level information or infinitesimal details. With the 50th anniversary edition of The Beatles' *Abbey Road* [Apple 02508 00744] on the turntable, I decided to wallow in the masterpiece that is the medley on Side 2.

It certainly possessed a forensic quality that drew my attention to disparate musical events, but the magic was in doing so without sounding hygienic, aggressive or disciplinarian. Instead, it sounded – and there is only one word for it – 'silky'. Whether reproducing raucous moments – 'Polythene Pam' burst from the speakers with the force of a military march – or 



TRANSFORMERS AND TUBES

When purse strings are relaxed, the high-end audio designer has several routes open in the quest for the ideal 'analogue' volume control. Beyond a high quality film potentiometer there's always the option of a switched attenuator using a ladder network of resistors to offer precisely calibrated 'stepwise' control. Then there's the transformer route, realised in its most simple form as a purely passive control offering some +6dB of voltage gain at the expense of a high and variable output impedance. Luxman may use a pair of transformers in the CL-1000 but its 'LECUA' (Luxman Electronically-Controlled Ultimate Transformer Attenuator) is closer in execution to the volume control regime used in Nagra's HD PREAMP [HFN Nov '18]. Here a tube line buffer (employing E88CC triodes) is combined with a transformer employing 34 secondaries that are switched in combination to provide very fine adjustment in volume. A further E88CC-based line stage, with super permalloy output coupling transformers, delivers a more consistent output impedance, and though ~480ohm is still on the high side, the CL-1000's extended frequency response remains less sensitive to volume position than is typical with transformer-based preamps [see Lab Report p55]. PM

The Classic Evo

Pro-Ject
AUDIO SYSTEMS



THE EVOLUTION OF A CLASSIC

The Classic Evo utilises a simple and elegant “frame” design, which bears a notable resemblance to some of the most famous turntables of the 1950’s, 60’s and 70’s. But the design is more than just aesthetically pleasing, it also combines proven hi-fi technologies with the ‘simple to set-up and own’ principles associated with Pro-Ject turntables, so you can just focus on enjoying your music.

The improved two-plinth design utilises Thermo Plastic Elastomers (TPE) to isolate the metal-finished inner-chassis, rather than the traditional method of a spring-loaded sub-chassis, but this construction effectively decouples the motor from the main bearing and the tone-arm, reducing unwanted interference between the components.

Available in:



Diamond cut sub-platter



Electronic speed change



Carbon fibre 9" the classic tone-arm



Ortofon Quintet Red moving coil cartridge

PREAMPLIFIER



ABOVE: Four line ins (inc. one balanced on XLRs) are joined by one phono in (on RCAs) with rotary MM/MC gain and loading options. Four line outputs are offered on single-ended RCAs and balanced XLRs. The CL-1000 has no remote control

the exquisitely fluid and gentle 'Because', the CL-1000 retained an overall behavioural mode that inferred peerless consistency – the second of its most notable virtues. It was delivering reference-grade detail, neutrality and coherence.

As an unintended benefit, especially for listeners who feel the need to dissect music, the openness and transparency were of such a revealing standard that one could, if masochistic enough, listen for edits. I resisted digging out 'Strawberry Fields Forever' or 'Being For The Benefit Of Mr. Kite!' or other tracks assembled from myriad splices, but you get the idea.

TIME LORD

This is not, however, a caveat warning of painfully analytical behaviour. The sound remains of a seamless, mellifluous whole, such that I was continually reminded of full-range electrostatic speakers. When I turned to one of the 'show-off' recordings in my arsenal, the 60-year-old score to *The Music Man* [Capitol ZF-41, on 1/2-track/7 1/2ips tape], the spoken-word 'Rock Island' verbal assault that opens the post-overture proceedings was presented as what is best described as a holographic spatial event.

Why is this important, or, crucially, beneficial? Because that is one of the most irritating experiences in the history of Broadway, despite the recording being awarded 'Best Original Cast Album' at the first Grammy Awards ceremony in 1958. It's just a bunch of whiny people shouting at each other in a rhythmic pattern. Hearing it once is enough. But so life-like was the reproduction through Luxman's CL-1000 that I was drawn in, with spider/fly irresistibility. Hell, I even

sat through the nearly-as-irritating 'Gary, Indiana', which was sung by a screeching, lisping 11-year-old.

Is rendering the unlistenable 'listenable' a virtue? I can think of no higher compliment for a piece of hi-fi equipment. After all, it's one of the bases of my obsession with open-reel, which even has me playing Ray Conniff, Mantovani and the like. Which led to another revelation: what the CL-1000 does with massed strings and huge orchestras is something to behold.

It was, however, an SACD that had the greatest impact. (I beg you: try it!) As dazzling as is The Thelonious Monk Quartet's *Monk's Dream* on One-Step LP, the SACD [Mobile Fidelity UDSACD 2207] should be regarded as a milestone in this digital format. Via the CL-1000, it recreated the necessary club-like intimacy small-ensemble jazz albums demand to sound of their best.

The CL-1000's part? It reaches into its own past, as well as that of the music itself, to deliver such vibrancy and realism that one might even suggest it is a time machine. ☺

HI-FI NEWS VERDICT

At the risk of alienating those of you who think hair shirts are comfortable, the Luxman CL-1000 unashamedly marries truly stellar sonic performance with the sort of perceived value – and build quality – that eludes much of the high-end. It is a delight to use, it leads to hours-long listening sessions and it is so gorgeous that you'll want to fiddle with the controls just for the tactile rewards. Magnificent!

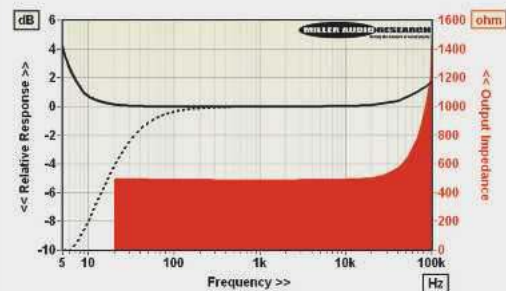
Sound Quality: 90%



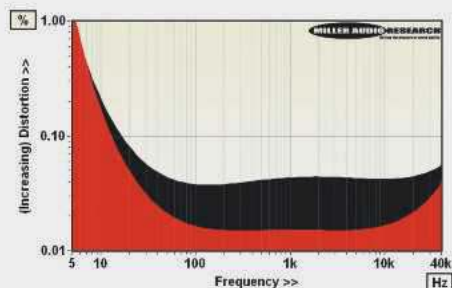
LUXMAN CL-1000

With the LECUTA volume cranked fully clockwise, maximum gain is +15.1dB (XLR in/out) with a channel imbalance of 0.12dB at +6dB gain. Maximum output is a substantial 19.5V with distortion increasing steadily with level from 0.0025%/100mV to 0.014%/1V and 0.15%/10V. This holds true from 100Hz-10kHz but THD increases marginally at higher frequencies (0.032%/1V/20kHz) and more obviously so at very low frequencies to 0.08%/20Hz and 0.9%/5Hz. This is more likely a function of the input and output coupling transformers than the dual-mono E88CC tube line stage [see Graph 2, below]. The triode stage is also very quiet, revealing an A-wtd S/N ratio of 100dB (re. 0dBV) and a residual noise of just -97dBV (14µV). The response is extended, showing a lift in the ultrasonic to +1.7dB/100kHz but, more worrisome for vinyl sources, a +12dB spike at 3Hz. The low cut filter [dotted trace, Graph 1] is mandatory for LP-based systems.

The CL-1000 has a versatile MM/MC phono stage even if the gain is not exactly as advertised! In practice the '+38dB MM' input is closer to +54dB while the +57dB and +66dB MC options (40/10ohm loading, respectively) are closer to +73dB and +76.5dB. This means the CL-1000 is rather better suited to low-output MMs and MCs than you might suspect, without there being a trade-off in either the input overload margins or S/N ratios. In MM guise the CL-1000 has a sensitivity of 2.1mV with a generous limit of 90mV (32.6dB headroom) and a wide 86.2dB A-wtd S/N ratio. For MC (low/medium and high gain) the figures are 225µV and 150µV for sensitivity with overload limits of 10.5mV and 7.5mV, and 73.6dB/67.0dB for the S/N. Clearly 'MC Low or Med' are the settings to choose for 95% of likely MCs. PM



ABOVE: Output impedance (red infill) versus MM/Line response (black, solid line; low cut filter, dotted)



ABOVE: Distortion versus extended frequency at 0dBV (Balanced line input, red; MM phono input, black)

HI-FI NEWS SPECIFICATIONS

Maximum output/input (<1% THD)	19.5V / 8.0V (balanced)
Output imp. (20Hz-20kHz/100kHz)	478-495ohm / 1525ohm
Freq. resp. (20Hz-20kHz/100kHz)	-0.00 to +0.15dB / +1.7dB
Input sensitivity (re. 0dBV, Line/MM/MC)	175mV / 2.1mV / 225µV / 150µV
Input overload (MM/MC Low/MC High)	90mV / 10.5mV / 7.5mV
A-wtd S/N ratio (re. 0dBV, Line/MM/MC)	100.1dB / 86.2dB / 73.0dB
Dist. (20Hz-20kHz, 0dBV, Line/MM)	0.025-0.045% / 0.046-0.015%
Power consumption	37W
Dimensions (WHD) / Weight	460x166x454mm / 24kg (total)

Sonus faber Olympica Nova V

Six years after the birth of the first lute-shaped Olympica speakers, Sonus faber announces the second generation
 Review: **Andrew Everard** Lab: **Keith Howard**

Several factors set the 2013 launch of the Sonus faber Olympica range apart: not only was this one of the first complete lineups from a company previously better known for individual models, but it also marked the brand's debut as a manufacturer of drive units, built in-house [HFN May '14 and Mar '15]. The new Olympica Nova range represents a next logical step, comprising no fewer than seven models. The series kicks off with the compact Nova I standmount but is headed by the £14,900 Nova V floorstander featured here, available in a choice of walnut or wenge finishes, standing some 117.5cm tall and weighing a not insubstantial 44kg each.

With more than a nod to those running a multichannel/AV system, there's also a choice of CI and CII centre channel speakers in addition to its 'W' model, which at first glance appears to be a surround speaker. Well, you could use it as such, but this most affordable model in the range, at £3500 a pair, is designed as a more general-purpose wallmount speaker, just over 56cm tall and less than 23.5cm deep complete with its wall-bracket.

DOMESTIC BLISS

That's an acknowledgement that consumers increasingly want domestically acceptable loudspeaker solutions – even the big Nova V is clearly designed with a positive view on domestic harmony. Imposing it may be, but the finish here goes beyond what many a manufacturer would describe as 'furniture grade'. Our pictures hardly do it justice, but with its combination of real wood, high-quality metal and Italian leather (of course), the Olympica Nova V is constructed to a standard likely to put most other domestic

items to shame. But then Sonus faber has long been known for speakers as easy on the eye as they are on the ear.

Like the original Olympica, the Nova range features the company's 'Lute' cabinet design, with an asymmetric cross-section reminiscent of that instrument. And it's built not in the more common way of a workmanlike carcass covered in a high-quality veneer, but with cabinets formed from eight layers of real wood, laminated and shaped together under pressure. Whether it's walnut or wenge wood, what you see is what you get.

VOICE OF ITALY

Whereas the original Olympica models followed Sonus faber's tradition of using a leather wrap across the top panel, for the Nova line that's been replaced with a cast aluminium piece into which is set wood to match the main enclosure. But the leather's still there, hand-applied in the company's

Vicenza facility to create the finish of what it calls 'The Voice of Sonus faber': the tweeter and midrange assembly.

Within the enclosure, structural ribs are used to increase rigidity, and the whole enterprise sits on an outrigger base formed from solid aluminium into which screw substantial steel spikes with chunky knurled fixings. Arguably, the real standout feature of the Olympica Nova range is its metal 'Stealth Ultraflex' vent that supplements bass output [see boxout, p57]. Set to the side of the twin pairs of speaker terminals

'There's masses of orchestral scale and a sonorous piano'

RIGHT: The signature 28mm soft-dome DAD tweeter and 150mm mid unit are set into a leather-clad baffle, with three 180mm cellulose pulp/syntactic foam-coned bass units arranged beneath





STEALTHY BASS

Reflexing loading uses the Helmholtz resonance between the mass of air in the port and the compliance (springiness) of the air contained within the enclosure to reinforce bass output when both port and driver are in phase. Reflex loading increases sensitivity and reduces distortion but there are also downsides, particularly if airflow through the port becomes turbulent, adding various ‘chuffing’ noises at high output. Furthermore, while ‘organ pipe’ resonances can occur within the port tube itself, Sonus faber’s patented ‘Stealth Ultraflex’ system is termed ‘para-aperiodic’ (almost non-resonant), because the inner surface of the port duct – an extruded aluminium spine, offset from the rear of the speaker – is lined with sound absorbent material. It is claimed to provide a reduction in cabinet size, greater bass extension, reduced distortion and the elimination of port noise. KH

to the rear of the enclosure, and running the full height of the speaker, these narrow vents are offset to one side of that asymmetrical cabinet. A development from the company’s *Homage Tradition* series [*HFN* Oct ’17, Feb ’18 and Aug ’18], the system is said – somewhat lyrically – to emulate the action of waves in the sea, allowing a free flow of air while controlling both its speed and reducing turbulence.

The speakers are ‘handed’, with the vents set on their opposite sides, so it’s possible to indulge in a spot of tuning to the room by positioning the speakers with their vents inward or outward. The former should give tighter bass, especially when the speakers have to be used relatively close to side walls; the latter promises greater bass weight.

The in-house drive units are topped off by a 28mm silk dome tweeter that includes an aluminium bridge carrying a tiny damper, which is in contact with the dome to apply what Sonus faber calls ‘local damping to the apex typically responsible for anti-phase behaviour of soft-dome diaphragms’.

The 15cm midrange driver, meanwhile, uses a rough-textured cone of fibres including

Kapok and Kenaf, reducing resonance. There’s a trio of 18cm bass drivers, each using a sandwich cone design combining two layers of cellulose material and a

syntactic foam core, designed for low mass and high rigidity. Apart from the size of the speakers, that bass driver is the main point of difference between the three floorstanders in the range: the *Nova II* has one bass driver, and the *III* has two.

A SUBSTANTIAL SOUND

The tagline for the *Olympica Nova V* is ‘Pure and pristine sound’, also expanded to ‘A concentration of power and quality that allows complete enjoyment of our natural sound, with no compromise’, and while the speaker certainly sounds big and impressive as soon as you listen, audiophiles will always have different ideas about what constitutes a ‘pure and pristine’ sound. Whether used on the end of mighty *Constellation Inspiration Monos* [*HFN* Oct ’19], or the *Simaudio Moon 860A v2* [*HFN* Feb ’20], in each case fed from a *dCS Vivaldi One* digital player/preamp [*HFN* Feb ’18] taking music from a Melco music library, the *Nova V* fairly rapidly formed a strong impression in my mind.

Yes, it is definitely big and rich-sounding, with masses of orchestral scale and very sonorous solo piano, and for those who judge the success of a big speaker on its ability to deliver warmth and a room-filling sound, there’ll be little to complain about here. After some experimentation, the speakers were set up with their *Stealth Ultraflex* vents facing inwards, this giving the best low-end control, but even with that done they’re never bass-shy – far from it as the *Nova Vs* deliver a deeper and more extended low-end than might be anticipated from the list of specifications [see KH’s Lab Report, p59].

In tandem with this weight and smoothness, the *Nova V* prefers to paint a broad and colourful canvas of sound rather than deliver a surgically penetrating insight into the depths of a musical mix. Yes, that balance is certainly preferable to ➔

[master]

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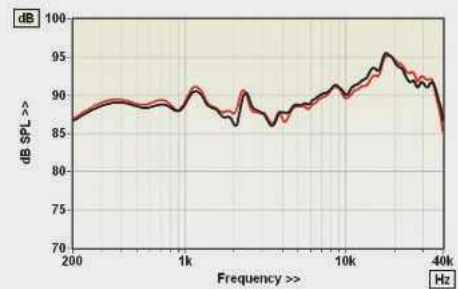
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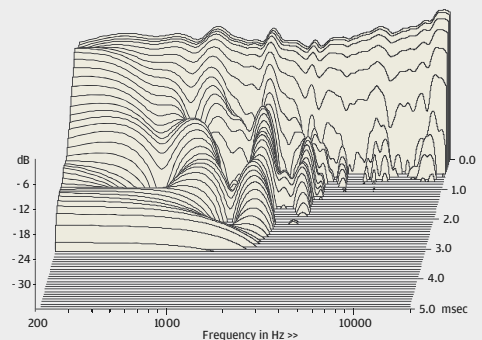
SONUS FABER OLYMPICA NOVA V

The largest model in the Olympica Nova series is specified to have a sensitivity of 90dB, bought in part by a nominal impedance of 4ohm. The first part of that description aligns extremely well with our measurements, which recorded 89.9dB SPL at 1m for a pink noise input of 2.83V. A minimum impedance modulus of 2.8ohm is too low for a 4ohm nominal rating, but in fairness to the Nova V it occurs at a high 14.3kHz. It's also at high frequency – 7.6kHz – that the EPDR (equivalent peak dissipation resistance) dips to its low of 1.5ohm, which makes it less significant in practice because of the, typically, limited musical content in this region.

Elsewhere in the spectrum EPDR is very well controlled, with a narrow dip to 2.0ohm/35Hz and to 2.6ohm/826Hz. So the Nova V isn't as hard to drive as it may first appear. Forward frequency responses measured on the tweeter axis [Graph 1] show a rising output above 4kHz, which strongly suggests the speaker should be auditioned a little off-axis for the most neutral tonal balance. Response errors reflect this up-tilted treble at $\pm 4.8\text{dB}$ and $\pm 4.4\text{dB}$, respectively, but with careful alignment it should be possible to reduce this to $\pm 3\text{dB}$ or so. Pair matching error over the same 300Hz-20kHz range is disappointing at $\pm 1.7\text{dB}$ but this is largely due to a minor narrowband disparity at 2.1kHz. Without this the figure would have been a respectable $\pm 1.0\text{dB}$. Diffraction-corrected nearfield measurement showed the bass extension to be 43Hz (-6dB re. 200Hz). The cumulative spectral decay waterfall [Graph 2] is free of resonances in the upper treble but shows three modes associated with the response peaks at 1.2kHz, 2.3kHz and 3.8kHz. KH



ABOVE: Forward response shows some peakiness in the midband, but the rising treble is offset by toeing-in



ABOVE: Cabinet modes are mild but driver modes at 1, 2 and 4kHz also appear in the frequency response

LEFT: Crossing over at 250Hz the bass drivers work out of a 'para-a-periodic vent' running the full height of the eight-layer cabinet. A quartet of custom, multi-way binding posts allows for both bi-wiring and bi-amping

characteristic fragility traded here for a performance that actually sounded bolder and more confident.

With moderately sparkling recordings like Ravel's 'La Valse', played by the NYPO on the *Boulez Conducts Ravel* set [Sony Classical SS89121; DSD64], the slightly eerie and ominous feel of the opening section sounds as grand as it does dramatic, this huge wash of sound rolling out across the room with an emphasis on raw scale. Once again, these are speakers that wrap you in the music, nice and cosy, rather than invite you over for an evening of technical introspection.

MIX 'N' MATCH

More often than not, the ability to suspend disbelief has as much to do with your choice of music as partnering ancillaries. With a change of pace to 'Mercy', from Muse's *Drones* [Warner Bros download; 96kHz/24-bit] the dense and full-on mix is delivered up with real impact, driven in particular by the bass and drums but with no abrasive top-end forcing you to back off on the volume to save your ears. Similarly, playing Sam Cook's 'Bring It On Home To Me', from his 2003 *Portrait Of A Legend* [ABKO 060249807446] the sound, which can easily appear bright and hard, is gently massaged here into something less fragmented and unforgiving. ☺

HI-FI NEWS VERDICT

As if to match their luxurious build and finish, the Olympica Nova 5s deliver a very cultured, almost velvety view of the music, likely to impress with their sheer scale and lack of any obvious sonic nasties. In so doing they may relinquish a little of the sparkle and character that some listeners might seek, but these big Novas will never offend. For a grand sound without tears, make an appointment with the Nova Vs.

Sound Quality: 82%



a forward, brittle sound, but care must be taken not to partner these floorstanders with a laid-back source or amplification if too polite a sound is to be avoided.

SPOONFUL OF SUGAR

For example, with Iiro Rantala's take on Gershwin's 'Liza', from his *My History Of Jazz* set [ACT 9531-2], the music was presented as a very well-integrated but slightly smoothed whole with, arguably, more emphasis on the weight of the piano and drums than the sparkle of the cymbals. The same effect also sweetens the vocals of the McGarrigle sisters on their *French Record* [Hannibal HNCD 1302], their

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – Mean/IEC/Music)	91.8dB / 89.9dB / 89.0dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	2.8ohm @ 14.3kHz 14.3ohm @ 2.5kHz
Impedance phase: minimum & maximum (20Hz–20kHz)	-48° @ 4.1kHz 33° @ 1.2kHz
Pair matching/Resp. error (300Hz–20kHz)	$\pm 1.7\text{dB}$ / $\pm 4.8\text{dB}$ / $\pm 4.4\text{dB}$
LF/HF extension (-6dB ref 300Hz/10kHz)	43Hz / >40kHz / >40kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.4% / <0.1% / 0.3%
Dimensions (HWD) / Weight (each)	1175x424x530mm / 44kg

T+A PA 1100 E

As T+A's midrange E series is reinforced by a new amplifier, based on the PA 1000 E but equipped with BT and a USB DAC, we ask 'is this now the stereotype for modern amps?'
 Review: **Jonathan Gorse** Lab: **Paul Miller**

As the latest in a long line of amplifiers from the German brand, T+A's PA 1100 E integrated is also one of the more innovative and comprehensive in its scope. The company (T+A stands for 'Theory and Application') has been manufacturing audio equipment since 1978 and prides itself on both its deep technical capability and in-house manufacturing. However, despite this heritage, the PA 1100 E is only the first of its amplifiers to include an onboard DAC – something very many competing brands have been doing for years.

So if you are looking for a single-box solution capable of servicing a mix of analogue and digital sources, or if you simply want to reduce your box count, and have previously admired T+A from afar, then this £3660 amplifier might well prove the perfect solution. In practice, the PA 1100 E is a development of the PA 1000 E [*HFN* Mar '17] – it features the same Class D amplification stages [see PM's boxout, p61] but trades one of the latter's balanced inputs for a TI PCM1795-based DAC board.

FOCUS ON FEATURES

Available in satin silver and black finishes, the PA 1100 E also shares the same casework with its supremely understated industrial design, exceptional build and finish quality. As an ambassador for Westphalia, T+A proves that 'Made in Germany' still stands for something!

Rated at 2x140W/8ohm [see PM's Lab Report, p63], this is a two-channel amp offering four single-ended line inputs, one of which can be configured for vinyl replay by specifying T+A's optional MM/MC phono module, a balanced XLR input and tape loop. Two coaxial and two optical inputs take digital sources up to 192kHz/24-bit, alongside a USB-B input for connection to a PC (up to 384kHz/32-bit and DSD256).

RIGHT: A substantial linear PSU [lower left] feeds a Class D power amp stage [top centre] – the high-speed MOSFETs are bolted under the centre of the middle PCB. The new digital board is piggybacked onto the preamp [top right]

Wireless Bluetooth is also offered along with a row of three HDMI sockets – a £390 option – two of which are suitable for connection to a Blu-ray player or TV/satellite box while the third, an output, carries video and audio (via ARC) back out to your flatscreen display. Note that the T+A PA 1100 E is a two-channel amplifier, so multichannel Dolby/DTS decoding is not included in its feature set.

Ranged along the front panel from left to right are a power/standby switch and a row of five input buttons. Each of the input selection buttons switches between several sources by repeated presses. For example, a single press of the input 1 button selects Phono input 1 and a multicolour LED above lights in red for analogue. Press that button again and the USB input is selected for playback from a computer source and the indicator LED above turns blue.

This basic idea extends to all five input selector buttons, some of which handle up

to four digital/analogue sources, variously denoted by a sequence of four different LED colours. A little puzzling at first, these multifunction controls certainly 'de-clutter' the fascia without compromising its broad flexibility. After a short and typically feverish burst of button pressing, you quickly get the hang of things...

FILTER TIPS

There are also ancillary features such as a tape record monitor and a selector for switching between speakers and headphones. Another button when briefly pressed turns the bass and treble controls on or off while a longer press switches the loudness function on or off. Finally, the button labelled 'OVS' switches between just two of the four digital filter options typically incorporated on T+A's costlier offerings [*HFN* Oct '19]. The default is a fairly standard linear phase FIR filter with a steep roll-off and the other is T+A's familiar





Bezier-style IIR filter. The latter offers reduced time-domain distortion at the expense of an early treble roll-off and poor alias rejection – it's best used with 96kHz (and higher) digital inputs.

Meanwhile, three flush buttons for bass, treble and balance pop out when pushed, the volume rotary is motorised for IR remote control, and there's also a separate ¼in headphone socket for 'personal' listening. Unusually, the IR commands are not picked-up by an 'eye' in the amplifier's fascia, as is typical, but are snagged by a separate IR receiver that's plugged into the rear of the amplifier.

'It captured all the majesty of the Steinway Model D'

STRIKING IT RICH

The PA 1100 E was used in my reference system of Naim NDX network streamer and NAC82/NAP250 amps driving ATC SCM40 loudspeakers. Its USB input was tested by connecting it to a PC streaming hi-res files from my network server using foobar2000.

From the beginning it was clear that the PA 1100 E is a smooth, warm and rich-sounding amplifier, no matter the source used. Vocals, in particular, sounded well rounded and lifelike while recordings that are inclined to harshness were rendered more pleasurable and involving than when heard on less-forgiving rivals. Of particular

note was its handling of lower registers, with bass guitars and plucked double-basses sounding well extended, even if this was at the expense of some articulation at times.

The way this amplifier was able to convey the air around performers within a three-dimensional soundstage was satisfying too. Music is always best enjoyed when one is able to suspend belief that one is listening to a recording, and the PA 1100 E never let its grip slip when it came to delivering the ambience of a performance. At the same time it positioned instruments across a

ABOVE: The sleek, minimalist front panel plays it simple with volume, multi-source input buttons, speaker/headphone switching, and neat little pop-out tone and balance knobs

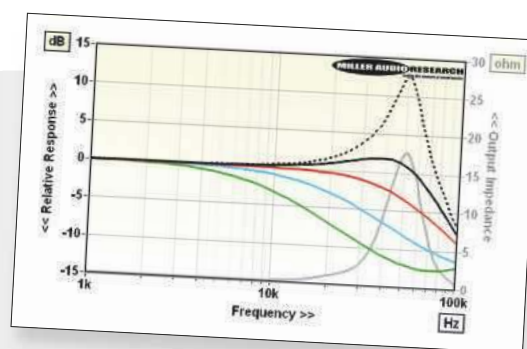
wide soundstage in a manner that was never less than highly believable.

First up was a 96kHz/24-bit HDtracks download of Michael Kiwanuka's 'Love And Hate' from his album of the same name [Polydor 4785905], streamed from my home server via the Naim NDX. With the PA 1100 E hooked up to the NDX via its RCA inputs, and the latter's built-in DAC doing the number-crunching, the room was suddenly alive with the singer's mellow vocals, his wonderfully rich and textured voice conveyed with all its honey-drizzled warmth intact. Particularly striking was the way the amplifier conveyed the space between the performers, especially when it came to the sense of stage depth between the lead and backing vocalists.

Switching to the PA 1100 E's built-in DAC fed by the Naim NDX's coaxial digital output revealed the Naim DAC to be a tad more incisive in its presentation of the Kiwanuka track. There was also a feeling of greater dynamics. Yet both renditions were close, and I could happily live with either. The PA 1100 E certainly impressed with its seamless top-end, and there wasn't a hint of harshness to be heard from the fuzz of the soaring lead electric guitar solo that carries the song to its close. This was quite a feat given that this isn't the cleanest piece of production out there.

TRUE TO LIFE

Conversely, 'I'm Just An Old Blues Singer' by The Blues Company & The Fabulous BC Horns [*O'Town Grooves*; In-Akustik INAK 9096 CD] is a superbly well-engineered recording and one with a wonderful live feel. The PA 1100 E was convincing and compelling in its delivery of the band, both as individual players and as a cohesive whole. The electric guitars were



SPEAKER MATCHING

A key difference between T+A's PA 1100 E, and original PA 1000 E [*HFN* Mar '17], versus the costlier R-series PA 2000 R [*HFN* Feb '16] and PA 2500 R, is the E-series' use of Class D technology to offer high outputs and limited waste heat, all at an attractive price. While T+A's discrete MOSFET switching output stage is its own design, the PWM (Pulse Width Modulation) core of the Class D amplifier is based on an Infineon Technologies' IRAUDAMP Class D 'reference design' [*HFN* Sep '15]. Unlike the competing Hypex UcD/Ncore Class D modules, the IT/T+A approach still indicates some of the drawbacks of 'traditional' Class D amplifiers. In particular, the amplifier's inductive output filters [see coils in pic, p60] push up the output impedance at ultrasonic frequencies [inset Graph: grey trace]. This has an impact on both distortion and frequency response within the 20kHz audio range, the latter varying with loudspeaker load impedance [inset Graph: unloaded/8/4/2/1ohm = black (dashed)/black (solid)/red/blue/green traces]. Into 8ohm it rises +1dB/20kHz but falls to -0.4dB/20kHz into 4ohm (and -7dB/1ohm). So if the impedance trend of your speakers rises through the treble then the PA 1100 E will likely sound brighter, and vice-versa. **PM**

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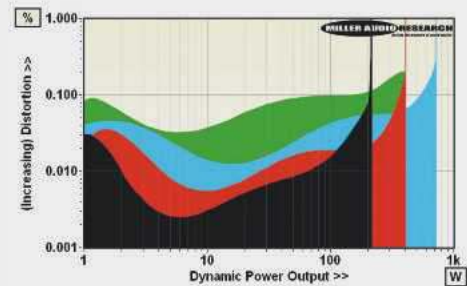
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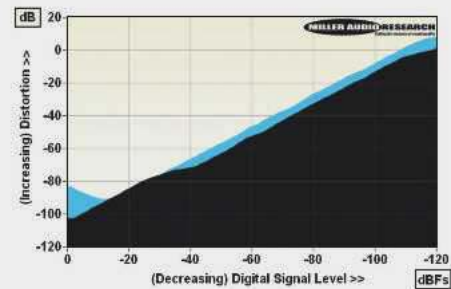
T+A PA 1100 E

The PA 1100 E's Class D amplifier bests its rated 140W with 2x160W/8ohm and 2x265W/4ohm while, under dynamic conditions, there's headroom to service peaks of 215W, 415W and 720W into 8, 4 and 2ohm loads with protection limiting output to 405W into 1ohm [see Graph 1, below]. Otherwise performance is influenced by the Class D architecture, including its slightly below-average 78dB A-wtd S/N ratio (re. 0dBW) that would be closer to 73dB if various ~18-22kHz spurs were included. The reactive output impedance climbs from 0.04-0.05ohm/20Hz-1kHz to 1.1ohm/20kHz, peaking at 18ohm/52kHz [grey trace, inset Graph, p61], and influencing the amp/speaker response accordingly. Distortion also rises with frequency from <0.0035% through bass and midrange to 0.05%/20kHz and 0.1%/40kHz, but is typically 10x higher under dynamic conditions over the first few watts. This is clearly illustrated in Graph 1 while, under continuous output conditions, distortion increases more linearly with output from 0.001%/1W to 0.004%/10W, 0.014%/100W and 0.019% at the rated 140W/8ohm (all at 1kHz).

The PCM1795-based DAC stage offers a 104dB A-wtd S/N ratio from a 1.2V preamp output. Good jitter rejection is achieved at ~80psec (all sample rates, all inputs) while distortion falls to a minimum of 0.0009%/1kHz and 0.0022%/20kHz over the top 20dB of its dynamic range [see Graph 2]. The default FIR digital filter offers responses of -0.3dB/20kHz, -1.6dB/45kHz and -3.9dB/90kHz with 48kHz, 96kHz and 192kHz files, respectively. T+A's own Bezier IIR filter eliminates any pre/post ringing in the time domain but alias rejection is poorer and the responses are -4.6dB/20kHz, -5.7dB/45kHz and -7.6dB/90kHz. PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 20.1A



ABOVE: Distortion vs. USB 24-bit digital signal level over a 120dB range at 1kHz (black) and 20kHz (blue)

HI-FI NEWS SPECIFICATIONS

Continuous power (<1% THD, 8/4ohm)	162W / 265W
Dynamic power (<1% THD, 8/4/2/1ohm)	215W / 405W / 720W / 405W
Output impedance (20Hz-20kHz)	0.042-1.18ohm (518ohm, pre)
Freq. resp. (20Hz-20kHz/100kHz)	+0.08 to -0.90dB/-7.8dB
Digital jitter (USB at 48kHz/96kHz)	75psec / 85psec
A-wtd S/N ratio (re. 0dBW/0dBfs)	77.8dB (Analogue) / 104.0dB (Dig)
Dist. (20Hz-20kHz; 0dBW/-3dBfs)	0.0014-0.007%/0.0005-0.009%
Power consumption (idle/rated o/p)	17W / 345W
Dimensions (WHD) / Weight	440x115x380mm / 14.0kg



ABOVE: Alongside the tape loop and four line inputs (inc. one balanced XLR and one optional MM/MC phono) are USB-B, two coaxial and two optical digital inputs. HDMI module is also optional. Bluetooth supports aptX but the wired LAN is for control only

full-sounding and warm, while the drums not only enjoyed fine impact but a scale that was strikingly true to life. Yes, the bass line was a little softer than ideal, sounding 'bloomy' at times, yet never did this detract from the sheer musicality on offer.

The ability to accommodate a range of digital feeds is one of the key benefits of this flexible amplifier and the inclusion of a USB input enables a PC to act as a high-quality music source. Deacon Blue's *Live At Glasgow Barrowlands* set [EAR Music 02111866EMU] captures the Scottish band in blistering form. On the track 'When Will You (Make My Telephone Ring)?' there's wonderful interplay between Hammond organ and piano that relies on the touch and feel of the musician to convey the emotional message.

GRAND MASTER

The PA 1100 E rendered the leading edges of the piano notes – which are so crucial to the song – beautifully, setting them in front of the laconic, but skilfully-judged drum work. Heard via lesser amplifiers this track can sound cloying and overblown, but not a whisper of its intimacy and immediacy was lost in the capable

hands of the T+A PA 1100 E.

Switching between the FIR and Bezier-style filters was instructive here. With the standard FIR filter, just a hint of glare was present on Lorraine McIntosh's backing

LEFT: The USB-rechargeable FM 11 remote offers input select, volume, tone/loudness bypass and digital filter select. A (supplied) wired IR receiver connects to a 3.5mm port on the rear of the PA 1100 E



vocals. Engaging the Bezier filter eliminated this and made everything from cymbals and Hammond organ sound a shade more real. With other tracks, the Bezier filter resulted in greater dynamics along with improved clarity and detail. If you do decide to audition this amplifier it's crucial you explore the two filter options. As it was, the quality of sound possible via USB from PC was highly impressive and came close to equalling that available from my dedicated NDX streamer.

A variety of high-definition files encoded at both 192kHz/24-bit in FLAC/WAV and DSD64 were also used. One was the stunning performance of Beethoven's *Piano Sonatas* by Mari Kodama from HDtracks [Pentatone PTC 5186 067].

Replayed via T+A's USB DAC the tremendous scale and authority of the Steinway Model D concert grand used for the recording was in full evidence. The sense of majesty and awe this instrument conveys live is extremely difficult to reproduce through a domestic hi-fi system, but here the T+A PA 1100 E came remarkably close. It felt like listening to the master tape, and while there were subtleties of reproduction that favoured DSD as opposed to FLAC – especially in terms of the top end sounding smoother – both were far superior to plain vanilla CD. ☺

HI-FI NEWS VERDICT

The T+A PA 1100 E is a supremely flexible stereo amp, capable of handling almost any two-channel source – whether analogue or digital. Its construction is immaculate, the aesthetics understated and the whole thing feels built to last a lifetime. Its sound seems similarly robust and 'three dimensional', fully capable of revealing the emotional intent and drama of a recording. Try it at the heart of a modern system.

Sound Quality: 84%



Focal Chora 826

As Focal replaces its Chorus range of high-value speakers with a new Chora lineup, we test the flagship floorstander
 Review: **David Price** Lab: **Keith Howard**

Time waits for no one – especially if you're a speaker manufacturer. Focal knows this, and will regularly refresh its ranges to maintain its competitiveness. That said, the popular entry-level Chorus lineup [*HFN* Jun '08] has held sway for longer and only now is it superseded by the high-value Chora range.

As is typical of the huge Saint-Étienne, France-based manufacturer, the Chora speakers come in sizes to suit everyone. The compact Chora 806 standmount costs just £599, the petite 816 floorstander is £1099 and the not-inconsiderably proportioned Chora 826 reviewed here is £1299. Clearly, the prices have been pared down and size has been pushed up. Indeed the Chora 826 is seriously capacious for the money, and at 1053x303x388mm (hwd) and 22kg it certainly has the look and feel of a substantially more expensive speaker. 'High perceived value' from a 'sleek, modern design' is how the company's product sheet describes it.

FUN WITH FIBRES

It's not just about cabinet size, though. The Chora range also introduces the company's new 'Slatefiber' cone material [see boxout, p65], which is claimed to be light, stiff and well damped all at the same time. The Chora 826 sports twin 165mm Slatefiber woofers and these hand over to the single 165mm Slatefiber midrange driver at 270Hz. This runs up to 2.7kHz where the 25mm aluminium/magnesium alloy inverted dome tweeter takes over.

Unusually this tweeter is concave rather than convex, which is said by the company to make it less directional. What's more, the suspension between the dome and its bracket incorporates Poron, a material

RIGHT: The pedestal is angled to 'time align' the drivers on the baffle. These include a 25mm aluminium/magnesium tweeter, a 165mm 'Slatefiber' midrange unit and a pair of 165mm, reflex-loaded Slatefiber-coned bass units

having a property Focal describes as 'shape memory'. The arrangement has been derived from the beryllium tweeter employed in its premium Utopia range, which was first launched in 1995, and is employed to reduce distortion.

MATTERS OF STYLE

Each of these four drivers is inset neatly into the front baffle, with concealed mountings. At the bottom of the speaker's frontal plane is a largish bass reflex port that's claimed to be specially profiled for maximum efficiency. Meanwhile, the supplied grille affixes magnetically over the bass and midrange drivers only, leaving the tweeter exposed.

This minimises the grille's potential effect on high frequencies while bringing a more elegant look to the speaker as a whole.

The cabinet – as you might well expect at this price – is not the most solid in absolute terms. For example, the time-honoured knuckle-wrap test produces a sound that suggests it's a structure considerably less thick and well damped than the pricier Focal Aria 948 [*HFN* Aug '15] that I reviewed several years back. Having said that, the cabinet here can certainly show some rivals at this price point a clean pair of heels when it comes to its perceived sturdiness.

Like its stablemates, the Chora 826 comes in a choice of what the company perhaps somewhat pretentiously calls 'on-trend colours', which encompass black, light wood and dark wood finishes. The vinyl wrap of the black version supplied was done to a high standard, but some rivals offer piano gloss at this price, which to these eyes, at least, is nicer still.

At the bottom of each cabinet is a substantial base that is tilted upwards, says Focal, to aid time alignment. This bolts into the base of the speaker and itself holds four carpet-piercing spikes, also supplied. To the rear of the cabinet can be found a pair of inset single-wire binding posts, designed to

'Its handling of electronic music proved quite special'



take cables terminated with banana plugs or spades, or which have bare wires.

I found this loudspeaker extremely easy to set up, aside from the hassle of wrestling it out of the big packing carton in which

A CLEAN SLATE

Famous for the early adoption of beryllium in its high-end dome tweeters, Focal JM-Lab has always taken a keen interest in drive unit materials. While the combination of low density (weight) and high tensile strength makes beryllium a perfect material for treble domes, the material is extremely hazardous to work with and so necessarily only appears in flagship speakers [HFN Dec '18]. Nevertheless Focal understands that driver composition plays a fundamental part in the performance of a loudspeaker, and so has developed a range of different formulations for each of its ranges.

For example, the company's use of locally-grown flax (linseed) to provide fibres for the bass and midrange cones in its Aria range has proved a great success [HFN Aug '15]. And now, 'Slatefiber' has debuted in the cones of its entry-level Chora models. Also manufactured in Saint-Étienne, and 'slate' in colour only, it's a mixture of thermoplastic polymer and non-woven recycled carbon fibres. This composite material is said to deliver superior damping in a light and rigid structure – the latter achieved because the fibres are all orientated in one direction. The fact that they're not woven together, says the company, further improves the cone's damping.



room, it worked well when located just 30cm from the rear boundary wall and slightly toed-in.

THRILL SEEKER

At this price, no large floorstanding speaker is ever going to be the world's most transparent sounding, and so it proves with the Chora 826. However, Focal's design team makes up for this by ramping up the thrill factor. The result is a fulsome, impactful and expansive-sounding speaker, one that boasts a sizeable sound that's fast and feisty but which neither seeks nor wins any prizes for neutrality. Rather, the retail proposition here is of a larger and punchier loudspeaker than you would anticipate for this kind of money.

The powerful indie rock of The Cult's 'She Sells Sanctuary' from their 1985 album *Love* [Beggars Banquet BBL 65 CD] sounded almost cathedral-like when it came to the size of its recorded acoustic. The track's hard-driving bass and thrashing guitars rang around my room with real energy, there being little sense of dynamic compression even at quite high listening levels. Indeed, one could even say that the sound was artificially large, as if this big floorstander was investing everything played through it with an epic, stadium rock feel.

This fits hand in glove with the speaker's general air of confidence. Give it a simple rock recording, such as The Jam's demo

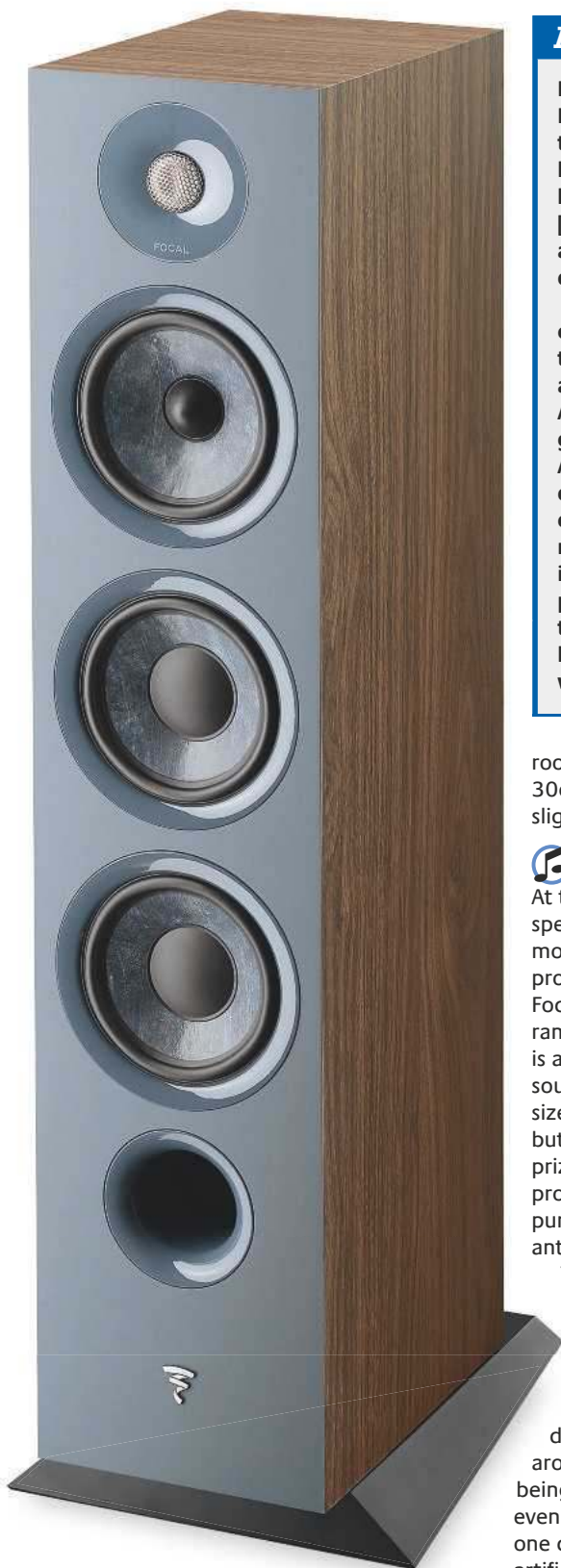
version of 'That's Entertainment' [*Compact Snap*; Polydor 821 712-2], and even this rather thin and reedy track seemed to put on the pounds and swagger around in a powerful and expressive way. This is partly down to what I suspect is the speaker's careful voicing. There's both a warmish upper bass and a low bass that goes surprisingly deep for a design at this price.

To this you can add a third factor, namely the slightly over-active cabinet, which seems to swell out the bottom end just a touch, adding a feel of physicality to the music. Indeed, whatever programme material you care to play, there's always the sense of some real bass being revealed, underpinning the action further up in the recording like the solid foundations of a multi-storey building.

BODY AND SOUL

Strictly speaking then, its big cabinet confers a bit of bass boom upon the proceedings – yet somehow this doesn't detract from the music. One might even call it a kind of euphonic coloration. Thankfully this isn't excessive and it works well with a crisp, clean treble that not only delivers sparkle up top but has impressive transient speed when it comes to capturing the leading edges of notes.

This can make for a wonderfully tight and energetic rendition of rock music like The Smiths' 'Girl Afraid' [*Hatful Of Hollow*; Rough Trade Rough CD76]. Again, this is no audiophile recording but the combination



it arrived; indeed the instruction manual stipulates that it's a two-man lift. Once unpacked it is a case of experimenting with positioning and then – once in the sweet spot – adding the spikes. In my listening

NUCLEUS

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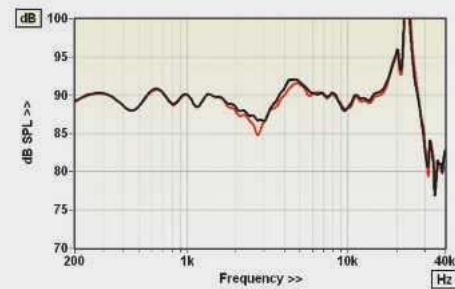
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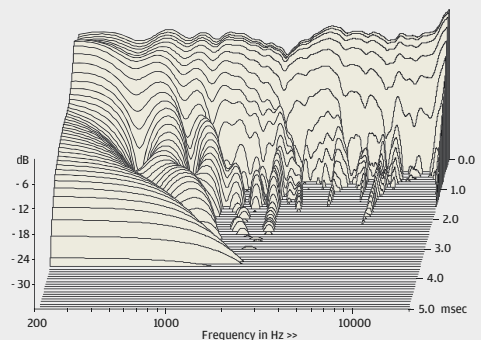
FOCAL CHORA 826

Focal's familiar recipe is to create high sensitivity loudspeakers with the help of low impedance, and the Chora 826 fits that norm. However, we couldn't substantiate its claimed sensitivity of 91.5dB as our pink noise and music results of 89.8dB and 89.5dB (1m for 2.83V input), respectively, suggest that 90dB is more representative. Low impedance helps achieve this by drawing more current from the amplifier, and while Focal specifies a nominal 8ohm impedance for the 826 this is incompatible with the 2.9ohm minimum that it also quotes. In fact that's a little low even for a 4ohm nominal rating. We measured a slightly lower minimum modulus of 2.8ohm/120Hz and a large impedance phase angle of -65° at 72Hz, the two combining in a low minimum EPDR (equivalent peak dissipation resistance) of 1.1ohm/92Hz. Elsewhere in the audible frequency range the minimum is 2.3ohm/35Hz. So the 826 is a tough load to drive at LF – not ideal for a loudspeaker likely to be partnered with inexpensive amplification.

The forward frequency responses, measured at 1m on the tweeter axis, show a wide dip in output between 1.5kHz-4kHz, but the trend is otherwise fairly flat before output begins to rise above 14kHz on the way to a very high-Q tweeter resonance at 23kHz, where the response tops out at ~ 103 dB [see Graph 1]. The response errors are quite high at ± 4.5 dB and ± 5.4 dB (200Hz-20kHz), but these drop to about ± 3.5 dB below 17kHz. Pair matching over the same frequency range is ± 1.1 dB but this reduces to ± 0.7 dB if a narrowband disparity at 2.7kHz is ignored. Bass extension is fine at 41Hz (-6 dB re. 200Hz), while the CSD waterfall [Graph 2, below] reveals a few treble resonances. KH



ABOVE: The 826's response shows a dip between 1.5-4kHz while a tweeter resonance is obvious at 23kHz



ABOVE: Cabinet is controlled and while numerous mid/treble driver modes are visible, these are at low level

LEFT: The three-way crossover (270Hz and 2.7kHz) is addressed via a single set of 4mm terminals, so the Chora 826 does not support bi/tri-wiring or amping

sound slightly coarse on occasions, lacking the sheer smoothness when heard via some rival designs. However, while singer Randy Crawford's voice on the classic soul/jazz of The Crusaders' 'Streetlife' [Streetlife; MCA Records MCD 01815] wasn't as velvety-smooth as I have heard it elsewhere, the track was still well carried and musically communicative, with a good deal of midband detail to jolly things along.

FULL HOUSE

The 826's handling of electronic music proved quite special, being excellent at animating tracks that some budget floorstanders can render leaden and lifeless. The punchy piano house that is Manix's 'Too Strong For So Long' [Reinforced Records RIVET208] was a joy, the treatment of the rhythm tracks – snares, rim-shots and hi-hat loops – being really rather rousing. The Chora 826 delivered this track with an appropriate restlessness, and I found myself unable to sit still. The track powered along with a purpose one doesn't normally hear from a speaker at this price point, revealing it to be music with real soul.

The Chora 826 seems to have been very cleverly voiced. It's so enjoyable that its foibles don't seem to matter when you're frantically tapping your feet along to your favourite music. Given Focal's design expertise over the years, perhaps we shouldn't be surprised. ☺

HI-FI NEWS VERDICT

If the mission was to make an affordable floorstanding loudspeaker that would sound compelling in both showrooms and private listening rooms, then Focal has succeeded. The Chora 826 is far from perfect, but its sheer charm makes you want to keep on listening. It's easy to forgive its sins – which are those of omission anyway – ensuring that for buyers on a budget, this offers a lot of sound per pound.

Sound Quality: 80%



of bass body and fast, crisp sting of the tweeter ensures all the energy of this great band at their musical peak is surprisingly well captured.

It's only when you cue-up some well-recorded acoustic jazz, such as The Dave Brubeck Quartet's 'Take Five' [Take Five; Not Now Music NOT3CD053] that you hear the tweeter's limitations. Ride cymbals sound a little scratchy and there's a general lack of finesse, with a loss of airiness despite the 'speed' up top. However, few rival floorstanders do appreciably better in this area.

The midband is certainly decent, if not this speaker's real strength. Vocals, especially female, could

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – Mean/IEC/Music)	90.6dB / 89.8dB / 89.5dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	2.8ohm @ 120Hz 27.9ohm @ 26Hz
Impedance phase: minimum & maximum (20Hz–20kHz)	-65° @ 72Hz 38° @ 20Hz
Pair matching/Resp. error (200Hz–20kHz)	± 1.1 dB / ± 4.5 dB/ ± 5.4 dB
LF/HF extension (-6 dB ref 400Hz/10kHz)	41Hz / 31.3kHz/31.6kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.2% / 0.3% / $< 0.1\%$
Dimensions (HWD) / Weight (each)	1053x303x388mm / 22kg

Audeze LCD-1

If you have an expectation of Audeze circumaural headphones that they are large and heavy and not something you'd want to schlep around, the LCD-1 is a mould-breaker
Review: **Keith Howard & Ken Kessler** Lab: **Keith Howard**

When we reviewed the LCD-2 [*HFN* Mar '13], Audeze was in the vanguard of what was to become the rebirth of isodynamic driver technology, more commonly known today as 'planar magnetic'. To those of us who'd lived through the high-profile launch of the original PM headphone, the futuristic looking Wharfedale Isodynamic, 40 years earlier, it came as a surprise. But given that Wharfedale was hamstrung by previous-era magnet technology, perhaps it shouldn't have. Neodymium-iron-boron magnets had already revolutionised the design of moving-coil drive units, so it seems perfectly obvious now that it would also be exploited to revisit Wharfedale's planar diaphragm headphone.

While much, much more sensitive than the Isodynamic had been, the LCD-2 was not as sensitive as typical moving-coil competitors, and it was bulkier and heavier too. Plus it had tell-tale signs of being a first product from a small new manufacturer, most notably in the prominent fasteners attaching the back plate to the capsule. The LCD-2's offspring were much the same, chips off the old block.

NEXT GENERATION

But then came a step-change in the form of the EL-8 [*HFN* Oct '15], which was lighter, much more sensitive and a proper modern product thanks to industrial design by Designworks, a BMW spin-off based, like Audeze, in California. The EL-8 is no more, sadly, but here we have arguably its spiritual successor, the £399 LCD-1. It's more sensitive again, less costly again, lighter again, and still carries the LCD moniker.

RIGHT: Smaller and lighter than the other three models in Audeze's LCD Reference Series, the LCD-1 is also less distinctive and less solidly constructed

In its effort to make the LCD-1 lighter and smaller than other LCD models, Audeze took two important design decisions. To reduce weight, it has used – as it did in the discontinued EL-8 – a single-sided PM driver unit, with an array of profiled bar magnets on one side of the diaphragm only, not on both sides as with the LCD-2 and its immediate successors. While the LCD-1's distortion will be worse at very high output levels, at 90dB SPL we recorded less than 0.1% THD at both 100Hz and 1kHz, so in practice this is unlikely to be a serious enough issue for many users.

More likely to be a concern for some are the smaller earpads, commensurate with the reduced capsule dimensions. The LCD-1 is a circumaural headphone, but like many others its earpads don't have a large enough opening to surround the entire ear – unless your lugs are notably dainty,

that is. So despite its low weight – 253g for the headset alone, which is remarkably trim for a PM design – and its modest head clamping force (I measured 5.5N for 150mm head width), comfort will still be influenced by the design of your head...

Also, variability at the lower end of the spectrum in our frequency response testing [see Lab Report, p71] suggests that the LCD-1 is at least moderately sensitive to the integrity of the earpad seal. Avoiding leaks is an imperative if you want to enjoy the prodigious bass extension that PM 'phones usually deliver, and of which the LCD-1 is certainly capable.

I still go dewy-eyed when the music gets to me'

ON THE MOVE

While the evidence – high sensitivity, fold-up capsules, hardshell carrying case – is strong for the LCD-1 being a headphone intended for use with mobile music players, it is curiously not supplied with a short connecting lead. The one included cable is almost 2.1m in length and divides 37cm short of the capsules to connect separately to each via gold-plated 3.5mm TRS mini-jack plugs. The same connector is fitted at the source end of the lead, with a clip-on (rather than screw-on) adapter provided for ¼in jack outlets.

Given that the LCD-1 has the potential for being driven from a balanced output, I thought that maybe Audeze offers an accessory cable for this, but perusal of its accessories web page suggests not. Likewise, there appears not to be a short cable option on offer either. With plenty of third-party cables available, this is hardly a problem, but do be aware that the supplied lead has no channel identification on the headset plugs – whereas the capsules themselves are clearly labelled on the inside of





LEFT: Although the LCD-1 is nominally a circumaural headphone, its compact but comfortable earpads may be a little too small to accommodate the largest of ears

LCD-4z, have spoiled me rotten. However, Audeze has also shown mastery with affordable kit, including my choice for train travel: the sealed-back, on-ear Sine. But the less-costly LCD-1 seduces me because it is open-backed and more 'hi-fi', so to speak.

Regardless of its travel pouch and size, the LCD-1 proclaims an audiophilic bias with two small but potent gestures. The first is that the supplied cable is a metre longer than the Sine's, providing more mobility if plugged into one's non-mobile hi-fi system. Shorter leads on the Sine do not matter when listening on the move.

Second is connectability. The Sine's cables use severely angled, proprietary plugs, which do not lend themselves to changing cable, while the LCD-1 uses universal 3.5mm stereo plugs. The LCD-1s thus invite experimentation with after-market wires, but I'm not suggesting that you need to, because the supplied 2.1m cables are superb.

BLOOMIN' MARVELLOUS

Critical listeners not in need of the closed-back Sine's isolating properties will hear immediately more bloom, warmth and refinement from the LCD-1. But they are not mutually exclusive qualities because other factors, *eg*, comfort (especially if you wear specs like I do), can make or break a pair of headphones for some. I purposely don't comment on comfort because I have to accommodate eyeglasses, but I will say that neither proved objectionable after even four-hour sessions.

But enough of LCD-1 vs Sine, or the dearer models in its range. The LCD-1 is, like the MoFi UltraPhono [see p72] a product that 1) makes life kinder for those of limited means, and 2) makes the Law of Diminishing Returns more of a thorn in the side of vendors of costly goods. No, Audeze isn't about to see sales of LCD-4zs or LCD-Xs plummet, but the sub-£500 sector has now been invaded by a ferocious competitor.

Via a Pioneer XDP-100R portable [HFN Aug '16], and Huawei P9 and iPhone 6 smartphones, Quad PA-One headphone amp [HFN Feb '15] and the headphone outputs of the MoFi UltraPhono and Otari MX-5050 tape deck, I was able to assess the LCD-1s with valve and solid-state power, and LP, tape and digital download sources. Naturally, my observations relate to what I perceive as the sonic signature common from device to device. ☺

the headband. So you have a 50% chance of left and right channels being swapped! Gratifyingly, while the lead has a braided sheath, this is not a headphone prone to disconcerting levels of capsule noise when the cable drags across clothing or furniture.

Beauty, as we know, is in the eye of the beholder so while some may consider the LCD-1 a little bland, perhaps a little ordinary compared to the EL-8, it has necessarily been engineered to a price.

In many respects this seems like the least idiosyncratic Audeze headphone ever – which piles pressure on it to deliver sound quality that the marque's devotees have come to expect...

MASTERY OF SOUND

As one who's used Audeze headphones for several years, writes Ken Kessler, I was reticent about reviewing the LCD-1. Its big sisters, like the mind-blowing £3599

CURRENT AFFAIRS

At *HFN* we measure headphone sensitivity as we do loudspeaker sensitivity, as sound pressure level (SPL) output for a given voltage input. With loudspeakers we use a broadband test signal and 2.83V input (as this corresponds to 1W into 8ohm) whereas with headphones we use a 1kHz tone and calculate output for an input of 1V. This gives a result that accords with the volume setting you'll need to use to achieve a given output level – low sensitivity meaning a higher volume control setting, and vice-versa. But a more fundamental measure of drive unit efficacy is current (rather than voltage) sensitivity, because electrical current determines the magnetic field strength developed by the voice coil. In terms of voltage sensitivity, the LCD-1 is a star. But because of its low impedance, its current sensitivity is lower – just 94.6dB SPL for 5mA at 1kHz, almost 20dB shy of the 110.5dB SPL of Beyerdynamic's high impedance T1 Gen 2 headphones [HFN Mar '16] that, conversely, have a much lower 101.3dB voltage sensitivity. KH



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AUDEZE LCD-1



LEFT: Both capsules fold up into the headband to make the LCD-1 more compact to carry. A hardshell carrying case is provided along with a 2.1m connecting lead

Hence, I am delighted to point out that every one of them drove the LCD-1s adequately, even the smartphones. But there is a caveat – I do not wish to go deaf and so my preferred playback levels may be lower than, say, some headbanger desperate for a hearing aid on the NHS by age 30. If you wish to go deaf, please sample the maximum levels using your ears, not mine.

My comments on the LCD-1s when fed with LPs are largely covered off in my review of the UltraPhono [p73]. I actually spent more time listening to tape and high-res transfers. The latter surprised me no end, and it's particularly telling because, though I typically side-step streaming, downloads, etc, the LCD-1s were analytical enough to allow me to hear the difference between the exact same song via two different smartphones and the superior Pioneer player.

I realise, of course, that Audeze does not consider the LCD-1 to have the resolving power of its established and dearer models, but trust me: these are no slouches when it comes to hearing nuances.

BACK TO THE SIXTIES

My track selection, downloaded in various resolutions from Amazon, included the mono version of 'Ue O Mu-ite Aruko' by Kyu Sakamoto (originally issued in 1961 by Toshiba-EMI), and the ultra-wide stereo of Julie London's 'They Didn't Believe Me' from *Julie... At Home* [Liberty Records LRP-3152] from 1960. Both these recordings feature distinctive, emotive voices, lush backing and enough beauty to allow me to play them a dozen times in a row without losing the will to live.

In both cases, the LCD-1s elicited the sort of reaction that often has me reaching for tissues to mop up the tears. Yeah, I still go dewy-eyed when music transcends the listening-for-review-purposes and gets to me, when I should be listening for stuff like bass control or stage depth. Both Kyu and Julie sang within my cranium, true, but the breathiness of the latter and the clear enunciation of the former were perfectly preserved and 'non-intrusive'.

What is Kessler on about? How can something be in one's skull and *not* be intrusive? Well, I heard both a lack of artifice and enough outside-of-the-head sound to preclude any distraction. Better was a sweetness that somehow rendered tolerable the massed violins on the Majestic Strings' *Strings For Many Moods* [Tape-Mates TMS-131 3¾ips tape] over its agonising three hours.

As the above suggests, I love these headphones. My only complaint? They don't have active noise reduction, which would make them my perfect travel cans. ☹

HI-FI NEWS VERDICT

Even discounting my long-term admiration of Audeze, the LCD-1s are so good, so masterfully conceived, that they may redefine their price sector. They fold up to near-pocket size, sound superb whatever the source and are so free of nasties that I could imagine them crossing the thin line between hi-fi and studio usage. If you want true high-end cans but can't or won't pay four figures, you *must* hear these.

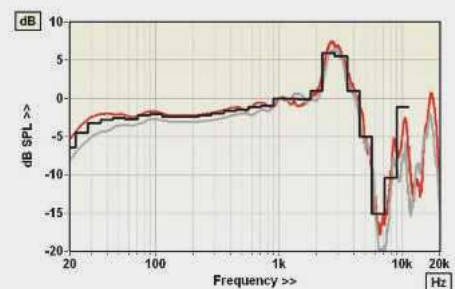
Sound Quality: 88%



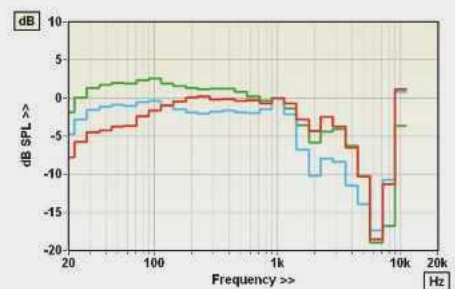
There's not much point making a foldable planar magnetic headphone for use in a wide range of applications if it has low sensitivity, so it's little surprise to find that the LCD-1 is not only the most sensitive Audeze model we've tested thus far, but also the most sensitive circumaural PM headphone from any manufacturer. Our measured 118.1dB SPL at 1kHz, averaged for the two capsules, is almost 3dB higher than we recorded from the EL-8 open-back [HFN Oct '15], so there's no question of any worthy headphone output providing sufficient voltage to drive the LCD-1 to high SPLs. But to achieve this Audeze has had to resort to unusually low impedance. It specifies a nominal 16ohm figure but we measured almost 3ohm lower, ranging from 13.1 to 13.3ohm across the audible frequency range.

While this very uniform impedance ensures that its frequency response will be virtually unaffected by the range of (headphone amp) source impedances the LCD-1 is likely to encounter, the low overall figure means high current draw and therefore reduced battery life for portable music sources. Audeze headphones have always provided extended bass response and the LCD-1 is no different, as shown in the uncorrected responses [see Graph 1, below], although this depends on achieving a good earpad seal. Audeze headphones traditionally also have less peaking at around 3kHz than is usually deemed necessary for neutral tonal balance, and with the LCD-1 this is compounded by a broad and deep dip in output centred on 6.5kHz.

The result on the corrected responses [see Graph 2, below] is predictable: perceived output begins to fall above 1kHz, with low overall treble energy until a sharp recovery at 10kHz. This suggests that the LCD-1 will have a neutral bass and lower midband but lack presence and sparkle. The CSD waterfall (not shown) reveals a succession of high-Q diaphragm resonances above 1kHz. KH



ABOVE: The LCD-1's unequalised responses (L/R, grey/red; averaged 3rd-octave, black) show an extended bass but a lack of presence band reinforcement



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

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL at 1kHz for 1Vrms input)	118.1dB
Impedance modulus min/max (20Hz-20kHz)	13.1ohm @ 4.4kHz 13.3ohm @ 9.9kHz
Capsule matching (40Hz-10kHz)	±3.3dB
LF extension (-6dB ref. 200Hz)	<20Hz
Distortion 100Hz/1kHz (for 90dB SPL)	<0.1% / <0.1%
Weight (headset only)	253g

MoFi UltraPhono

With input from the designer behind MoFi's cutting lathes, the UltraPhono (and StudioPhono) were conceived as high value partners for its affordable turntables

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

Are we in the midst of a Golden Age of Analogue? If you're returning to, or just discovering the vinyl LP, then yes, we are. Mobile Fidelity's UltraPhono is an example of what the industry can deliver when inspired, and clearly this is a response to the need for affordable phono stages to render suitable 30 years' worth of post-CD integrated amplifiers without phono stages. At £499, it's not for the impoverished analogue neophyte, but neither is it horrendously expensive by any measure.

It is more than just a quick-fix, down 'n' dirty phono stage for dealing with line-level-only systems. But it has to be: a search of *amazon.co.uk* revealed phono amps for as little as £15. I've played with a number of these, and while all offer the novice an RIAA stage at little cost, none has delivered what you or I would expect from companies including Pro-Ject, NAD, Rega, Cambridge and now, MoFi.

GAIN, SET 'N' MATCH

What you get with the UltraPhono is all you could want for adding phono to a system lacking it. On the top of the nicely-made, 100x30x170mm (whd), all-metal box are a volume control, a power-on LED and buttons for mono and subsonic filter. The front has a ¼in socket to access its headphone amp, while the rear contains RCA phonos for in-and-out

RIGHT: Three faces of the UltraPhono – [left] top surface carries volume, mono and subsonic controls; [centre] active RIAA eq is based on Analog Devices AD627 op-amps; [right] 12 DIP switches define MM/MC gain and loading

signals, an earthing post and a multi-pin socket for power from the AC adapter.

Flip it over, and here's where the seriousness becomes evident. A 5x30mm recess holds a dozen tiny DIP switches to allow you to match it to MM or MC cartridges, with nine impedance and four gain settings. The settings are printed on a label affixed to the underside [see picture, below], so you don't have to go looking for an owner's manual – a thoughtful touch and a way to avoid gnashing teeth.

This level of adjustability is more than is found on certain phono stages costing five times as much. I'm not suggesting for a moment that any device without these is compromised – I can name a number of superb phono stages which don't offer many adjustments – but this goes a long way to reassuring the music-lover-on-a-budget that he or she isn't cutting corners.

What I needed to find out, though, was whether or not this was worth £200 more

than the equally delightful StudioPhono, beyond the fact that it comes with a headphone section [see PM's boxout, p73].

PREMIUM PARTS

According to MoFi, the UltraPhono typically outperforms the StudioPhono because the former's upgraded parts promise a boost to

MC performance. MoFi also posits that the UltraPhono is quieter thanks to these superior components, and the resultant sound should be more neutral than the warmer StudioPhono, with a deeper soundstage and better imaging. What that

tells you – and which confirms what I've heard with the two side-by-side – is that the UltraPhono should prove to be the more analytical of the two.

In practical terms this means the UltraPhono will be suitable for use with a wider range of amps and speakers more revealing of the front-end's abilities. And while £299-vs-£499 seems paltry to some,

'This premium little black box is full of surprises'





LEFT: The UltraPhono and StudioPhono share the same alloy casework, but only the former includes a 'Class A' headphone preamp and 31-step volume control [see boxout] for very personal listening

it is a fortune to others, so the existence of both MoFi models is something of a public service for newcomers to LPs.

SECRET AFFAIR

Ah, now the penny drops! I had been wondering why this unit sounded so good, and why it kept reminding me of Tim de Paravicini's EAR-Yoshino Phonobox [HFN Dec '19] before, by sheer chance, Mobile Fidelity's Josh Bizar let it be known that, 'Tim gave us the circuit design'. If ever you doubted that audio designers' creations possess unique sonic signatures, just play this side-by-side with Tim's all-tube Phonobox. While the UltraPhono hasn't

quite the dynamic contrast, bass extension or sweetness of the dearer valve phono preamplifier, it suggests the same basic nature in its overall portrayal, certainly in terms of content if not scale.

In other words, it's as deliciously three-dimensional if not as large in absolute soundstage recreation. It's transparent, if not quite as nakedly revealing, and it is 'musical' in every sense of that word. The opening salvos of Tina Turner's 'The Best' from *Simply The Best* [Parlophone 0190295378134] were what gave away

Tim's 'secret identity' and his role in this affair. He demands bass prowess that explains the sheer force and control of EAR power amplifiers, and he endowed the UltraPhono with this ability.

'The Best' opens with rich, commanding lower registers that often defeat (or show the limits of) much budget gear, but note that I deliberately was *not* using this with a £5000+ MC. The UltraPhono seems happiest with the speed and leanness of MMs rather than the bloom of MCs – one suspects it is voiced to match perfectly MoFi's own MM cartridges as fitted to its sibling turntables [HFN Jul '19 and Jan '20]. But I was still delighted with the sound of EAT's Jo N°5 [HFN Dec '18] and the Denon DL-103, two sub-£1000 MCs likely to be paired with affordable phono amps.

Previously having heard what both of these MCs could do with Tina Turner's voice via £1200 and £6k phono stages, as well as EAR's Phonobox, I was mightily relieved to hear that the UltraPhono lost little of the impact. Tina's vocal textures remained untainted, while the textural consistency was of a whole, from deepest bass to the uppermost registers. Blessedly, the UltraPhono always exhibits an even, balanced sound, rather than acting like the proverbial curate's egg.

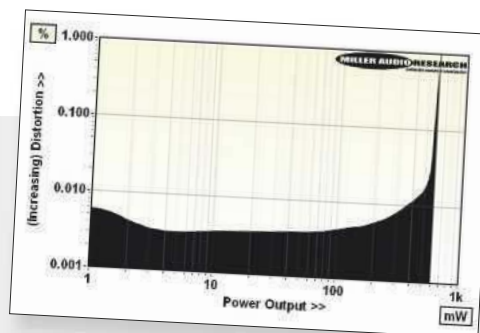
HEAD OVER HEELS

MoFi's premium little black box is full of surprises, and I don't mean only the goodies like the fabulously user-friendly cartridge-matching DIP switches underneath, the mono button or the subsonic filter, all ready to hand. What added to the user experience, since I was also in the middle of a headphone-fest, was the notion that this is also a terrific headphone amp, albeit a single-source device accepting only a phono signal.

Playing the same track via Audeze LCD-1 headphones [see p68] demonstrated not only the proficiency of the phono stage but also of the headphone section. It drove these cans with ease, retaining a sense of openness and a realistic impression of space. I know, I know: headphones put the music in one's skull, not in front of the listener, but the UltraPhono did not ☞

HEADPHONE HERO?

The rotary that distinguishes the UltraPhono from the StudioPhono is not a volume pot but, instead, governs a Maxim MAX5440 attenuator chip which offers 31 log-spaced (2dB) steps and is designed to 'replace a mechanical potentiometer'. This drives a TPA6120A2 headphone amp IC from Texas Instruments, described by TI as 'a Class AB current-feedback amplifier with differential inputs and single-ended outputs'. In this application the IC delivers almost exactly 600mW/25ohm at <1% THD [see inset Graph] from a moderate 8ohm source impedance. The latter represents a power loss of 2.8dB into our 'average' 25ohm headphone load, and will influence the frequency response of low impedance 'phones, but has less impact into higher 600ohm headphone loads where 5050mW (43mW) is available. These are not huge figures by the standards of the Mytek Brooklyn Bridge [2.7W/25ohm – HFN Dec '19] but certainly represent an uplift over most USB hub-powered DAC/headphone amps, including the AudioQuest Cobalt [53mW/25ohm – HFN Oct '19]. Distortion is low at ~0.001-0.008% (500Hz-10kHz) over the first 100mW of its range, increasing mainly at low frequencies under load (0.04% vs. 0.015% at 20Hz/10mW/25ohm). Again, the UltraPhono is not as quiet as many dedicated headphone amps, the 72dB A-wtd S/N ratio (re. 0dBV out) implying that lower sensitivity 'phones may prove the better partners. PM



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MOFI ULTRAPHONO



LEFT: A three-pin socket accepts a 24V DC feed from a supplied wall-wart while RCAs look after your tonearm cables and offer a fixed line output to your partnering amplifier

compromise the LCD-1's slightly-out-of-head stage width one iota.

With the novelty elements of The Kinks' underappreciated masterpiece, *Arthur (Or The Decline And Fall Of The British Empire)* [BMG BMGCAT407DLP], the UltraPhono revealed a facility for conveying attack, detail and – I must revert to this overused term – authenticity which belies its price tag.

Both 'She Bought A Hat Like Princess Marina' and 'Drivin'' are light-hearted examples of purely English whimsy, with unusual instruments that create a different set of demands than do the usual orchestras or guitar-driven rock. Here the UltraPhono's ability to address everything from kazoo to keyboards, with full respect to their individual tonal requirements, transient demands and dynamics, suggested provenance from a high-end gene pool.

BACK TO MONO

With a mono button present, how could I not press it and fire up a mono Decca cartridge? For this, I dug out the US version of Gerry And The Pacemakers' *Greatest Hits* [Laurie Records; LLP 2031], just to savour that chiming sound on 'I Like It', particularly the nasality of Gerry's vocals and the snap of the percussion. I was looking for one thing, which is why a certain jail-bird in LA promoted a 'Back To Mono' campaign: a 'fullness' – the only way I can describe it – that belies the single-channel nature of the format.

We've been here before: some of us believe mono was not rendered comprehensively obsolete by stereo, not least because of the vast catalogue of recordings that only exist in mono. But mono does have unique virtues, and I don't mean the

savings one enjoys if one only listens to mono and can get away with using one loudspeaker.

It's that refreshing freedom from the distraction of needing to assess stereo accuracy, soundstage dimensions, image placement and other concerns. With mono, you just listen to the music, not the positioning. Gerry and crew filled the space between the speakers – and inside my head via the Audeze LCD-1 headphones – with the same cohesion expected of stereo recordings, and I could also discern layers to the sound.

With another mono LP, Bobby Darin's *18 Yellow Roses* [Capitol T1942], which I've also experienced in heart-stoppingly wide stereo, 'I Will Follow Her' still maintained a clarity that allowed me to hear every nuance – details ordinarily easier to appreciate when spread out across a soundstage. It was never less than captivating, the MoFi UltraPhono managing – brilliantly – to do what any good mono playback system should. Which, of course, is to make you forget about stereo. ☺

HI-FI NEWS VERDICT

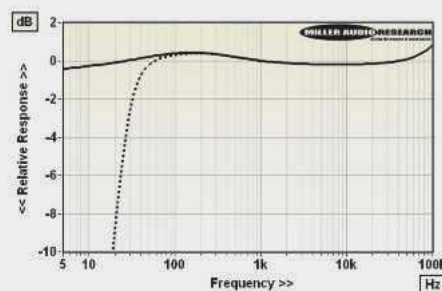
We are clearly benefiting from the Vinyl Revolution, which has encouraged a flood of superb phono stages at all prices. The MoFi UltraPhono redefines what you get for £500, even if you don't factor in what is a mighty fine headphone section. The cartridge matching facility ensures that audiophiles-on-a-budget needn't go without, while the sound quality banishes any thoughts of compromise.

Sound Quality: 87%

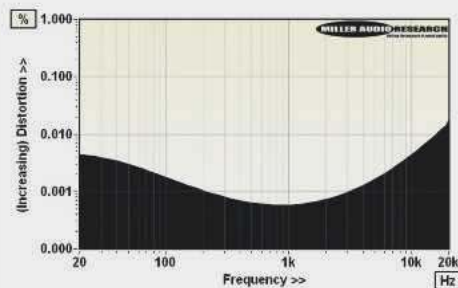


At first sight [see p72] the row of 12 DIP switches governing input loading and gain may be enough to make all but the most ardent of audiophile's hearts sink. However in practice only the two outermost switches are required to cycle through MoFi's selection of +40dB/+46dB (MM) and +60dB/+66dB (MC) gain options – figures very close to the +40.3dB/+46.3dB and +60.7dB/+66.7dB measured on the bench. These are sensibly chosen steps, the lowest MM gain offering a 9.7mV sensitivity with the highest MC gain representing 0.46mV (460µV), the latter suitable for standard rather than very low output MCs. The +40dB setting is best used for all high-output (>5mV/5cm/sec) MMs where the 82mV input overload yields a margin that's just sufficient to accommodate the 'hottest' +18dB groove modulations (re. 11.2µm/300Hz).

The active RIAA equalisation is extended out to +0.8dB/100kHz and is very flat through mid and treble even though there's a 'warming bump' of +0.43dB between 70-200Hz [solid trace, Graph 1]. The subsonic filter is very effective [dashed trace] with a -3dB point of 28Hz and a 2nd-order roll-off thereafter. It offers a useful 20-30dB suppression in the typical LP warp/arm/cartridge resonance spectrum. The RIAA-eq'd distortion [Graph 2] is very low, with a minimum of 0.0006% through the midrange and a maximum of just 0.018%/20kHz (re. 0dBV). This is about three orders of magnitude lower than the best MM/MCs, and also rather better than MoFi's own specification for the UltraPhono. The only slight fly in an otherwise very fine ointment is noise – the 81dB (5mV/0dBV) figure for both MM settings is good but 61dB for MC is slightly poor. But that's where costlier phono preamps come into their own... PM



ABOVE: RIAA-corrected frequency response over an extended 5Hz-100kHz via MM (subsonic, dashed)



ABOVE: Distortion extended frequency (5Hz-40kHz) via MM input re. 0dBV (1Vrms) output

HI-FI NEWS SPECIFICATIONS

Input loading (MM/MC)	47kohm / 70ohm-47kohm
Input sensitivity (re. 0dBV)	9.7mV-460µV (MM to MC)
Input overload (re. 1% THD, MM/MC)	82mV / 43mV / 6.0mV / 4.0mV
Max. output (re. 1% THD) / Impedance	8.0V / 3.1-10.2ohm
A-wtd S/N ratio (re. 0dBV, MM/MC)	80.9dB / 61.1dB
Frequency resp. (20Hz-20kHz/100kHz)	-0.11dB to +0.43dB / +0.81dB
Distortion (20Hz-20kHz, re. 0dBV)	0.00058-0.018%
Power consumption	3W
Dimensions (WHD) / Weight	98x32x180mm / 1kg



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Michael Fremer - Stereophile, Jan 2020



£2,500

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PS Audio Power Plants are regarded for their ability to reduce noise and THD to virtually zero while providing rock steady voltage output.

Traditional power conditioners can only affect a portion of incoming noise and are unable to compensate for over or under voltage. Furthermore, power conditioners raise the impedance of the power going to your system, which can bleach your sound and drain away dynamics. The P3 handles things completely differently. Through the P3's active regeneration process, it provides perfect power while also lowering the impedance, increasing the dynamics and openness of your system.

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BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

Sir Georg Solti Conductor

The Hungarian boy who wanted to play football became a good pianist and acclaimed opera and orchestral conductor. **Christopher Breunig** on a musical dynamo

Certainly one of the most extraordinary film clips of a conductor in action that you will ever see is Georg Solti recording Wagner in the Vienna Sofiensaal [YouTube]. Fuzzy black and white the excerpts may be, but the physical energy is almost shocking – you could have driven a ten ton truck into this man but it wouldn't have stopped him!

With the Vienna Philharmonic and working with a Decca team, John Culshaw producing and the company's top engineers, he made one of the most celebrated of all classical recordings: Wagner's *Ring Cycle*. The first part, *Das Rheingold*, appeared as a stereo LP box set in 1959 and the project took six years to complete. Spin-offs included a BBC documentary, which is now a Decca DVD [0743196], and a hardback, *Ring Resounding*, written by Culshaw [Viking Press].

➔ **Georg Solti's first recordings as pianist and conductor have been reissued on Eloquence CDs**

⚡ **Knighted in 1971, Sir Georg Solti made the landmark, first stereo recording of the entire Wagner *Ring Cycle* for Decca**



Working late one night with a chamber ensemble led by Walter Weller, Solti also made an unsurpassed account of the *Siegfried Idyll* [see Essential Recordings].

He told critic Stephen Johnson that 'I did listen once to the opening of my *Rheingold* on CD because somebody told me that the sound was amazing. So I listened to the first F flat chord on the double-basses, and I thought "Yes, it is", and that was enough for me'.

Solti was born (as György Stern) near Budapest on the 21st of Oct 1912 to a family of very modest means. Football was his childhood passion but his mother encouraged him with piano lessons – which probably saved his life. Aged 12 he went to the prestigious Franz Liszt Academy and studied piano, chamber music and composition under Bartók, Leo Weiner and Dohnányi.

In 1930 he was working as repetiteur at the Hungarian State Opera and then in Germany as assistant to Josef Krips – who sent him home sensing the growing threat to Jewish artists. Solti appeared briefly at Covent Garden with the LPO – he would be their

principal conductor from 1979-83 – but went to Switzerland in the vain hope that Toscanini (whom he had assisted in 1937 at Salzburg) would help him emigrate to the States. In fact Solti, by then 'Georg', had to spend the war years just teaching piano. Winning the 1942 Geneva Competition meant that he could perform for the public.

Postwar, he made his first recordings (1947) accompanying the violinist Georg Kulenkampff in Brahms's Sonata Op.78, Mozart's K454 and Beethoven's 'Kreutzer'. [currently on Eloquence].

OPERA APPOINTMENTS

Solti's conducting career had been on hold since his 1938 debut in Mozart's *Marriage of Figaro*, but 1946 brought an appointment to the Bavarian State Opera – as a novice R Strauss took him under his wing and Solti directed the orchestra during the composer's burial. 'Each singer broke down in tears,' he recalled when they performed a trio from *Der Rosenkavalier*.

Following a nine-year period at Oper Frankfurt Solti came again to Covent Garden, London, in 1961 as music director, where he earned the unkind

epithet 'the screaming skull' because of his exacting rehearsing methods. But standards were raised and it became 'the Royal Opera'.

When separated from his first wife and staying at The Savoy Hotel, the popular television personality Valerie Putts came to interview him, Solti famously emerging from his bathroom in just a robe. They were married in 1967. Sir Georg died in his sleep aged 84. Two years earlier he had founded the World Orchestra

'Solti famously emerged from his bathroom in just a robe'

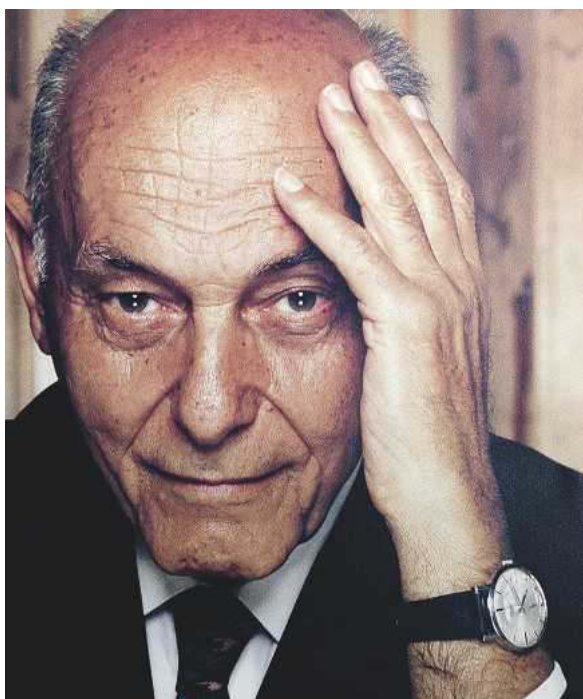


PHOTO: DECCA RECORDS

for Peace, made up of international musicians rather like Japan's Saito Kinen Orchestra. But the last big major orchestra where he was music director was the Chicago SO. He was there for 22 years in that capacity, initially sharing duties with Giulini [Classical Companion, *HFN* Jun '18], raising the profile of the orchestra in part through many recordings – Beethoven, Brahms, Bruckner and Mahler cycles completed there – but also sheer hard work. He widened their repertoire with new works by Lutoslawski and Tippett.

In 1975 we had Solti's first complete Beethoven Symphonies set; on a bonus LP he talked with critic William Mann, suggesting his Beethoven was a 'golden mean' between the extremes of Toscanini and Furtwängler, and also that a conductor should record three cycles at different stages of maturity – in the late '80s he made a further set. I much prefer his earlier VPO recordings of Nos 3, 5 and 7



PHOTO: YOUTUBE

[Eloquence: ELQ4806596] to the dense sound of the Chicago orchestra, but cautiously I have added the 'Choral' to my Essential Recordings boxout. It's all taken slowly and heavily: impressive in a way and the audiophile LP transfer suggests a continuing demand. Solti's 1950 version of No 4, with the LPO, you can hear on Eloquence.

Unsurprisingly, Solti made several recordings of his compatriot Béla Bartók's music between 1952 and '97; his 1963 *Music for Strings, Percussion and Celesta*, with the London Symphony Orchestra, you can still have on CD although the 180g Speakers Corner LP transfer is no longer available. His LSO *Concerto for Orchestra* was also a demonstration LP.

With Murray Perahia, *et al*, he played pianoforte and directed in the *Sonata for Two Pianos and*

→ Solti's Vienna recording of the complete Wagner *Ring* cycle has been variously remastered, and is now a 16CD set with bonus CD-ROM [Decca 478 8370]

← Sir Georg Solti founded the World Orchestra for Peace in 1995



WAGNER
DER RING DES NIBELUNGEN

SOLTI

DECCA

Percussion [Sony] – there are session excerpts at www.youtube.com/watch?v=zEUIhdKn_Fs where Perahia says what a task master he was: 'work all the time... no coffee breaks. It's really intense'.

BIG PRESENCE

Loyal to Decca for the whole of his career he nonetheless resented Bernstein or Karajan appearing on the label, and said he'd be justified in jumping ship. Wikiwand lists the few exceptions, and has one or two never-published entries.

When he turned to Elgar, he used the composer's historic shellac recordings as a blueprint for tempi: the First Symphony [Decca 443 8562] was memorable for the

phrasing in the slow movement. He began recording 'live' in 1989 and his last concert's main work, a Mahler Symphony No 5 with the Zurich Tonhalle (13th July 1987), is reissued as a Presto download.

Solti had huge stage presence, always appearing in formal dress. Those electric shock-like gestures made him unique to watch – have a look at the 1975 London Philharmonic 'Nimrod' clip from Elgar's *Enigma Variations*. The sudden convulsive gestures still figured in rapt, quiet music. Once, for some reason I was backstage after a Festival Hall concert and Solti came in, wearing his overcoat and hat ready to go home. He seemed a diminutive figure by contrast. ☺

ESSENTIAL RECORDINGS

Bartók: Orchestral Works

Eloquence ELQ4806872 (two discs)
The major works largely in Solti's earlier London versions rather than the Chicago remakes [Decca 4705162].

Beethoven: Symphony No 9

Speakers Corner 6BB121/2 (two LPs, 180g vinyl)
The earlier of two Solti/CSO recordings for Decca with soloists Pilar Lorengar, Yvonne Minton, Stuart Burrows and Martti Talvela.

Mahler: Symphony No 2

Speakers Corner SET325/6 (two LPs, 180g vinyl)
An audiophile's highlight in Solti's earlier LSO recordings of Mahler. From 1966, it's still a demonstration-worthy 'Resurrection' set.

Mahler: Symphony No 8

Decca 475 7521
The first recording to realise the scale of this 'Symphony of a Thousand' had the Chicago SO and a fine vocal cast assembled in Vienna.

Mozart: Symphonies Nos 40 and 41

Decca 414 334-2
Amazon still lists this rather fine Mozart CD coupling with the COE. Otherwise it only comes in Decca's 25CD set: 480 7238.

Schubert: Symphony No 9

Decca E4603112
The CD reissue (if you can find it) also has the VPO *Siegfried Idyll*. There's a Presto CD with just the 'Great C major' [4000822].

Vinyl Release

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

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...

Symarip *Skinhead Moonstomp*

A song with a kick, but for all the wrong reasons, as **Steve Sutherland** reassesses a ska album from 1970, which has recently been re-released on 180g vinyl



We could begin with Plato, or even Aristotle, but Oscar Wilde it is. In his 1889 essay, *The Decay Of Lying*, the great man took umbrage with the Greeks' philosophy of mimesis which said that all true art mimics nature. On the contrary, quoth Oscar, 'Life imitates art' and that is roughly how it felt – very roughly as it happens – one sunny Saturday lunchtime in April, 1972, when I got my head kicked in.

I was lazing around on the lawn in Salisbury Cathedral Close with a trio of budding hippie school pals, when about a dozen skinheads, on a stop-off on their way to cheer on Cardiff City who were playing at Swindon Town, swiftly descended upon us and put the Doc Martens in.

CASHING IN

I instinctively curled up in a ball and took most of the blows to the back and shoulders. My mate Dave wasn't so lucky and got himself a black eye, a bloody nose, a couple of loose teeth and a visit to out-patients. The whole random, motiveless, gleefully delivered episode of the ol' UV (Ultra Violence) was acutely reminiscent of a scene I'd witnessed a year or so earlier when I'd sneaked in, underage, to catch Stanley Kubrick's cinematic masterpiece *A Clockwork Orange* – the one with Malcolm McDowell and his gruesome Droogs based on the Anthony Burgess novel and hastily removed from cinemas when it was felt the joyous celebration of meaningless thuggery might have a detrimental affect on our impressionable young populace!

As I'm assured is often the case, although our booting was over in seconds, it felt like it was happening in slow-mo, and whenever I recall it now, decades later, the action replay of my humiliating bruising is soundtracked by Symarip's 1970 album *Skinhead Moonstomp*.

Symarip were proper strange for many reasons but mainly because it may well be that they should go down in history as the most opportunist group there ever was. Their main movers and shakers – singer and trombonist Roy Ellis and keyboard player Monty Neysmith – were London-raised geezers of West Indian descent who, seeing that the music they excelled in playing, the ska/early reggae being imported from Jamaica, was being adopted by the fastidiously stylish, close-cropped British working class cult known as skinheads, decided to cash in and overtly target them with songs created in their honour. This, despite the fact that the skins were an infamously racist bunch...

I've always thought it incomprehensibly weird that this pro-white youth movement should get its major rocks off to music imported by the very folks they purported to hate, let alone a group from that community deliberately directing their talents to entertain them. But business is business, a living's a living and if Symarip were ever about anything it was making ends meet and getting by as best they could in an era when James Moffat, writing under

the pseudonym Richard Allen, had a best-seller with his pulp novel *Skinhead* whose hero is a very nasty racist, and in the shadow of the appalling speech made by Tory MP Enoch Powell in Birmingham in April 1968, when he predicted rivers of blood would flow through our streets if we didn't cull our immigration policy and repeal the Race Relations Bill. This legislation made it illegal to refuse anyone employment, housing or social services on the grounds of race, colour or ethnicity.

'They got kicked out of Germany for their lack of work permits'

Under these tough circumstances, Symarip may well be the ultimate survivors. After a few this-and-thats, they started out seriously as The Bees, signing to the prestigious Blue Beat label and debuting with the 1967 single 'Jesse James Rides Again' under the aegis of the fabulous Laurel Aitken. When Prince Buster, Blue Beat's main man and ska originator, arrived to tour from Jamaica that year, The Bees were his support and backing band, thus gaining themselves the reputation of the UK's premier live act on the ska circuit.

SURPRISE HIT

Looking to expand their profitability, The Bees began moonlighting from their Blue Beat contract under the name The Pyramids, and got themselves signed to the President label on the recommendation of Eddie Grant, who was soon to blossom as the boss of The Equals. Grant wrote a few singles for The Pyramids, including 'Train Tour To Rainbow City' which was a suspiciously close facsimile of Prince Buster's 'Train To Girls Town'.



➔ Roy Ellis aka 'Mr Symarip' at a concert in Klub-Ost, Vienna in 2008 and original UK label for the 'Skinhead Moonstomp' single

MICHAEL KRANEMITTER



➔ Priced £21.99, the 180g vinyl reissue of *Skinhead Moonstomp* is available to order online from www.roughtrade.com

The tracks for President didn't exactly take off in the UK but 'Mexican Moonlight' was a surprise hit in Germany: news that President allegedly neglected to tell the group. Once they cottoned on, they were off again, looking for the next opportunity. This arrived courtesy of the label Dr Bird and its off-shoot Treasure Isle, for whom they again moonlighted, while under contract elsewhere under the *noms de plume* The Seven Letters and Symarip (loosely The Pyramids spelt backwards).

STOMP AND SHOUT

Their first for Treasure Isle was 'Skinhead Moonstomp', their biggest hit and the title track of the LP we're here to celebrate. Here's how Monty Neysmith remembers it. 'A lot of skinheads started coming to our shows, and Roy and I said it would be good to write a song for skinheads. We remembered a song ["I Thank You" by Sam & Dave] where they said, "I want everybody to get on their feet, and this and that, and give me some of that old soul music".

'I thought, let's change the words and put, "I want all you skinheads to get on your feet, put your braces together and your boots on your feet, and give me some of that old moon stomping".'

So that's what they did, borrowing wholesale from a track that had recently been released on Crab by Derrick Morgan called 'Moon Hop' to mark the Apollo Eagle moon landing and Neil Armstrong's lunar bop. Morgan was not best pleased and he wasn't a man to mess with, having survived a beef with the aforementioned Prince Buster some years earlier.

Buster had accused Morgan of lifting his biggest hit, 'Don't You Know' (later retitled 'Housewife's Choice'), from one of Buster's tracks and fired off a racist response in the shape of 'Black Head Chiney Man', a dig at Leslie Kong, Morgan's producer. Morgan replied with 'Blazing Fire' which threatened Buster with retribution. Buster replied with

'Watch It Blackhead'. Morgan responded with 'Still Insist' and when things got really ugly and violence erupted between their posses, the government stepped in and arranged a photo shoot to declare that all was healed and brotherly.

CROWD STOKING

Symarip brazened it out with Morgan over their own beef and with *Moonstomp* selling well, went in and bashed out an album for Trojan to cash in on the lucrative skinhead angle. The title track, with its admonishment from chief skinhead Caleb to keep everything 'spick and span' and its 'Nah nah nah...' crowd-stoking chorus sets the tone and they don't stray far from it. 'Skinhead Girl' is sweet enough, 'Skinhead Jamboree' a lame rework of 'Moonstomp' and their appropriation of Nancy Sinatra's 'These Boots Are Made For Walking' (in this case 'stamping') is laudable opportunism but a bit gruesome when you think about it. 'Stay With Him' breaks the mould somewhat, nicking its intro from The Maytals' 'Sweet And Dandy' and betraying their roots as a pre-ska soul covers band, while 'Skin Flint' is a neat instrumental but not a patch on, say, Boris Gardiner's 'Elizabethan Reggae'.

Once it was released, the band tried their luck importing ska to Germany until they got kicked out for lack of work permits. Then they splintered, still

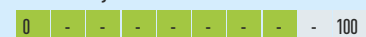
regrouping upon occasion in ones and twos to put in a shift at reggae festivals on the back of one of pop's weirdest novelties, the ol' Moonstomp. It even hit the lower reaches of the charts again, re-released in 1980 to cash in on the ska revival spearheaded by The Specials, Madness, The Selecter, *et al*, on 2-Tone.

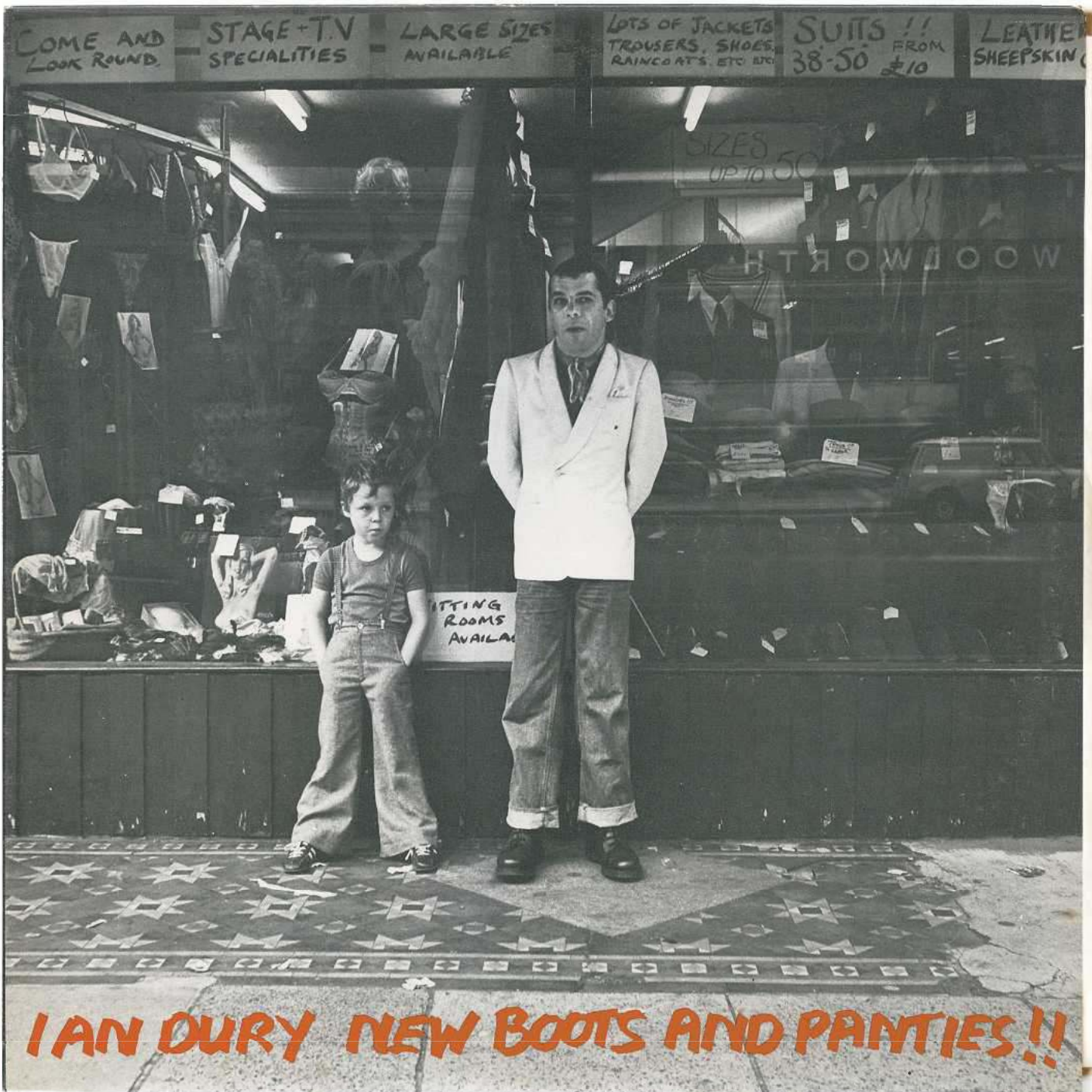
Let's face it, you'd be hard pushed to claim this album is any kind of musical genius yet *Skinhead Moonstomp* is a consumer-focused, target-marketed product of which any modern business would be proud. ☺

RE-RELEASE VERDICT

The late '60s group made this 12-track studio album for release in the UK in April 1970 where it appeared on the Trojan label [TBL 102]. The producer was Australian-born Graeme Goodall, who co-founded Island Records with Chris Blackwell in 1962. The CD reissue didn't appear until 1995 [CDTRL 187], but here the album is a Music On Vinyl reissue, pressed as a 1000-copy limited edition on 180g orange vinyl [MOVLP2529]. So readers can expect a flat copy with silent surfaces. *HFN*

Sound Quality: 80%





Ian Dury *New Boots & Panties!!*

Peppered with provocative lyrics and a cast of often nightmarish characters, this debut offered a snapshot of late-'70s Britain in all its gritty glory. Yet the catchy tunes delivered with a helping of music hall mischief means it still stands as one of rock's most original LPs
 Words: **Mike Barnes**

Towards the end of 1977 punk rock had taken hold in the UK in a big way and, for older and established musicians, this was a party to which they had not been invited. For David Bowie the best solution was to relish his individuality, which prompted the advertisement strapline for his LP *Heroes*: 'There's Old Wave. There's New Wave. And Then There Is David Bowie'. The same could have been said about the 35-year-old Ian Dury, whose music had always stood outside prevailing musical trends and whose first solo album *New Boots And Panties!!*, was one of that year's most original statements.

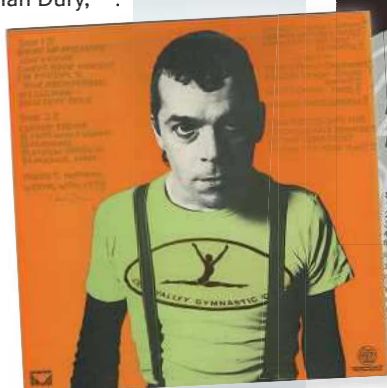
PUB NAMES

Dury grew up with a love of jazz and rock 'n' roll, particularly Graham Bond, Gene Vincent and British skiffle star Lonnie Donegan. A talented painter, and something of a wordsmith, he had enrolled at the Royal College Of Art in 1963 and went on to teach at Canterbury College of Art from 1970 where he assembled a group called Kilburn And The High Roads. Their shifting lineup included keyboard player Rod Melvin, saxophonists George Khan and Davey Payne, and Dury's old pals Ed Speight on guitar along with Russell Hardy on piano.

Kilburn And The High Roads first played live in 1971 and went on to

➔ Ian Dury on stage in London in 1978

↓ Rear sleeve of the album, and the Stiff Record label



become a fixture on the mid '70s London pub rock circuit. But

➔ Ian Dury's early group Kilburn And The High-Roads' *Handsome LP* from 1975

↓ Dury on stage in 1978 at The Roundhouse in Chalk Farm, London

the singer didn't feel much kinship with the good time sounds of the likes of Bees Make Honey and Chilli Willi And The Red Hot Peppers, which he described to *Melody Maker* journalist Chris Welch in 1995 as 'bland cowboy music'.

Their own music was considerably grittier and a vehicle for Dury's observational lyrics. He saw it as more like a cross between Tommy Cooper and Chuck Berry. The Who's Pete Townshend and Keith Moon were both fans and eventually invited Kilburn And The High Roads to support them in 1973. They had a certain hip cachet, but struggled to make ends meet and only recorded one album, *Handsome*, in 1975 before finally disbanding.

Dury then formed Ian Dury And The Kilburns in the November of that year. They attracted the attention of Blackhill Enterprises, the management company that had looked after the likes of Pink Floyd, The Edgar Broughton Band and Kevin Ayers. The band fizzled out but Dury continued working with guitarist and keyboard player Chaz Jankel and the two collaborated in

songwriting sessions at Dury's South London flat, with Jankel playing keyboards and Dury formulating rhythmic ideas on a miniature drum kit. The pair amassed ideas for over 40 songs and recorded a number of demo sessions, and Blackhill lent them £4000 to record an album.

RHYTHM ACES

When Jankel and Dury were recording demos at Alvic studios in Wimbledon – playing all the instruments themselves – a studio engineer recommended they contact bass guitarist Norman Watt-Roy and

drummer Hugh 'Charley' Charles from The Beatles-influenced group Loving Awareness, who were also playing sessions. What they then enjoyed was arguably the best rhythm section in the country.

After *New Boots And Panties!!* was recorded, Blackhill tried to rustle up major label interest, and the group struck a deal with the newly formed Stiff Records. At their final gig in 1976, Kilburn And The High Roads had been supported ➔

'He looked like someone you wouldn't want to mess with'



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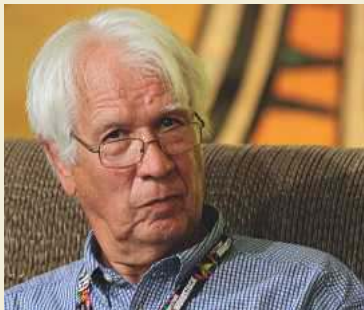
VINYL ICONS

PRODUCTION NOTES

After Jankel and Dury had recorded the demos at Alvic Studios in Wimbledon in spring 1977, the recording sessions for the album began in July at The Workhouse, a studio on the Old Kent Road in East London. The album was recorded in 'dead time' at night, with production duties split between Peter Jenner and co-producer Laurie Latham, with Rick Walton occasionally covering for him.

Latham said that although Jenner was 'rolling joints all day', he did pay particular attention to the prominence in the mix of bass and drums, which he felt was integral to the success of the album. Latham also recalls that the studio was equipped with an API board – the best that he had worked with – a Studer 24-track machine, JBL 4341 monitors and a Pye compressor.

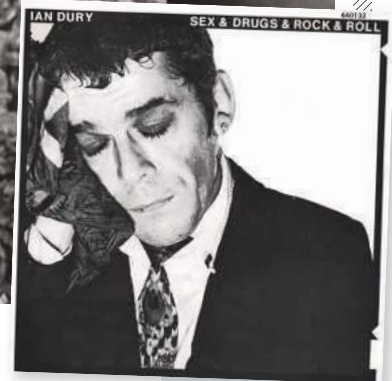
At the start of the sessions, Ian Dury turned up at the studio with carrier bags full of lyrics and the first track they recorded was 'Sex & Drugs & Rock & Roll'. 'That song was recorded with hardly any equipment,'



Latham said later. 'Chaz played his Gibson ES335 through my little Selmer amp, which had a blown speaker – that's what you hear the riff going through.'

The control room looked down on the live area and there was a lift to take the gear down. This was hardly ideal for Dury, with his mobility problems, and so he spent most of the sessions listening to takes on 'phones, just occasionally negotiating the stairs up to the control room in order to check something. 'When he did, he'd usually wind-up the production team,' says Latham.

With no record company as yet and only a limited budget, it was imperative that the recording was kept on schedule. The album was completed within three weeks.



by The Sex Pistols, and Dury was angry about some of the punk bands who were receiving the attention he craved and felt he deserved. But he would soon get it. He would have looked like an outsider wherever he had cropped up, but at least the punk DIY mindset and suspicion of mainstream stardom had helped create an environment in which he could finally flourish.

SUBVERSIVE LYRICS

Dury re-emerged in grand style with the single 'Sex & Drugs & Rock & Roll', released in August 1977. The sleeve shows him smartly suited, square-jawed, his heavily mascara'd eyes closed, a silk handkerchief pressed against his cheek.

He had contracted polio aged seven and walked with the aid of a cane, and his image was pitched somewhere between a Cockney night club comic and a Dickensian villain. He most certainly looked like someone you wouldn't want to mess with.

People had recorded songs with veiled references to sex and drugs before, but it was unprecedented to actually feature them in the title. And though the single received little airplay and failed to chart, word got around. With its subversive, witty lyrics and a breezy tune based on an infectious bass and guitar line, the song became a cult classic.

Ironically, Dury had written the song as a critique of people who indulged in unbridled hedonism: 'a mild admonishment that became a lovely anthem,' he told Welch. The album's title referred to the fact that

although Dury bought secondhand clothes, those were two items of apparel he always bought brand new. The cover photograph of Dury and his five-year-old son Baxter was taken outside a clothes shop in Victoria, which had caught his eye when he was waiting for a bus.

New Boots And Panties!! was released in September 1977. Reviewing the album in the *New Musical Express*, Roy Carr wrote 'I really don't know if the public is ready for the eccentricities of Ian Dury'. But they were. The proverbial sleeper, it spent a total of 62 weeks in the UK charts eventually reaching No 5 in 1978.

Musically, it's a unique mixture of rock 'n' roll, funk, soul and music hall. Dury's voice was somewhat

limited in range but he delivered his lyrics with clarity and brio. Oddly enough the songs written with Jankel, a big fan of soul music, had more of a groove, while the two that sounded most like they might be sung around a piano in a London pub – 'Billericay Dickie' and 'My Old Man' – were co-written with the late American guitarist Steve Nugent.

'Billericay Dickie' is the tale of a ☺

"Sex & Drugs & Rock & Roll" became a cult classic'



↑ Picture sleeve of the 'Sex & Drugs...' single from August 1977

↶ Dury live at the Stadtpark in Hamburg, Germany

↶ Peter Jenner, manager and co-producer

↓ Dury (far right) as pictured on the *Live Stiffs* LP, released in 1979



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Alternate Format Discography



➔ Ian Dury on stage in 1978. He died in 2000, aged 57

provincial lothario, and the lyrics are full of comedic ribaldry with lines such as: 'I had a love affair with Nina/In the back of my Cortina/A seasoned-up hyena/Could not have been more obscener'. It has been cited as an early identification of 'Essex Man' (Dury was born in Upminster) although he claimed that he only used 'Billericay' because it happened to rhyme with Dickie.

The track 'Blockheads' describes a slobbish, slack-jawed, sub-species of human with food particles stuck in their teeth, and who wear 'shoes like dead pigs' noses'. These new songs reinforced Dury's reputation as a lyricist of rare talent. But as well as these witty observations and character portraits, there was an underlying rawness that surfaced in the track 'Plaistow Patricia'.

ALARMING EXPERIENCE

It begins with a litany of obscenities before diving into a netherworld of hard-drug use. The song was inspired by an 'alarming experience' Dury had while buying a bag of weed from a particularly squalid junkie hangout in Soho, 'a place like Hades,' as he told Welch.

Dury received considerable exposure when he went out on the Live Stiffs tour in Oct '77 with label-mates Elvis Costello, former Pink Fairies guitarist Larry Wallis, Wreckless Eric and Nick Lowe. With saxophonist Davey Payne back full time, and Mickey Gallagher on keyboards with Johnny Turnbull on guitar drafted from Loving Awareness, his band was an exceptional outfit.

And now they had a name. Jankel relayed its origin to *Total Music* magazine: 'We listened to a playback of "Blockheads" and Charley was reading the lyric and it said, "And shoes like dead pig's noses". He said, "Blimey, Ian, that's me". And Norman very quickly says, "Yeah, we're The Blockheads". That's how the name came about.' ☺



ORIGINAL VINYL LP

New Boots And Panties!! was released on September the 29th, 1977 on Stiff Records in a gatefold sleeve [SEEZ 4]. The labels of the UK version bore the grey and white Stiff logo, while some versions, such as those released in France and Germany, sported a different design in black and white. 'Sex & Drugs & Rock & Roll' was omitted at Dury's request, as he wanted to keep singles and albums as separate entities. Some later 1977 pressings included the song as an extra track, although it was often not included on later LPs and with other formats. (The following are in the original ten-song format unless otherwise stated.)

That might have seemed a wise commercial move except that on the UK version it became an early 'hidden track' as it wasn't mentioned either on the label or on the LP sleeve, whereas on the front cover of the German release there is additional handwritten text in orange stating 'Including "Sex & Drugs & Rock & Roll"' and 'This Is Real Pop Music' with its inclusion logged on the record sleeve and on the label [Stiff 6.23511 AO, SEEZ 4].

In America and Canada the album was first released in 1978 with this track included at the start of side two, with reprinted labels and sleeve [Stiff STF 0002]. A pressing on gold-coloured vinyl with 'Sex & Drugs...' came out in the UK in 1978 [Stiff SEEZ 4].

One of the most anomalous of the early pressings was released in Spain on Stiff via the budget Viva England series, a subsidiary of Discos Victoria [VLP 26]. The album features Union Jack-based front cover artwork and labels, and is simply titled *Ian Dury By Ian Dury*. Although 'Sex & Drugs...' is mentioned on the label it doesn't feature on the back cover

listings, which include a black and white photo of Dury not seen on any other version and a misspelt 'Billericay Bickie'.

CASSETTE AND 8-TRACK

The UK cassette was released in 1977 with the black and white LP cover photo set on a light green background with a sky blue spine [Stiff ZSEEZ 4]. The cassette shells came in either grey or black. In the US the cassette came out on Stiff, but through Stiff/Arista [ASC 0002]. Meanwhile, in Canada a Dolby cassette was released on Stiff/Epic in 1977 [PECT 90597].

In 1978 the 8-track was released by Stiff/Arista in the US [AS8 0002] and Canada [8S 0002]. Both these cassettes and 8-tracks had 'Sex & Drugs & Rock & Roll'.

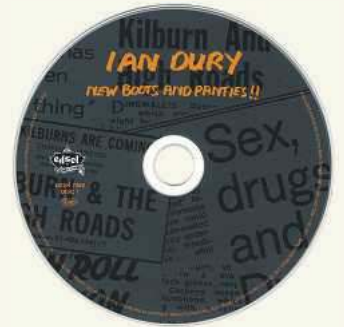


COMPACT DISC

The first CD version of *New Boots And Panties!!* came on Demon in 1986 [Fiend CD 63]. Stiff Records resumed activities in 1995 after having ceased trading a decade earlier and released a CD later that year [Stiff/Disky, SEEZ 4]. The first remastered CD appeared in 1998 on The Hit Label [AHLCD57] with five extra tracks, liner notes and a fold-out insert. In 2004, Edsel released a 2CD version with the original album, singles, B-sides and 17 studio demos [MEDCD 751].

ANNIVERSARY EDITIONS

New Boots and Panties!! got the 30th anniversary treatment in 2007. It was reissued in European territories as a two-disc set, with a slightly different selection of extra tracks than the 2004 version on CD 1, but without the demos, and with a DVD of a concert at Queen Mary College in London from the BBC *Sight And Sound* series [Edsel EDXS 3001].



To mark the album's 40th anniversary, Edsel issued a box set comprising a vinyl LP and four CDs [pictured below] including the original album, singles, B-sides, demos, John Peel sessions and a BBC *In Concert* recorded at the Paris Theatre, London, on July the 1st 1978 with sleeve notes by comedian Phill Jupitus [EDSX 3001].

AUDIOPHILE VINYL

New Boots And Panties!! was first released in its ten-song form on limited edition audiophile vinyl by Simply Vinyl on its S180 series in 2006 [SVLP 510]. In Germany, a 180g release was licensed to Speakers Corner Records in 2012 [FIEND 63] while in the US that year, Omaha-based label Drastic Plastic Records released a limited edition 180g LP, with each copy lovingly numbered by hand [DPRLP-24].

Demon released a 180g LP in 2015 [DEMREC56] and also a limited edition double LP on green and orange vinyl, with the second disc a recording of the BBC's *In Concert* set. On the inside gatefold is a cardboard pop-up of Dury and Baxter from the cover photo [DEMREC75].

In 2017 the album was reissued again as a limited edition double LP on Demon, with green and orange vinyl with lyrics printed on green record bags [DEMRECDLX005; or on black vinyl DEMREC241].



Meet the Producers

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

T Bone Burnett

After running his own studio while a teenager in Texas and playing guitar in Bob Dylan's backing band, this US-born producer went on to become the go-to guy for stars seeking to re-discover the very roots of rock 'n' roll. **Steve Sutherland** celebrates T Bone Burnett

Is nostalgia stopping our culture's ability to surge forward, or are we nostalgic precisely because our culture has stopped moving forward so we inevitably look back to more momentous and dynamic times?

That's a quote from *Retromania*, a book in which critic Simon Reynolds worries that, because of Youtube and Apple and the iPod and all that, we spend way too much time grooving to The Rolling Stones when we ought to be feasting our ears on RZA. Or something.

Anyway, whether all music being available in the perpetual *now* is a good thing or not, the archduke of sonic shabby chic would have to be T Bone Burnett, a bloke who's made a small fortune reanimating faded legends for a hip, modern market while endowing wannabe legends with enough ancient gravitas to connect with the connoisseurs.

LOST MAGIC

With this guy at the controls, it's hard to figure out if what you're listening to is new/old or old/new, and that, of course, is precisely the point. There's an implied standard here, a methodology that points to the recovery of lost magic and a rebuttal of what passes for modern.

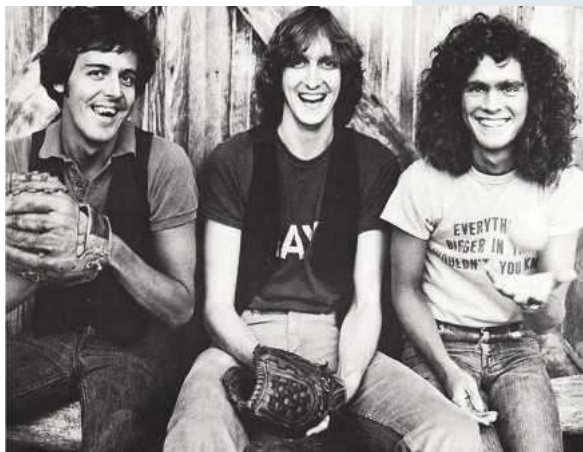
Before we trace the roots of his obsession, here's an example of the

T Bone Burnett pictured in 2005, the year in which the Johnny Cash biopic *Walk The Line* was released for which Burnett compiled the soundtrack

The Alpha Band as pictured on the inner sleeve of their *Spirit In The Dark* LP from 1977 (l-r) Steven Soles, T Bone Burnett, Dave Mansfield



NONESUCH RECORDS/JESSE DYLAN



T Bone philosophy: 'I don't allow any synthetic surfaces anywhere around (in the studio). I don't like modern guitars because they're laminated. If you get an old-time guitar from the '20s, '30s, '40s, '50s or even '60s – you can scrape the lacquer off.

'The new guitars are laminated, so you're already in a plastic age. You're already in an age of controlled sound, rather than an age of raw, free sound. And that's everything. You can take a plastic (drum) head and process it for nine million years and it will never sound as good as if you had just gotten a calfskin head and hit it once.'

Did I say obsession? I meant puritanical evangelicism!

T Bone Burnett was born Joseph Henry Burnett III in 1948. By the time he was 17 and at college in Fort Worth, Texas, he was running his own studio, recording local bands, and visiting performers

who would arrive late at night, still buzzing from their show, eager to continue playing. 'These country musicians would drink a lot of whiskey, take a lot of speed, and want to stay up all night,' he recalled. 'They'd need a place to do it, so they'd end up at my studio.'

STRICTLY BALLROOM

T attended all the gigs he could, especially the ones at the Skyliner Ballroom: 'It was the most beautiful sounding room. The music I heard in that room had a profound effect on me. And years later, a friend brought over a recording we had done in '65 or '67. We put it on and it sounds exactly like what I'm doing today.

'It started me thinking. I remembered that Ike and Tina Turner had played a show (there) in the mid '60s. They had recorded it and I wondered if I could buy that record. I went online and I got



DREW REYNOLDS

the record and I put it on. It too sounded like everything I've done my whole life and I realised that everything I've been trying to do from the beginning was to recreate this excitement of the sound that I heard from the Skyliner Ballroom from when I was a kid.

'You see, I love recording but I don't usually love recordings. I hardly ever say, "Wow! That's a great recording". I say, "That's an incredible song" or "incredible piece of music". And the times I do feel that it's been a great recording is where I find a real sense of place – that's the most important part of the listening experience: the sense of place... I love the sound of an instrument bouncing off a wall and into a room, when you hear that pure, deep sound.'

ALPHA MALE

Moving to LA in the mid-1970s, he wound up playing guitar with Bob Dylan on the Rolling Thunder Revue tour, then released his own stuff, solo and via The Alpha Band, until his production talents swallowed up darn near all of his time. The roster includes Los Lobos' breakthrough LP, *How Will The Wolf Survive?* (1984), Elvis Costello's *King Of America* (1986), some of Roy Orbison's *Mystery Girl* (1989), Greg Allman's mighty studio album *Low Country Blues* (2011), Willie Nelson's *Country Music* (2010), B B King's *One Kind Favor* (2008), Elton John's team-up with Leon Russell, *Union* (2010) and the pairing of Led Zeppelin's Robert Plant with alt country queen Alison Krauss on 2007's *Raising Sand* which just happened to win five Grammy Awards.

Plant was effusive over T Bone's 'zen-like'

↖ **Los Lobos, with whom Burnett worked in 1984 on their album *How Will The Wolf Survive?***

↗ **Alison Krauss and Robert Plant pose for a publicity shot in 2007**

↗ **The *Union* by Elton John and Leon Russell from 2010**

↓ **Greg Allman caught on camera in 2014**



PHOTO: ROUNDER RECORDS

approach: 'His guidance and otherworldliness is just fantastic. There was never even one tiny droplet of irony or short temper'.

When it came to choosing songs to cover on the album, T Bone was all over it, sending both singers recordings of obscure tracks with a dossier explaining how he believed each song would work for the duo.

'It was like an Open University thesis on each tune, and why it was important as a piece of music,' recalled Plant. 'I'd never had a producer like that before, one who tells you to think about it like this.'

Then, prep done, he let them get down to it: 'There were a lot of things I got over very early in my life as a record producer, and one of them was telling anybody what to play. When I started out, I would give the musicians every note to play. And then very quickly I started working with such good musicians that I began to say, "Why am I not just letting them play? Because that's what they do". And I got better and better results that way. I realised, "I already know my own ideas. If I want to do that, I can just do that myself". If you're going to bring in other people, just let them go'.

What you hear, he says, is basically the demo. He uses very few mics, lets the room and its reverberations do the work, avoids compression at all costs and, almost as importantly, always leaves the tape running. And, of course, all his recordings



are analogue: 'The restrictions of analogue can lead to all sorts of wild creativity... I much prefer things I can't control'.

An example? On B B King's album *One Kind Favor*, T Bone wanted to shake the old legend out of his comfort zone so he went full-on Bo Diddley with the maracas. 'I don't like hi-hats, things that proscribe time strictly. The way I hear hi-hats

is, it's the drummer saying, "Here's where the beat is" – ti-ti-ti-ti – and everyone follows that and it can make the beat stiff; accurate perhaps, but stiff.'

DIFFERENT DRUM

'So we don't use hi-hats, and all the things that would play the quarter-notes or eighth-notes are these big shakers. Ten or 15 different gourds with beads in them or nuts, and they go *shh-floosshh!* So it expands and broadens the beat.

'I always go for the groove and think of everything as a drum. An acoustic bass fiddle is just a big drum with strings attached that you attack with your fingers or a bow, but it's still just attack and resonance. A piano is just 88 little

“Analogue can lead to all sorts of wild creativity”

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“This Innuos ‘polish’ is the icing on the digital cake”

- Paul Miller, hi-finews



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MEET THE PRODUCERS

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW



1986

Burnett enters the studio with Los Lobos where they experiment with genres that reflect the band's Mexican roots. *How Will The Wolf Survive?* is a hit with critics



1986

Elvis Costello ditches The Attractions and records *King Of America* with Burnett at the controls. The 15-track album peaks at No 11 on the UK charts



2000

Burnett uses country, gospel, bluegrass and folk music that's appropriate to the time period and creates the soundtrack for *O Brother, Where Art Thou?*



2002

A feast of fiddle, banjo, mandolin and guitar as Country singer Ralph Stanley's self-titled album sees Burnett share production credits



2007

It's platinum sales for Robert Plant and Alison Krauss's *Raising Sand* with songs hand-picked and produced by Burnett



2008

The bluesman's final album, *One Kind Favor* wins B B King a Grammy Award and Burnett praise for the shift in sound



2011

Burnett steers Gregg Allman as he covers 11 relatively obscure songs. *Low Country Blues* gains a 2011 Grammy nomination for Best Blues Album

drums – in fact, by combining notes, you can make thousands of drums out of it. And for me, it's all to do with the tribal storytelling that happens with music, so I don't really care what's hitting the backbeat, whether it's a snare or a mandolin... as long as it's getting hit in the right place with the right meaning.'

LIGHT MUSIC

The recording environment is as important to T Bone as the notes that get played and he sets up his studios like living-rooms for folks to relax in. 'Couches and chairs, stuff like that. I set it up so that we can sit around in the living-room and play and record that too. The living room area is mic'd since a lot of times the casual thing that you're doing when you're running the song down is actually the thing. I mic the whole room.'

"I mic the whole room. The lighting is crucial too"

'The lighting is crucial too. Having a comfortable environment, instead of a sterile environment... so much of it is getting people to relax. And you know what the other part of it is, really? I don't mean to sound mawkish in any way, but really the magic is love. It's loving the people and hopefully them loving you.'

It's for his work with movies that T Bone is arguably most famous, specifically his relationship with The Coen Brothers, for whom he did the music for *The Big Lebowski* (1998), *O Brother, Where Art Thou* (2000), *The Ladykillers* (2004) and *Inside*

Llewlyn Davis (2013).

'Working in movies opened up a whole new way of being a musician for me,' he said. 'It's like conjuring up a believable, but non-existent past.'

For *The Big Lebowski* he compiled tracks by Bob Dylan, Moondog, Captain Beefheart, Yma Sumac and The Gipsy Kings playing 'Hotel California'.

'I didn't want to use anything that commented upon the people or looked down on them,' he said. 'It was, "What does The Dude put on just after he's made love?". He'd come in, do a little t'ai chi, have a White Russian, listen to Captain Beefheart.'

That's a man after my own heart, someone I can look up to!

HOT STREAK

For *O Brother*, Burnett got 'that good old-timey' music together before filming began, and then the Coens fitted the movie to the music, which included 73-year-old bluegrass marvel Ralph Stanley who then went on to do two LPs with T-Bone, *Ralph Stanley* (2002) and *A Distant Land To Roam* (2006), before going to meet his maker in 2016.

The movie soundtrack sold some eight million copies and T Bone continued his hot streak with Jack White and *Cold Mountain* (2004), and *Walk The Line* (2005), the



↑ **The Big Lebowski** album soundtrack from 1998

↓ **B B King** and his trusty guitar he named Lucille

Johnny Cash biopic starring both Joaquin Phoenix and Reese Witherspoon.

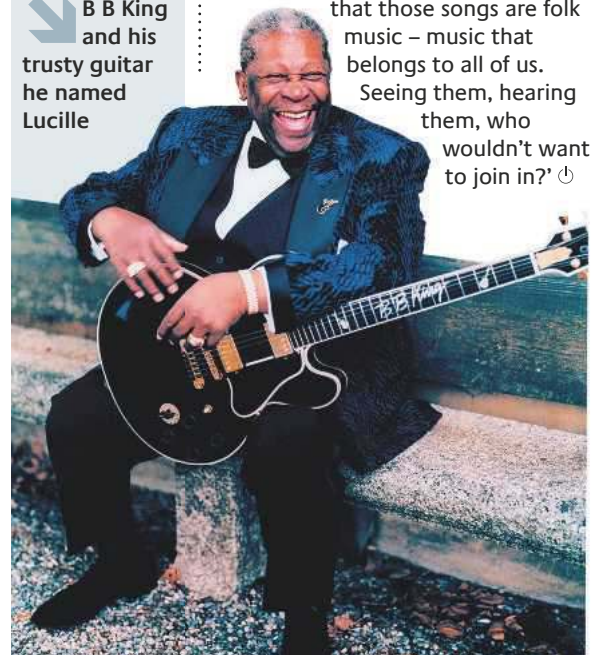
I'm going to quote *The Atlantic* to finish this off as I couldn't put it better...

'There is still an essential simplicity to Burnett's approach: he gets people in the same room to sing songs older than any of them, and makes it

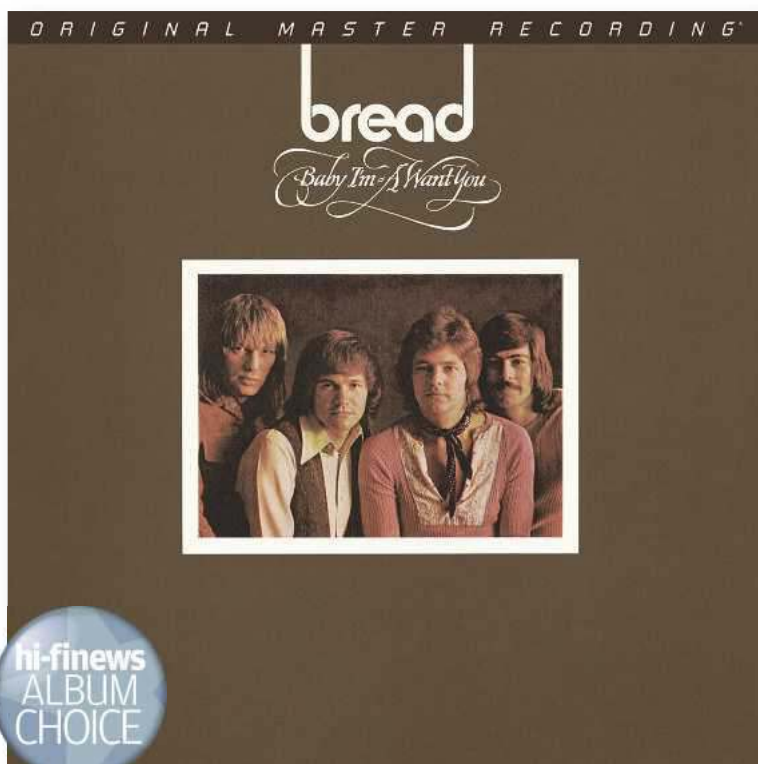
sound like a hell of a good time. Sure, Joaquin Phoenix's version of "I Walk The Line" is inferior to Johnny Cash's classic Sun recording – but so is anybody's. To see musicians and actors on mic together in one of Burnett's concerts is to recognise

that those songs are folk music – music that belongs to all of us.

Seeing them, hearing them, who wouldn't want to join in?' 🎵



K. WESTENBERG



BREAD

Baby I'm-A Want You

Mobile Fidelity MFSL1-336 180g vinyl; SACD: UDSACD-2205

Soft rock remains a guilty pleasure that will never attain 'cool' status, so approach without witnesses, as if it were a Carpenters album. But to deny its pop perfection, tuneful brilliance, superb musicianship and exquisite production is to be self-abnegating. Their fifth and arguably their best LP, it gave us the achingly beautiful title track, the elegiac 'Everything I Own' and the mild rocker 'Down On My Knees'. Bread were a supergroup of sorts, as would be any with the late-Larry Knechtel of the legendary Wrecking Crew in its ranks. Harmonies of Hollie-esque lushness, melodies in the Simon & Garfunkel stratum – this may be the rock equivalent of a chick flick, but it's truly irresistible. *KK*

Sound Quality: 90%



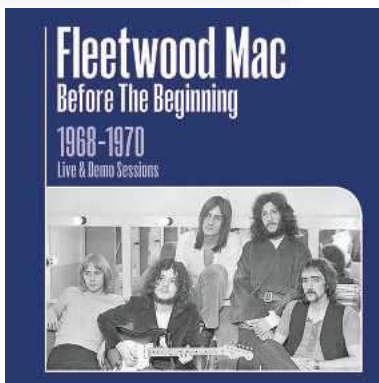
THE BEATLES

Abbey Road 50th Anniversary

Apple 02508 00744 (three discs)

Giles Martin's anniversary remasterings have improved with each release, with *Sgt Pepper* now seeming flawed but the 'White Album' and this one showing marked gains on every level. But what will knock your socks off about the vinyl edition is the quality and weight of the bottom registers. There's an openness and added detail that will dazzle even those who know intimately every millisecond, while the alternate takes and demos on the two 'Sessions' LPs are fascinating. The anniversary celebration includes no fewer than six LP, CD and Blu-ray Audio sets, from the original album on its own, to versions with extras. The world 'exploitation' never entered my head. *KK*

Sound Quality: 90%



FLEETWOOD MAC

Before The Beginning

Sony Music 19075923251 (three discs; 3CDs: 19075923252)

Subtitled 'Vol 1: Live 1968', this is Fleetwood Mac V1.0, the blues band lineup of Peter Green, John McVie, Mick Fleetwood and Jeremy Spencer. This fabulous live package – fully authorised and remastered – sounds much better than you'd expect of long-lost tapes, luckily found in the USA but mysteriously unlabelled. The 3CD version contains both the rediscovered 1968 and 1970 sessions, while this vinyl package here offers just the first of the two; the rest will appear on LP soon. Tracks include 'Madison Blues', 'I Need Your Love So Bad', 'Dust My Blues', 'Long Tall Sally' and 'Willie And The Hand Jive', from the time when Green was a guitar god. What a find! *KK*

Sound Quality: 80%



PAUL MCCARTNEY

Amoeba Gig

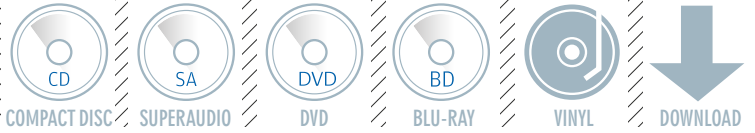
Capitol 00602577289453 (two 180g LPs)

This and the *Abbey Road* sets make it an expensive month if you're a Beatles fan. Macca likes surprising completists like me, so there is nothing unusual about him releasing the complete performance of an oddball concert undertaken in a record store. The date was 27/6/2007, the store Amoeba Music in Hollywood, and McCartney really delivered the goods at a free show for around 1000 people. He performed 21 songs, covered both The Beatles canon and his solo work, the sound was terrific and he was clearly having fun. This is a delicious artefact, not a throwaway. Unusually, the LPs boast a track not on the CD [00602577289767]. *KK*

Sound Quality: 85%



AUDIOPHILE: DIGITAL



DONALD BYRD

Black Byrd

Vocalion CDSML 8559 (multi-channel SACD)

This magnificent set is one of the best old-school-quadraphonic releases so far, nothing forced, the sound filling the room with grace. The album is a known quantity, trumpeter Byrd having been around for two decades before issuing this on Blue Note in 1973; it became the label's best-ever seller, though purists hated it. Even if I hadn't revealed the date, the music would have told you that this was of that era because it is a melange of jazz, funk, R&B, soul and early disco, and you'd be forgiven for thinking that George Benson and Isaac Hayes decided to collaborate on a Blaxploitation soundtrack. Loved *Shaft?* 'Breezin'?' You'll keep this one on repeat. **KK**

Sound Quality: 85%



DIRE STRAITS

Making Movies

Mobile Fidelity UDSACD2186

I hope for your sake that you love Dire Straits, as MoFi is reissuing their first cluster of LPs on vinyl and SACD, and I'm spreading them over the next few issues. This was the first of the SACDs to land *chez Kessler*, and it reminded me why I hate the band so much. That said, their third release, from 1980, showed a leap in stylistic development, the sophistication elevated and leaving no doubt that this was Mark Knopfler's band. High points include 'Tunnel Of Love', 'Romeo And Juliet' and 'Solid Rock', the production magnificent and the guitar-work breathtaking. The SACD is demo-grade, but if you prefer all-analogue, the 45rpm, 2LP edition is MFSL 2-468. **KK**

Sound Quality: 90%



ZZ TOP

Goin' 50

Warner Brothers R2 591567 (three discs)

That 50 is important: this trio claims to be the longest-surviving band in rock history still with its original lineup. Whether or not that's right doesn't matter: this 50-track career retrospective demonstrates in spades the sheer genius of a power trio that took the Cream/Jimi Hendrix Experience formula and Tex-ified it. A perfect blend of blues, hard rock and nascent thrash excess, this is a wall of sound that inspires air guitar antics. The southern-fried wit, coupled to faultless musicianship, is irresistible if you want brains with your boogie. 'Tush', 'Woke Up With Wood', 'Cheap Sunglasses', 'Gimme All Your Lovin'' – just see how loud your system will go. **KK**

Sound Quality: 85%



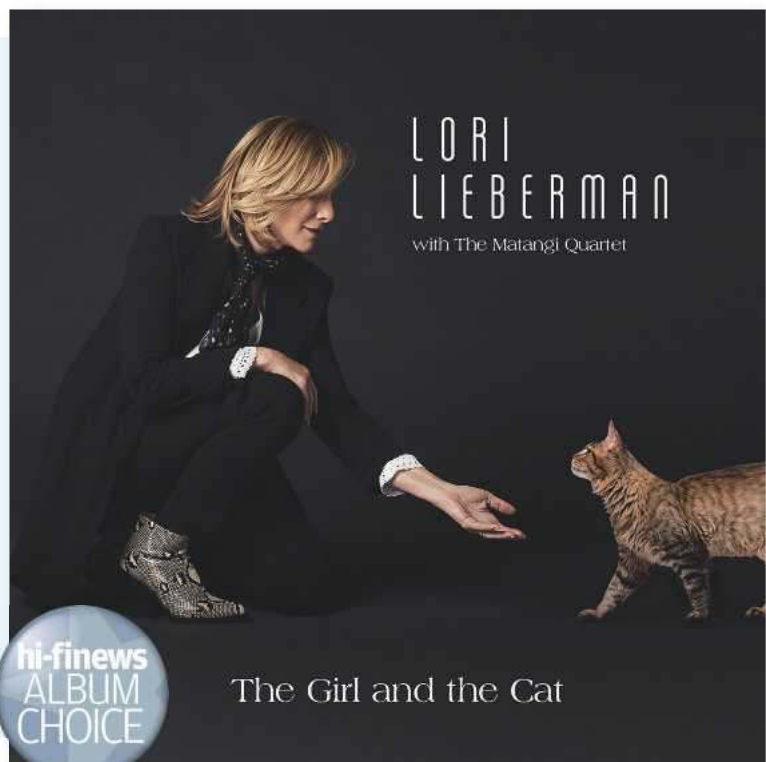
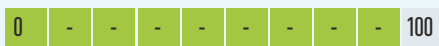
LORI LIEBERMAN

The Girl And The Cat

Drive On Records 115115-16 (two 45rpm LPs: 115115-17)

You needn't ask: you know the sound will be staggeringly good. Like kindred spirit Eleanor McEvoy, LL values sonic authenticity, so this CD was engineered by audio-casualty hubby Joe Cali and mixed by Bob Clearmountain. By my reckoning, it is the most personal, liberated, undiluted release of a career spanning 47 years; she sounds like one with total artistic control. Lieberman's singing – ever delicate and fragile – always exudes a quiet, almost-preternatural maturity. Here it is augmented by a mesmerising, aching sense of longing, and this is enhanced by a 'classical' atmosphere provided by the Matangi String Quartet's contribution. The songs? Save these for quiet, introspective moments. **KK**

Sound Quality: 90%



The Girl and the Cat

The Hague String Trio After the Darkness



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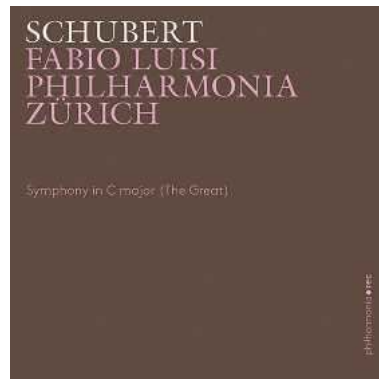
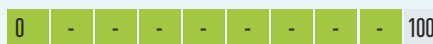
After The Darkness (DXD; DSD64-DSD256)

www.nativesd.com; COBRA0065

This set takes its title from Elie Wiesel's narrative of his experiences during the Holocaust, as we have just marked the 75th anniversary of the liberation of Auschwitz, and the majority of the works here are by composers who died at the hands of the Nazis. Yet despite that background, and the dark opening of Hans Krása's 1944 *Passacaglia & Fuga*, this set soon develops into a celebration of these composers, not just a memorial to them. The Hague String Trio has a wonderful fluidity

and tension to its playing, whether in the rhythmic – and all too short – Krása fugue, written in the Terezín ghetto, or Dick Kattenburg's *Trio à Cordes*, here receiving its world premiere recording. The trio is well-served by a close-focused, intimate and rather dry recording by Tom Peteers (Renswoude, The Netherlands), throwing all the attention on the quality of the playing and music-making to fine effect. **AE**

Sound Quality: 90%



PHILHARMONIA ZÜRICH/FABIO LUISI Schubert: Symphony No 9 (96kHz/24-bit, FLAC)

www.highresaudio.com; Philharmonia Records PHR0111

This Philharmonia is the orchestra of Zürich Opera where Fabio Luisi is currently Music Director. His purely orchestral discography with them includes two Bruckner Symphonies, Berlioz, Rachmaninov, Rimsky-Korsakov, Wagner and Verdi. This proves a more convincing Schubert Ninth than the recent SCO/Linn [*HFN* Mar '20], with Luisi's treatment of the huge gap after the slow-movement climax reminiscent of the great 1951 Furtwängler interpretation [DG]. His perky opening *con moto* tempo is never quite restored, which is a convincingly logical decision. With the huge finale repeat taken, there's a danger of the music becoming repetitious, but not here, the momentum carries you through until the end – which has a sustained last chord (a questionable whim). I liked the sombre darkness to light introduction and this is a well balanced and detailed recording. **CB**

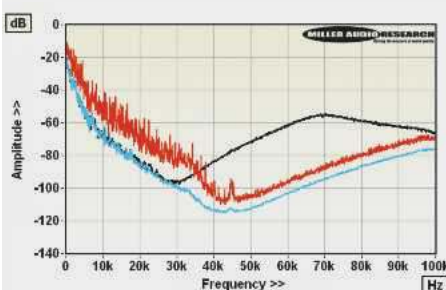
Sound Quality: 85%



OUR PROMISE

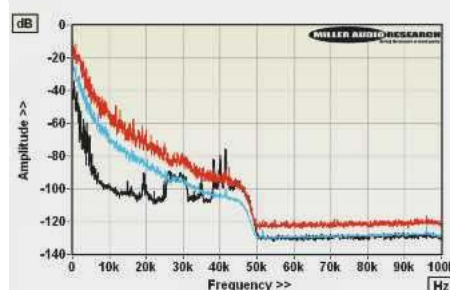
Following our Investigation feature [*HFN*, Jun '11] in which we examined the claimed quality of high-resolution downloads, *Hi-Fi News & Record Review* is now measuring the true sample rate and bit-depth of the HD music downloads reviewed on these pages. These unique reviews will be a regular source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

LAB REPORT



Recorded in DSD256 on Merging Technologies hardware, this file is also available in DXD format. The DSD128 downsample [red, peak; cyan, RMS] is preferable for its added bandwidth over the smaller DSD64 file [black]. **PM**

LAB REPORT



This native 96kHz download avails itself of the potential 24-bit dynamic range and generous ~48kHz bandwidth but there are bursts of ultrasonic spuriae associated with the wind section only on all four movements [black trace]. **PM**



COMPACT DISC



SUPRAAUDIO



DVD



BLU-RAY



VINYL



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MULO FRANCEL & CHRIS GALL

Mythos (96kHz/24-bit, FLAC)

www.chrisgallmusic.com; www.mulofrancel.de; FM 237-2

It's somewhat hard to work out what to make of this album. For a start, these are clearly two very talented musicians, and the subject of much acclaim among Euro-jazz circles, and without a doubt the whole project is well recorded, allowing both Francel's breathy, sinuous sax and Gall's inventive propulsive piano to shine. However, while the set recalls everything from dance beats to shades of Jan Garbarek, the problem is that it's all a bit monotone, with the driving tracks and the more contemplative ones sort of blurring within the listener's mind. Perhaps it's the minimal instrumentation, but I can't help feeling a more traditional ensemble with a conventional rhythm section might inject some more light and shade. The whole album sounds rather samey, highlighting the thought that it might just be a bit too new age/ambient/easy listening. *AE*

Sound Quality: 80%



MARILLION

With Friends From The Orchestra (96kHz/24-bit, FLAC)*

www.highresaudio.com; earMUSIC 0214551EMU

Just about everyone seems to be hitching up with an orchestra and turning out a greatest hits package, with recent years showing that you don't even have to be physically present – or, in some cases, still alive – in order to do so. So it would have been easy for Marillion to trot out the old music, bang on some fiddles, and cash in, but *With Friends From The Orchestra* isn't like that. Instead it's an album the band has been touring with of late, in which the lineup is augmented by the In Praise Of Folly String Quartet, Sam Morris on French horn and flautist Emma Halnan. Mainly recorded at Peter Gabriel's Real World Studios [see PM's Lab notes, below], it features tracks from the band's more recent back catalogue, beautifully fleshed out with the new arrangements, and delivered with a rich, open sound quality. One for the fans? Perhaps, but will appeal beyond that. *AE*

Sound Quality: 80%



NYPO/LEONARD BERNSTEIN

Beethoven: Missa Solemnis (192kHz/24-bit, FLAC)

www.highresaudio.com; Sony G0100041667683

Sony has been remastering at 192kHz the Beethoven Symphony recordings Bernstein made in New York (rougher, but more vital than his VPO/DG remakes). His *Missa Solemnis* was our first stereo LP set, in 1962, facing competition from Austro-German conductors Böhm, Klemperer and Karajan. It had a white-heat commitment, with an impeccable quartet of soloists, Eileen Farrell, Carol Smith, Richard Lewis and Kim Borg (up front and widely spaced), and the lusty Westminster Choir. The engineering too was excellent for its day, if coarsening at full volume; even so was better balanced than the 1978 Bernstein/DG remake. Solo violinist John Corigliano is discreetly set in the *Sanctus* [trk 15] – taken unusually slowly, in contrast with the choral 'Hosannas' [trk 14]. The download comes as 18 tracks – too many, perhaps? – but there's no PDF booklet. *CB*

Sound Quality: 80%



LAB REPORT

The spectral plot shows amplitude in dB on the y-axis (from -140 to 0) and frequency in Hz on the x-axis (from 0 to 100k). The plot shows a red line for the saxophone and a blue line for the piano. The saxophone has a higher frequency content, extending to approximately 35kHz, while the piano is mostly below 12kHz.

Supplied direct to *Hi-Fi News* by Chris Gall's PR team (jazzfuel.com) this native 96kHz/24-bit file is more typically available at CD resolution. The full 48kHz bandwidth is well used by Francel's sax to ~35kHz, the piano to ~12kHz. *PM*

LAB REPORT

The spectral plot shows amplitude in dB on the y-axis (from -140 to 0) and frequency in Hz on the x-axis (from 0 to 100k). The plot shows multiple tracks in different colors: red, black, and green. The red track has a spurious peak at 39kHz, the black track at 44.1kHz, and the green track at 48kHz.

Track 1 has the spectral bandwidth of a 96kHz file, albeit with a spurious 39kHz tone. The other tracks are mixed with variable rate content from 12kHz (synth effects), 44.1kHz (trk 2, black) and, most commonly, 48kHz (trk 8, green). *PM*

LAB REPORT

The spectral plot shows amplitude in dB on the y-axis (from -140 to 0) and frequency in Hz on the x-axis (from 0 to 100k). The plot shows a red line for the main audio and a blue line for the remastered version. The red line shows spurious tones at 54kHz, 58kHz, and 93kHz.

Remastered at, or at least released as, a series of 192kHz files, the original analogue tape would not have possessed a useable bandwidth much beyond 30kHz, as we see here. Note spurious tones at 54kHz, 58kHz and 93kHz. *PM*

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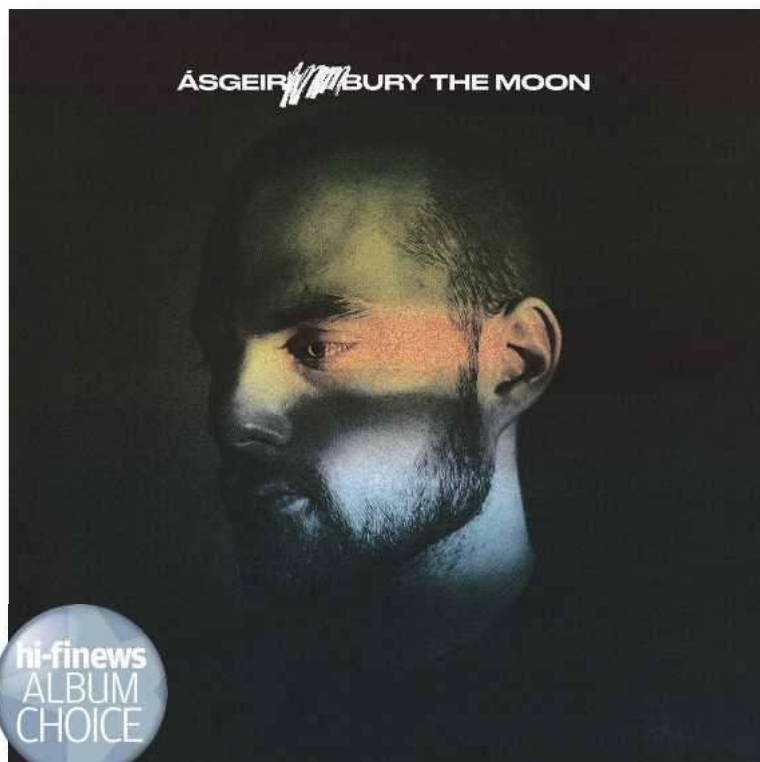
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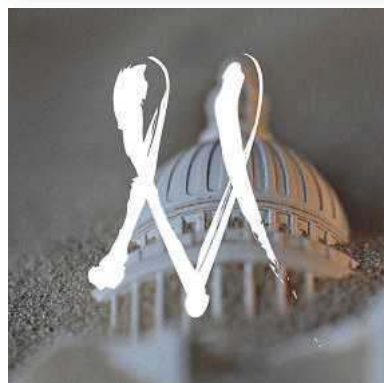
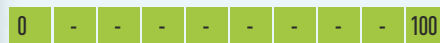
ÁSGEIR

Bury The Moon

One Little Indian TPLP1472CDP

Icelandic songwriter Ásgeir composed this, his third album, in a rented summerhouse, creating the songs as basic guitar and keyboard demos before taking them into the studio and fleshing them out with additional musicians and lyricists. The tempo rarely rises above a slow shuffle but, in a track like 'Lazy Giants', about 'the lingering spectre of economic collapse', it's more than powerful enough to emphasise Ásgeir's message of warning. The title track is a masterful combination of unlikely components which Ásgeir blends into a beautifully coherent whole. His delicately beautiful voice and haunting melodies make every song supremely easy to sink into, like relaxing on a cool feather bed after a particularly hard day. *JBk*

Sound Quality: 95%



MY BUS

Our Life In The Desert

Onomatopoeia Records HUM30; LP: HUM29

For lovers of the early '90s dream pop genre, two Belfast bands, Butterfly Child and Papa Sprain are names to conjure with. Joe Cassidy of the former and Gary McKendry of the latter are old friends who worked together under the My Bus moniker 30 years ago. Now they've returned with a dozen mesmeric songs which more than confirm that they've lost none of the surreal originality which first drew attention to them. Tracks like 'She Was Never There', 'Moon Tempo' and 'Breakfast In Bed' confirm that this is a more consistently lovely album than anything either of them achieved on their own. We just hope the partnership continues. *JBk*

Sound Quality: 90%



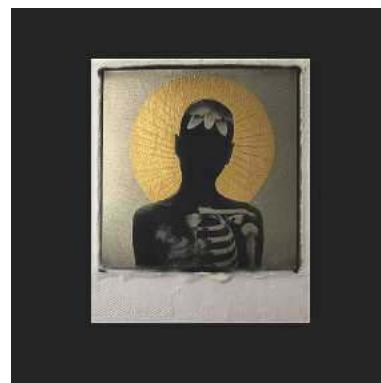
ARANDEL

InBach

Infine iF1056

It's been a while since I've encountered contemporary players tackling classical music but the anonymous musicians of the somewhat enigmatic French project Arandel approach the idea with zest and imagination. The first successful electronic-classical crossover was, I recall, *Switched On Bach* by Walter Carlos in 1968, but Arandel go much further than Carlos dared, interpolating '80s electro-pop rhythms and sounds, rather than trying to copy the timbres of acoustic instruments. A handful of pieces are even reinterpreted as songs, with surprisingly effective results, occasionally reminiscent of The Swingle Singers, but no less enjoyable for that. *JBk*

Sound Quality: 90%



HUMANIST

Humanist

Ignition Records IGNCD180; LP: IGNLP180

At the heart of this album is Rob Marshall, an acclaimed British guitarist probably best known for his collaborations with Mark Lanegan. *Humanist* is being promoted as Marshall's debut solo project, on which he has enlisted vocal assistance from, among others, Lanegan, Dave Gahan (Depeche Mode), Joel Cadbury (UNKLE), Jim Jones (Thee Hypnotics) and Ron Sexsmith. Marshall's powerfully dense guitar lines dominate 13 doom-laden tracks but, with the exception of Mexican vocalist Ilse Maria's interpretation of 'Truly Too Late', the singers are all too similar to inject any real variety into the stark and minimally melodic songs. *JBk*

Sound Quality: 80%

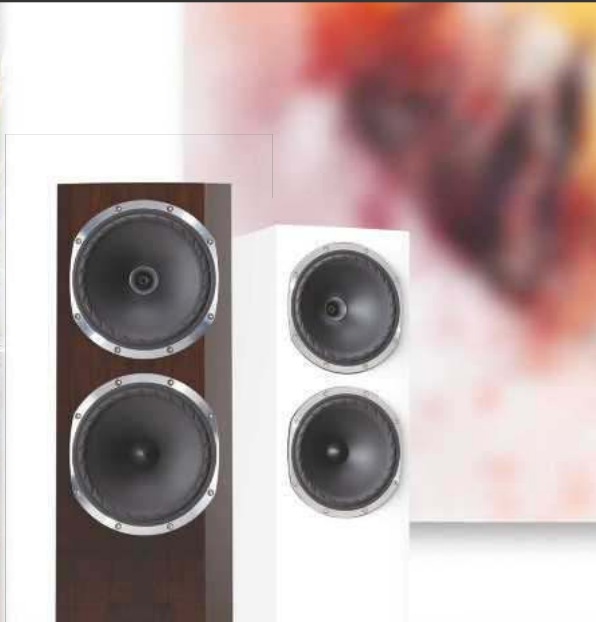




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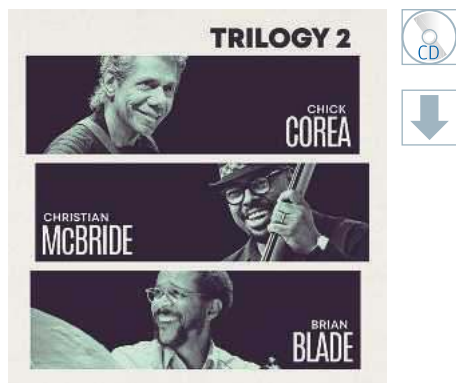
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CHICK COREA TRIO Trilogy 2

Concord Jazz CIA00183 (two discs)

Far from slowing down in his 70s, Corea continues to tour extensively, notably with his star trio partners McBride and Blades on bass and drums. Like the 2014 *Trilogy* triple album, this new double assembles live recordings from many countries. Eight of the 12 cuts were captured at US and Canadian venues, six in 2016 and two in 2010, and there are Italian, Swiss and Japanese concert tracks from 2010 and 2012. Corea revisits his own early classics with '500 Miles High' and 'Now He Sings, Now He Sobs' but the trio also thrives on material as diverse as Monk's 'Crepuscule With Nellie' and Stevie Wonder's 'Pastime Paradise', playing brilliantly throughout. *SH*

Sound Quality: 85%



JOY ELLIS Dwell

Oti-O Records CD002

A second album from a fine pianist, a graduate of the Guildhall School, but now above all a singer-songwriter. As with her 2017 debut *Life On Land*, she's backed by an excellent band built around husband Adam Osmianski on drums plus bassist Henrik Jensen, and featuring the dazzling but always apposite guitar work of Rob Luft, who contributes some deft and soaring solos. No guest sax from Binker Golding this time, but you can hear Ferg Ireland adding some punchy electric bass. Ellis's words can be poetic, deep and thought-provoking, or sometimes joyfully scene-painting, always promoted effectively by her great singing and her inventive and sparking music. *SH*

Sound Quality: 80%



KEITH JARRETT Munich 2016

ECM 779 3748 (two discs; 2LPs: 0829260)

More than 40 years on from *The Köln Concert*, Jarrett's solo albums have become a seemingly endless series. But his unique abilities and unique approach to performance still make each new one special. Here, as usual, the pieces are given numbers, in this case I to XII, but the first is far the longest at nearly 14m, intense, densely rhythmic, a *tour de force* in itself. At the end of the concert, Jarrett added three interpretations, with 'Answer Me, My Love' and 'It's A Lonesome Old Town' followed majestically by 'Somewhere Over The Rainbow'. For other pianists, solo concertising can be a mountain to climb, but Jarrett is far away up there already. *SH*

Sound Quality: 90%



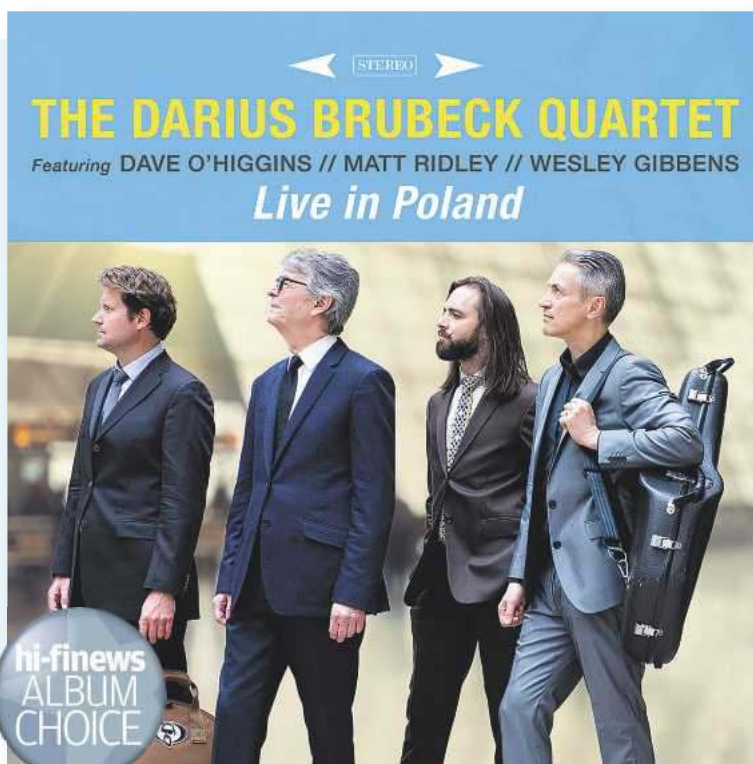
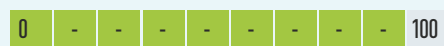
THE DARIUS BRUBECK QUARTET

Live In Poland

Ubuntu Music UBU0033

All four of Brubeck's sons are musicians, though only Darius became a pianist like his father. In the 1980s he pioneered jazz education in South Africa, but moved to London in 2006 and formed a new quartet. Drummer Gibbens and bassist Ridley were heard with saxist Mike Rossi on *For Lydia And The Lion* in 2009, but in 2014 came *Cathy's Summer*, Dave O'Higgins completing the current lineup. Here they're in fine form on the last night of a 2018 tour that marked the 60th anniversary of Dave Brubeck's 'Iron Curtain' visit. O'Higgins is robust and Rollins-tinged on 'Your Own Sweet Way', warmer on the other Dave Brubeck piece here, 'Dziekuję' or 'Thank You'. And 'Take Five', inevitably, ends a great live set. *SH*

Sound Quality: 90%



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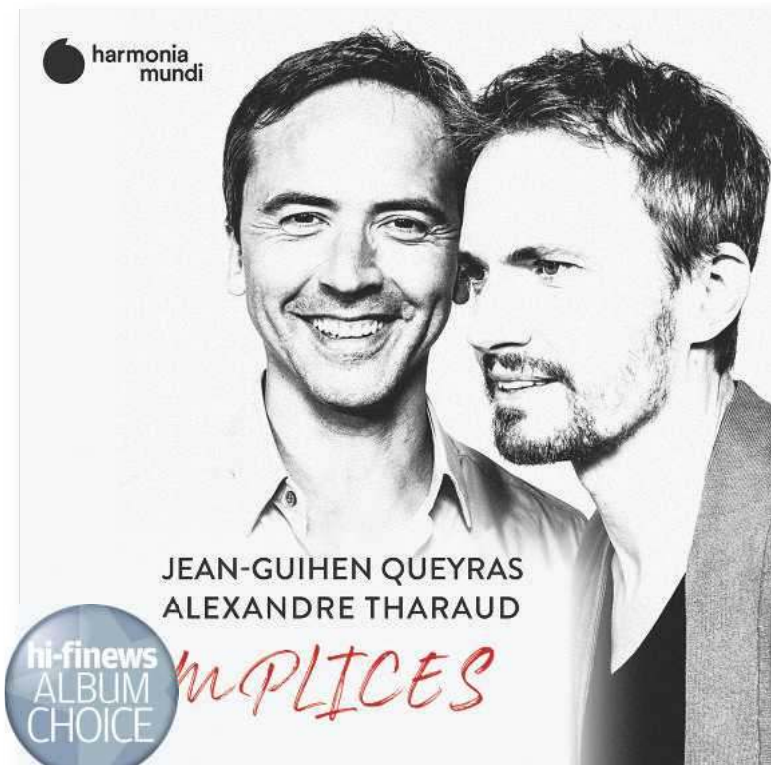
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COMPLICES

Jean-Guihen Queyras, Alexandre Tharaud, et al

Harmonia Mundi HMM902274 (downloads to 44.1kHz/16-bit resolution)

Pardon the analogy but this is like a chocolate box with 19 exquisite flavours, from Haydn (a Piatigorsky arrangement) to Shchedrin (a tangy homage to Albéniz), with Chopin, Saint-Saens's 'Swan' and familiar Kreisler as soft centres, the Coltrane Bach improv (with Raphaël Imbert tenor saxophonist) and Dutilleux's *Strophe* after Paul Sacher something with more to chew on. Mostly, Queyras is partnered by Tharaud in these transcriptions, although I liked even more the two solo cello pieces (Zimmermann's short *Study*, wholly in a high register, and the *Strophe*) and the concluding Haydn 'Toy' Symphony movement with two other strings. Rarities include an *Adagio* by one von Veczy and Poulenc's charming *Chemins de l'amour*. **CB**

Sound Quality: 90%



BEETHOVEN

Symphony No 9

Sally Matthews, Gerhild Romberger, Mark Padmore, Gerald Finley, Bavarian RSO & Ch/Bernard Haitink

BR Klassik 900180 (downloads to 48kHz/24-bit resolution)

Taken from live recordings made last February this represents Bernard Haitink's last thoughts on Beethoven's 'Choral' Symphony. It's an account which is rather Brucknerian in manner: the architecture always transparently clear – if at the expense of some shattering drama – the finale memorably sung with one of the most musical baritone solos I have heard. Padmore is good, too, as the 'village band' approaches but the soprano sounds are uncomfortable. 'Above all there's Haitink's humanism,' wrote one reviewer, and that neatly sums it up. **CB**

Sound Quality: 90%



MUSSORGSKY/KHACHATURIAN

Pictures At An Exhibition/Spartacus Suite, etc RLP0/Vasily Petrenko

Onyx ONYX4211 (downloads to 96kHz/24-bit resolution)

Three popular Russian works with two unfamiliar fillers: a Rachmaninov *Romance*, quoted in his Symphony No 2, and a jazzy, brash *Concerto for Orchestra* by Shchedrin. The CD opens with the *Colas Breugnon Overture* and *Pictures* is in Ravel's orchestration. I don't think we've had a more compelling version since the CSO/Reiner RCA classic – the Promenades are varied and interesting, the two debating Jews seen with respect, and if the Catacombs are rather brightly lit the Polish Oxcart and Old Castle are full of atmosphere. The lush *Spartacus Adagio* is for once tastefully restrained. **CB**

Sound Quality: 90%



SCHUBERT

Symphony No 9, 'Great C Major'

Scottish Chamber Orchestra/Maxim Emelyanychev

Linn CKD619 (downloads to 192kHz/24-bit resolution)

Emelyanychev, a young musician from Russia, was a Rozhdestvensky pupil and has been appointed principal conductor of the SCO, after Ticciati. Online interviews suggest a bright, personable nature and someone with a keenly cooperative approach (he's also a gifted pianist – Google *Conduction*, 3m 13s). Produced at the resonant Caird Hall, Dundee, his Linn debut CD does – as others have suggested – bubble along with unstoppable energy and it's great to have both outer-movt repeats. But I do find the first half of the work too lacking in relaxation: points are made rather insistently. The Scherzo, though, is fine. **CB**

Sound Quality: 80%



Quality Digital Streaming



Clockwise from top left: Innuos Statement, AVM Evolution MP 5.2 Media Player, AVM Inspiration CS 2.2 4T Streaming CD Receiver, Innuos Zenith

After auditioning many of the best brands in this arena, two stood out to us on sound quality, **AVM** and **Innuos**. Both offer excellent sound quality from physical sources as well as offering highly commendable streaming from subscription services. Most importantly, both brands offer a more natural sound than other streaming products as they are solely audio-focussed in their design and build.

Innuos has its history in computer based equipment but has focussed on audiophile components and quality power supplies in their designs.

Their models, with their striking chassis designed to reduce resonances, have the ability to quickly rip CDs to an internal storage and then serve this data direct to the audio system, or to a separate DAC, or to the network, along with streaming services such as TIDAL, QOBUZ, Deezer.

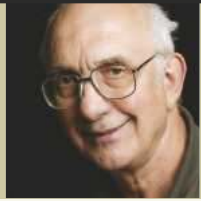
Because they start from a physical CD basis, and have focused on audiophile qualities, they have achieved a similar sound from streaming to that with a CD, from their entry model ZENmini to the impressive Statement.

AVM is a true high-end audio company manufacturing since 1986. All models are handcrafted to the highest standards in Germany.

By using simple, logical design principals to achieve optimal performance levels, the sound quality achieved is amongst the best in the industry.

Their products offer a wide variety of options due to the modular design and have a more classic audiophile appearance.

Their Media Players and All-In-One CD Receivers include a real TEAC CD Drive integrated into their streaming units which fully support TIDAL, QOBUZ, UPnP, Webradio.



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

My old 'mate

Barry Fox finds an old QED product in his attic that's been unused for 35 years but puts it to good use again in his home audio and TV system. Then he discovers an update is on its way...

Familiar story? Your TV has lousy sound. You have a good hi-fi system but it's not connected to the screen because hooking it up would involve using several remotes, or programming a universal handset. And in any case, the hi-fi speakers are in the wrong place in the room.

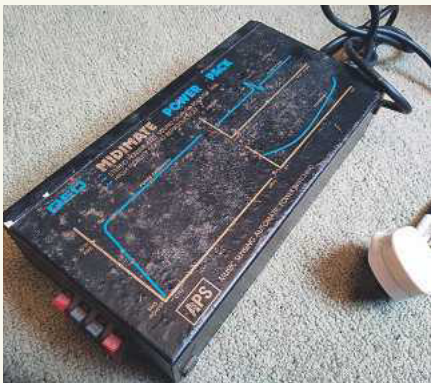
The usual answer is to use a soundbar or soundbase with the TV. Research group Strategy Analytics reckons that around 1.1 million were shipped in the UK in 2019, and the number is growing. Around 4.2 million were sold in Western Europe and 20 million worldwide.

Some bars/bases sound good but are expensive when they come with a pile of surround and wireless options. Many are decidedly poor-fi, often given away free with TVs. These can sound bass-light and come with a mish-mash of pseudo-surround and Atmos bells and whistles.

LOFTY AMBITIONS

Ideally the bar/base should 'learn' to respond to the same remote as the TV, or use an HDMI Audio Return Channel (ARC). But many remotes can't learn and older television sets simply don't have ARC.

After some trial and error over recent years I have discovered a few affordable bars/bases that do a better job – from



ABOVE: The author's QED Midimate – still working well after 30 years stashed in an attic

German firm Canton and British company Orbitsound, with all-in-one solutions such as its gimmick-free ONE P70W. But I recently found something interesting, deep in my attic – an old QED Midimate.

The Midimate was designed by Bob Abraham in the 1980s to boost the wattage of amplifiers that sounded good but did not have the power to drive the then emerging breed of high quality/low efficiency bookshelf speakers. It had a pair of speaker inputs fed from the speaker outputs of a power amp, and a matching pair of speaker outputs, plus a semi-hidden screw potentiometer to adjust sensitivity. There were no other controls, no switches and just one glow lamp.

The Midimate stayed permanently connected to the mains, and slept until it detected a speaker input. The glow lamp then turned from amber to green and it flatly boosted speaker power.

My Midimate looked decidedly manky, with decaying paint and who-knows-what-condition capacitors inside. It wasn't designed to handle a headphone preamp, but just for heck of it I crossed my fingers and connected the Midimate's speaker inputs to the 3.5mm output socket from a my TV. The Midimate's outputs went to a pair of power-hungry Celestion SL6 loudspeakers, which I also found boxed in my attic.

Bingo! The Midimate sprang to life and gutsily drove the SL6s, with TV volume, bass, treble and stereo balance all controlled by the TV and its remote. And it sounded better than most of the soundbars/bases I could afford.

Bob Abraham is no longer connected with the Q Acoustics group (which now handles QED), but I tracked him down and told him about my old Midimate which had miraculously survived.

'Midimate used the same power amp design and toroidal transformer as the



ABOVE: The ONE P70W from Orbitsound can be had for £199 with a little canny shopping

award-winning A240 amplifier,' Abraham told me. 'We did not compromise on quality. And we used good quality capacitors. The Midimate does not have any software as such to cause it to crash.'

REPLACEMENT DUE

'I hear quite a few stories about older QED and Systemline products still in use today, and I must say that I really do take a lot of satisfaction from this. After all, by far the best environmentally

responsible approach is to manufacture products for a long and useful life.'

By coincidence it turns out that Bob is now working with a young German engineer and a company called VoltaStream on a new streaming amplifier which

'The Midimate gutsily drove my Celestion SL6 speakers'

can also be used as a modern version of the Midimate. Details are still under wraps but Voltastream gets HDMI, digital optical S/PDIF and CEC (Consumer Electronics Control) working together with a single remote handset, and without the need for the Audio Return Channel.

The launch target is this year with core micro-processor coding, surface-mount circuit production and case machining all being done in Berlin. I can only hope my old Midimate holds out until then... ⚡

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Barry Willis

Journalist for top American audio-video publications

While his main interest is high-end audio, Barry Willis also writes about the culinary industry, visual art and theatre for a huge variety of US newspapers and magazines

The turntable as icon

As the year ended and **Barry Willis** turned on the telly, he realised that the humble record player had become a symbol for joyous celebration. An artificial icon for sure, but where will it lead us?

As I write, it's cold and dark in my neighbourhood with Christmas some weeks behind me. The run-up to the holiday shopping frenzy – in the States, it begins in October – segues into a barrage of televised advertising that achieves fever pitch in the three weeks before the annual event.

While I'm far from a TV addict, I do watch my share and this year I noticed an inordinate number of turntables featured in adverts for products and services not at all related to music or audio equipment. They cropped up mostly in brief cutaways during jolly scenes of family gatherings, wherein long-simmering resentments and political differences were temporarily forgotten in the glow of joyful reunions. Such happy fiction.

FLOAT ON

The turntables depicted in these adverts were mostly generic, and appeared only long enough to convey the idea of holiday music as an essential celebratory element, as much a part of the tradition as eggnog, *The Nutcracker*, and Charles Dickens' *A Christmas Carol*.

Nowhere were members of happy families shown cueing up playlists on iPads or dabbing at the screens of smartphones, which appeared only in pitches for must-have replacements such as the iPhone 11. There was even one shot of a bedraggled father playing with a Mag-Lev turntable on Christmas morning, its levitating platter amazing the children gathered round him. In a clever bit of computer animation, another commercial riffed on a turntable's rotating platter, conflating it with a skating rink which was populated with tiny skaters.

Turntables appear elsewhere too – as design elements on billboards and in print advertising for restaurants, hotels and

RIGHT: Billed as 'the world's first levitating turntable', the Mag-Lev is a semi-automatic design featuring a floating platter decoupled from the deck. See www.maglevaudio.com for more



bars, to imply warmth and friendliness. None of this has anything to do with the reality of playing vinyl records, of course – it's all about leveraging deep associations inherent in multiple generations that grew up around record players, which have been with us now in various forms for a pretty long time. Indeed, they were the major vehicle for delivery of recorded music through most of the last century.

ART OF NOISE

It's safe to say that most music lovers over the age of 30 have fond memories of spinning records, and there are significant numbers of those *under* 30 who have been beguiled by the format – or at least intrigued enough to venture into it by purchasing an entry-level player and an armload of LPs.

How many of them will stay with it over the long haul is a matter of conjecture. I would guess not many, after they discover the amount of work that's involved in keeping LPs clean, playable, and preserved – or keeping record-playing machines in operating condition.

Enterprises employing turntables in their advertising are plying a mix of

nostalgia and romanticism far removed from the challenges of retrieving a realistic sound from vinyl. The much-discussed 'warmth' of vinyl replay is really a blend of noise and distortion masking much of what occurred in the recording studio – the audio equivalent of dreamy soft-focus video. And the emotional warmth that listeners experience is as much an artifact of the comfort of the familiar as it is a result of whatever they are imbibing while they listen.

COMIC SCENARIO

Imagine leaping forward 50 years or so. Will music lovers still cling to the technology of the past in the way we do today? Will they regard electro-mechanical reproduction of music as a brilliant expression of the late machine age, or as the embodiment of quaintness rather akin to the way in which we might look at an Edison cylinder player in a museum? Will antique iPads and smartphones be revered for their primitive soulfulness?

That may seem merely a comic scenario, but it's one entirely within the realm of probability. It is impossible to predict, but what *is* certain is that being rooted in the present gives us both an unclear picture of the past and an even murkier view of the future. ☹

'Will iPads and smartphones be revered for soulfulness?'

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Andrew Everard has reviewed consumer electronics for over 30 years and is still effortlessly enthusiastic about new developments, discovering new kit – and music

Whose lifestyle is it, anyway?

As hi-fi manufacturers increasingly embrace the ‘show apartment’ look, are we losing sight of the idea of just sitting down and listening to music? **Andrew Everard** shares his thoughts...

For decades, the dream of most audiophiles has been a listening space all of their own: whether a music room, a den or (excuse the outmoded gender stereotyping) what used to be known as ‘Dad’s room’. Now I admit that, for me, things are slightly different, in that I need a space in which to work, but a room in which to listen was a priority when buying a house, and I daresay it will be so again should I move.

Yet look around at the images put out by many manufacturers of audio equipment, and you’ll be assailed by pictures of their latest products placed in the most incongruous of locations, from speakers in front of huge plate glass windows on wood or stone floors to source and amplification components sitting on designer sideboards or shelves.

All too often whatever is being launched is somewhere in the middle distance, sometimes half-observed by an aching stylish floor-lamp, and with the foreground dominated by furniture and various pieces of ethnic knick-knackery.

CLEAN SWEEP

Speakers are shown with no sign of the electronics required to drive them, and vice versa, and we’ve all seen set-ups on solid floors, with not a sniff of any cables hooking everything up, nor any apparent means by which this might be achieved without destroying the minimalist look. OK, so there’s a degree of artistic licence involved, of course, but less acceptable is the illustration of systems placed in a manner that even the newest hi-fi enthusiast will realise is going to sound less than ideal (for which read ‘awful’).

I understand that the audio industry is endeavouring to find new markets and new listeners – after all, I am forever reading news about products being

RIGHT: Speakers with no electronics to drive them, sit upon a sideboard barely sturdy enough to support them in a room with huge windows to add unwanted reflections – welcome to hi-fi designer-style



launched exclusively through luxury stores, manufacturers choosing to open ‘boutique’ outlets in premium locations, and installations in luxury hotels, property developments and the like.

AUDIO ADD-ON

But all this leaves somewhat high and dry the dwindling number of traditional hi-fi retailers who have supported, sold and installed systems over the years, and for a long time were the go-to outlets for those of us seeking to build or improve our hi-fi systems. Even worse, I’d suggest that far from providing an aspirational view of

systems for those of us living in the real world, it creates an image that a good hi-fi system is elitist at best, and at worst just another add-on for the swish home that has everything.

Of course, there’s always been an

opportunity for the hi-fi industry to exploit the upper end of the housing market. In the days before home Wi-Fi networks made multiroom audio a feasible DIY prospect, some enterprising retailers had a good business either retrofitting homes with all the ‘plumbing’ needed for whole-house audio, or equipping houses at the build or restoration phase.

Neither am I making a case for a hairshirt approach in which the only place to listen is an acoustically-treated box liberally scattered with absorption, diffusers and bass traps, containing nothing more than a seemingly random jumble of boxes, monstrous ‘monkey coffin’ speakers and cables like elephant’s trunks snaking all over the floor.

Even my own listening/working room is compromised by having to double as a living space when I’m not working. However, I think that helps, in that at least my system is set up as all but the most fortunate of users will have it – as part of the home.

VICIOUS CIRCLE

Trouble is, this whole ‘lifestyle’ thing can become a vicious circle: products are marketed for an idealised – for most of us – way of living, about as real as a housebuilder’s show-home, and in turn the pressure grows for the products to become more stylish, almost inevitably bringing performance compromises.

I’m all for any effort to bring more users into the fold, but I’d be much more optimistic if there was more effort put into convincing potential buyers that it’s relatively simple and affordable to build great systems capable of delivering fine sound, rather than the designer fantasies of interior stylists. ☺

‘It creates an image that a good hi-fi system is elitist’



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

Green for go?

Changing his lightbulbs for energy-saving ones, but concerned over their possible effects on audio replay, has **Jim Lesurf** pondering how the ways in which we listen to music are 'green'

During the last couple of weeks the simple task of looking for some replacement light bulbs has made me realise the extent to which 'sustainability' is now changing how things are done. For a few years now I've tended to buy the 'compact fluorescent' bulbs. But they now seem to be being displaced by costlier 'LED' types which are even more efficient – or at least are said to be by their manufacturers.

More relevant to us, I've seen warnings that the 'LED' bulbs generate a lot of mains-borne interference that can degrade the behaviour of audio equipment, so I have tried them with some slight hesitation. But the fluorescent types also prompted similar warnings when they came onto the scene. And in both cases now, I can happily report that neither type seems so far to have affected the audio systems that I use.

ACROSS THE BOARD

That said, I should add that almost all my audio equipment is fed mains via mains distribution boards that include a decent RF filter. And, as an engineer, I keep a ready stock of filters, ferrite clamps, etc, ready just in case. So although the LED bulbs I've used so far seem fine, I can't be certain that others might cause a problem.

For some decades now I've tended to buy mains distribution boards from standard commercial suppliers, initially from places like RS (RadioSpares), or Maplin, and latterly from ones like Farnell or CPC. However, the first such board was one I made myself to ensure it included some very effective (even overkill) filters.

But when I looked more recently I found that almost all the boards from general suppliers now seem to lack a genuine filter. Instead they just provide a cheap-and-cheerful 'surge/spike



ABOVE: There was no shortage of lights and knobs on the Sansui 5000A from 1969, which employed no fewer than a dozen 6V incandescent bulbs to illuminate the dial and displays

suppressor'. These do tend to protect equipment like computers from 'spikes', but they aren't generally much good as general RF interference filters for your mains supply. They aren't a real substitute. Going to even more efficient lights at home might be commendable but then I began thinking about another aspect of our hobby. In terms of being 'green', which is better: buying and using audio CDs, or streaming our music? It is difficult to come to a definitive conclusion here

'But which is greener: buying CDs or streaming?'

because we don't really know all the factors. Ideally, once a CD has been made it can be kept and played, ahem, 'for ever'. You just supply the power for the player and the DAC, and feed its output to the rest of your hi-fi system. Later

on, your unwanted CDs can be passed on and used by someone else in the same way. Ultimately, should they fail to work satisfactorily, they might end up in landfill or need disposing of in some other way.

Streaming or playing a file avoids the need to make a disc, put it in a plastic box, send it to a retailer or online customer, and so on. But streaming tends to require added energy consumption

per play, eg, for the distant servers of the 'cloud' to supply the data, and to carry the info from there to your device.

How that compares with the difference between using LED or compact fluorescent light bulbs, I don't know. Indeed, does anyone? It seems likely that ye *olde* audio equipment that used tiny incandescent lamps to light up, say, the scale on tuners, such as the Yamaha CT-7000 [*HFN* Aug '12] and Sansui 5000A [*HFN* Feb '16], required more power for this than do the LEDs on modern displays.

And a modern LED should, if run well within its rating, last a lot longer than the old incandescent bulb. But it may be harder to replace when it does fail. By such a time the entire unit could well have become obsolete anyway.

MAKING THE CHOICE

I recall once being stung by a (non-audio) product which failed after just a few years. The makers refused to repair it, and they would not supply special parts. So my only choice was to buy something else as a complete replacement. Given that manufacturer's behaviour, I bought from another company of course.

But as with our energy-use speculations, it can so often be hard to make the right initial decisions. ☺



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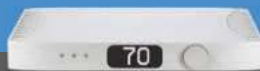
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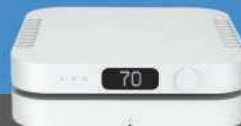
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Steve Harris Contributing Editor

Steve Harris edited *Hi-Fi News* between 1986 and 2005. He loves jazz, blues music, vinyl and vintage hi-fi and anything that makes good music come to life

It's OK to copy

The record industry's attempts to prevent people copying music onto cassette ultimately proved futile, says **Steve Harris**, but now comes a new take on the '80s technology – with a twist

Still battling to combat copyright theft, the record industry's trade body the BPI (British Phonographic Industry) provides its own bespoke software and automated crawling tools to search for member companies' repertoire on the Internet. When any copyright infringement is detected, a notice is sent straight to Google to have the search giant remove access to it.

A far cry, this, from the still-analogue world of 1981, when the Compact Cassette was at a peak of popularity, and Amstrad launched a double-cassette deck tower system that made copying music tapes quick and easy. All the BPI could do then, as a reader's letter recently reminded us [*HFN* Jan '20], was to launch a propaganda campaign with the slogan 'Home Taping Is Killing Music'.

BLANK INVITATION

Unfortunately for the BPI, Island Records had already come up with its One Plus One series. Here albums were presented on a chrome C90 cassette and buyers were encouraged to use the second side of the tape to make their own recording.

Post-punk and alternative bands actively promoted home taping, while the slogan itself was parodied as 'Home Taping Is Skill In Music'. In America, the Dead Kennedys' *In God We Trust, Inc.* cassette EP carried the message 'Home taping is killing record industry profits! We left this side blank so you can help'.

And the BPI failed to persuade the British government to impose a tax levy on blank cassettes, although other European countries had done so. Later, CBS lost its UK action against Amstrad when the court ruled that it wasn't illegal to offer a double-cassette deck, even though consumers could choose to use the machine for illegal copying.

RIGHT: Nostalgic about your old Walkman? Hong Kong studio NINM has come up with an updated cassette player – and it's available in three shades of semi-transparent plastic!



Then the fuss died down as the Compact Disc began to revive the record industry. But the cassette, the first truly mass-market home recording medium, co-existed with CD for many more years.

At first, CD couldn't compete with cassette for listening on the move, while running or exercising. Sony and Matsushita had to put a lot of effort into to making their personal CD players 'jog-proof', before solid-state music players came along and made everything else obsolete – at least in the gym.

But if you're nostalgic about the 1980s and the joys of the original Walkman, there's a new cassette player that might fit the bill. The IT'S OK Bluetooth 5.0 cassette

player is the third crowd-funded project of Hong Kong-based design studio NINM Lab [www.ninmlab.com], which sets out to give a young twist to old technologies. With the catchline 'If you're romantic enough...', this was originally promised for December 2019, but as I write it's still offered only on a pre-order basis for HK\$688, or about £67.

NINM Lab's first offering was a camera accessory called Instant Magny 35, an instant-picture back to fit traditional Nikon, Canon, Olympus or Leica cameras, using Fuji Instax Square film.

'The offering of a double-cassette deck wasn't illegal'

After this NINM came up with the I'm Fine single-use camera, costing a bit more than the standard disposables from Fuji and Kodak, loaded with slower-than-usual ISO 200 colour negative film for 'meticulous images' and designed to look good as 'a decoration on your desk'.

MUSIC HEALS

So NINM is clearly about style and youthful emotion, rather than technical performance. Here's part of the blurb for the cassette player. 'IT'S OK, only music can heal me. With the cassettes of the '80s, the most simple, direct and lightweight music device responds to your inner thoughts. There's nothing better than having the ability to choose your own music on hand.'

Just as NINM's Magny adapter lets you pose with a 'real' camera but still pull out instant pictures, the IT'S OK player combines the retro fascination of the cassette with the modern convenience of wireless listening via Bluetooth (which won't appeal, of course, if you're a diehard who wants a pure analogue experience.) It does have a wired headphone socket too.

Unlike the basic Walkmans of the 1980s, the IT'S OK can record, and there's a suitably colourful C60 cassette to match. But you are meant to use this for sending charming audio messages to your friends – *not* for copying music! ☺

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Reviewed: August 2019 issue

As its name suggests the Icon Audio 40MkIV is capable of producing 40 Watts of power from its KT88 valves – although pushed hard we managed 50 Watts. There's also three feedback settings (high, low and zero) and the ability to run it in ultralinear or triode mode, as well as fixed bias. So there's wide room for experiment here, including the rare zero feedback option. It means users can find the set-up that suits them best.

And what a sound it is! Used with our Martin Logan electrostatics it was both vividly dynamic and spacious. The output transformers give clean powerful bass – a world away from the occasional softness of some other valve amplifiers. With its huge soundstage and thunderous dynamics the Icon Audio is a long way away from valve amplifiers of yore. Truly a modern classic.



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JANUARY 2020 HI-FI WORLD

YOUR VIEWS

Sound Off!

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NEW PICK-UP FOR £600 SEEKING ALTERNATIVES TO DISCONTINUED MC

I need to replace my Dynavector DV-20XL MC cartridge, but this model has now been discontinued. While researching a number of likely alternatives I came across the Hana SL. This is a low-output moving-coil cartridge (a high-output option is available too), which is made by the Excel Sound Corporation in Japan. It costs just under £600 and has been featured in a number of *HFN* show reports, the last being the 2018 Hong Kong AV Expo [*HFN* Sep '18].

Before I bite the bullet, are there any other MCs around this price point I should consider? The rest of my system comprises a Linn Majik LP12 turntable package with the original Majik tonearm now replaced by an SME V, a Trichord Dino Mk3 phono stage, Marantz 6006 UK edition amplifier and a pair of B&W 602 loudspeakers.

George Height, via email

Adam Smith replies: The Hana range appeared a few years back. If what I've heard at shows is anything to go by, then, subjectively at least, they pack



ABOVE: The Hana SL MC pick-up has an aluminium cantilever and Shibata stylus



ABOVE: An MC cartridge to consider is the £599 Audio-Technica AT-33PTG/II

a sonic punch far greater than their reasonable price tags might suggest. The SL is the top low-output model in a three-strong series and features a Shibata stylus. However, with £600 to spend and given that you have an SME V arm, there are one or two other worthy contenders you should try to audition around this price.

A reliable option is the Ortofon Quintet Black S which, at £679, is a little dearer but well worth considering. It majors on detail but without ever sounding harsh and this provides an interesting counterpoint to the Hana SL, which is somewhat smoother and more laid-back in its presentation. Another hearty recommendation is the £599 Audio-Technica AT-33PTG/II which sits between the two sonically. It's a slightly older design but is still more than capable and also matches very well with the SME V.

However, I think my personal choice at the price would be the £570 Audio-Technica AT-OC9XSH [*HFN* Aug '19]. Recent changes to this evergreen design and the development of the single original model into a range have really bought the iconic 'OC9 up to date. Not only has the punchy bass of the original been retained, along with the detailed midrange, but it now has a clarity up top that's hard to beat for the money.

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Wire fraud?

PUZZLED BY PREMIUM AMPS WITH BASIC CABLING

While I enjoy the 'lid-off' shots of components that accompany your equipment reviews, I am often bemused by the apparent quality of the internal cabling used by manufacturers. I have seen high-end amps with substantial build and excellent specs, wired internally by bog-standard cable with press-on connectors at the speaker outputs. What a waste of all that lovely juice!

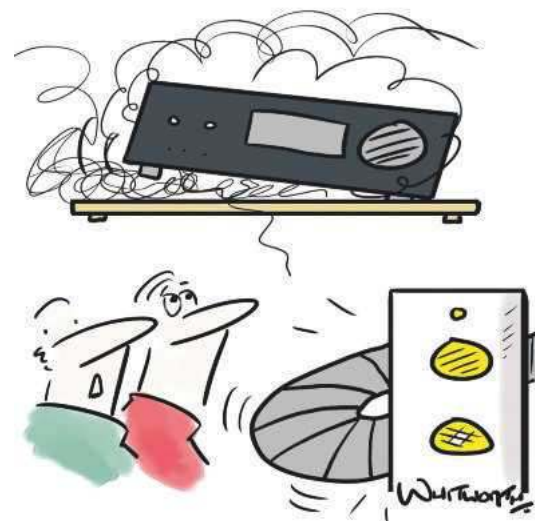
More to the point, what is the point in spending 10% to 15% of a product's cost on interconnects and speaker cables, as is often recommended, when the cabling used inside is so basic? Am I missing something here?

Ashley Trafford, via email

Paul Miller replies: Well spotted, Ashley! While it is not uncommon for loudspeaker manufacturers to specify a particular brand of internal cabling this is almost unknown within the electronics sector of the hi-fi industry. Due to the physical properties of most hi-fi interconnects and speaker cable it is almost impossible to utilise them as inter-PCB wiring, although there is no excuse not to use a decent gauge cable between an amplifier's output stage and its 4mm speaker terminals. Some big amps may use solid metal for this [p41, *HFN* Dec '19] but the exemplar of the neat 'wire loom' is Naim Audio [p39, *HFN* Apr '19].

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OUR HI-FI WORLD THROUGH THE EYES OF WHITWORTH



"I'M BEGINNING TO SUSPECT THE SPEAKERS USE A DIFFERENT THICKNESS OF CABLE THAN MY AMP."

Pursuit of vocal realism

CLASSICAL, JAZZ AND THE USE OF 'ELECTRONIC ENHANCEMENTS' PERFORMING LIVE

Just a few words in response to Barry Fox's Opinion piece in which he wrote about hearing music as naturally as possible [HFN Jan '20]. The years of study a classical singer undergoes involves learning how to produce enough quality, articulation and volume from the voice – from soft to loud – so as to make the use of a microphone unnecessary. You could, of course, also apply this to any similar classical instrumentalist.

However, the performance of any popular form of vocalisation has historically been dependent on some form of electronic enhancement. As Barry went on to point out with regards to soprano Hannah Davey, who used a mic to sing 'Someone To Watch Over Me' at Wigmore Hall. It's simply the reality of two very different styles requiring very different forms of production and reproduction.

John Oakman, via email

Barry Fox replies: While I agree that different styles of music call for different



ABOVE: No need for a mic? Classical soprano and jazz singer Hannah Davey

approaches I wince when I hear opera singers, with enough vibrato to sink a battleship, belting out pop, rock or swing. Or Yehudi Menuhin thinking he could play jazz violin. What bugged me about the Wigmore Hall event in particular was that the vocalist, Hannah Davey, appeared perfectly capable of singing in style, and the Wigmore amping (probably intended mainly for speech or fire drill) just spoilt her voice. The Cadogan event I mentioned showed how to do things right.

As a matter of fact

HOW FALSE INFORMATION ABOUT HI-FI SPREADS ACROSS THE NET

Today, a considerable amount of information can easily be derived from sources on the Internet. Over time, sources may change this information. However, what if today's primary online source is incorrect in the first place or has incorporated a secondary, incorrect source of information into its website?

I won't name the sources here, but I have found many that offer information about hi-fi products that is simply wrong. Indeed, one pedigree British hi-fi manufacturer endorses spurious information from a secondary source by quoting it on its own website. This is then found repeated on the sites of some hi-fi retailers, online forums, blog posts and equipment reviews.

If only people would think about the information they have accessed before repeating it on their own domains, then we might put an end to this mirroring and distortion of the

truth. It's all too easy to assume that all information on the Internet must be true and in doing so abandon our critical faculties. Please, UK, don't regurgitate what you read online. Find the original source of information and double-check it. Or find an original source that has a track record in publishing trusted information.

David Armour-Chelu, via email

Paul Miller replies: Don't get me started on this, David! What you describe extends from product tests reprinting arbitrary measurements from the manufacturer's website (they should simply provide a link back to the source), to 'reviews' derived from a fleeting glance at a show, right through to online 'news' stories that still contain all the grammatical and technical errors of the original press release – all in the fevered haste to be picked up first by Google. At *Hi-Fi News* we assume nothing, guess nothing and independently research and test everything.

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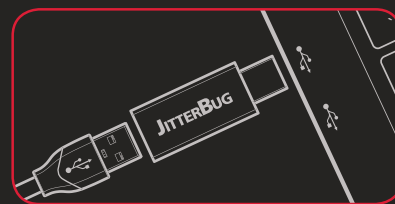
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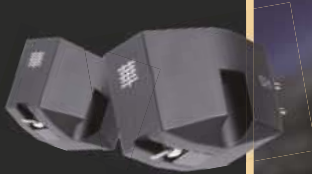
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HI>FI+ ISSUE 172 REVIEW, HANA ML/MH



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Playing by numbers

WHAT SHOULD I BE LOOKING FOR IN THE MUSIC FILES I DOWNLOAD?

I have a Linn Majik DSM music streamer, a Linn LP12 turntable and a pair of Kudos Cardea C20 loudspeakers [*HFN* Nov '09], which I believe to be the best speakers I have ever owned. I also have a Philips CD960 CD player which sounds almost as good as my LP12. With 3000 LPs and 150 CDs in my collection I am very happy with the smooth, clear, detailed and highly musical sound that both my turntable and CD player give me. I have had years of happy times listening and being 'involved' in the world of wonderful music.

So, I thought I would try this streaming stuff. I bought a server and downloaded a large number of digital albums. Clear-sounding, yes, but hard and brittle too. And I always seem to be always adjusting the volume, inevitably turning it down. I call it headache music.

I then turn on my old Rogers T75 FM tuner and ah... all is well with the world once more. Depth, a wide soundstage, clarity, warmth and I am drawn into the music. I turn it up, I listen, and I want more. So I put a record on the turntable and I'm off in a world of exploration and discovery. Then I look at the time!



ABOVE: The two-way, reflex-loaded C20 floorstander from British company Kudos



ABOVE: Part 1 of Andrew Everard's guide to computer audio from *HFN* Aug '16

So, what I am doing wrong with this streaming stuff? I don't understand the numbers: 44.1kHz, FLAC, DSF, MP4A, DSD128.... What do I need to see at the end of a file to tell me I have a good quality download, one that's not 'headache music'. Or am I just a dinosaur? I can take it, be honest, I have plenty to listen to if you tell me downloads are not for me.

Steve Darbin, via email

Andrew Everard replies: This is a subject we've been dealing with for many years, so a recap of our Investigation piece [*HFN* Aug/Sep '16] might be useful. Perhaps the issue has as much to do with the nature of the files you're downloading (which I assume are at least of CD quality – ie, at 44.1kHz/16-bit or greater).

With respect, your current sources – turntable, CD player and tuner – are on the warm and smooth side of neutral, so it could just be that you are hearing more of what the recordings have to offer, for example in the extended dynamic range you're experiencing with digital files.

What should you be looking for in the files you download? Well, either WAV (.wav) or FLAC (.flac) files as a minimum, as these are lossless, and beyond that the bit-depth and sampling rate will give you an idea of the amount of data involved. *HFN* also tests a number of hi-res files every month [see p94].

However, if you can't get on with downloads, and prefer to stick to your existing sources, you'll get no argument from me. After all, it's your system, and being able to enjoy it is paramount.

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The word is out: DigitalAudioReview.net's John Darko calls DragonFly Red and Black "the finest examples of everyman hifi to ever grace these pages. Their value quotients explode the dial!"

Let the joyful experience begin!

audioquest

Open-reel, FM and DAB

READERS SHARE THOUGHTS ON THE PROS AND CONS OF PAST AND PRESENT FORMATS

I would not be surprised to find that open-reel outperforms other formats, as Ken Kessler stated in his Investigation feature in which he looked at whether a renewal of interest in reel-to-reel is taking place [*HFN* Dec '19]. I have always found significant differences between formats rather than within them.

However, I found Ken's piece to be unconvincing. The faithfulness of tape's signal to the original is given as a reason for its superiority, but this assumes that superior equalisation be accepted as fact. And as for proof based on authority, there may be many 'golden eared' professionals who have returned to open-reel. But as trained as their ears may be, they are otherwise the same as those of the bloke down the cycle shop.

C Purcell, via email

It's heart-warming to see the impact of Ken Kessler's championing of open-reel. I recall my own epiphany at a hi-fi show where Graham Audio was playing tapes on a Nagra professional machine through a pair of its LS5/9 loudspeakers. The sound was captivating.

I'm writing to suggest a reappraisal of another 20th century medium: FM radio. Truly anachronistic in an age of streaming, I hear you say, and anyway the BBC squishes everything through Optimod, re-digitises it on the way to the masts, and it's bandwidth-limited because of the carrier frequency.

So, apart from the fact that I can listen to music on FM without gaps, I can't really understand why I find FM so enjoyable. I have an aged, early NAT01 tuner, refurbished by Naim, to which I can listen all day – well, almost. With



ABOVE: Graham Audio uses a professional Nagra T open-reel recorder to demonstrate its LS5/9 speakers at the 2014 Bristol Sound & Vision show. The two power amplifiers are from Pass Labs

big orchestral stuff, you can hear the Optimod, but small groups of musicians live from the studio have a realism and presence that I don't experience with any other media. It doesn't buffer, or go down with my Internet connection, and I find DAB to be dreadful by comparison. Is anyone else enjoying the same experience, or does this simply reveal the age of my ears?

Finally, I can't write after all these years of reading Ken's polemics without recounting that he's known affectionately in my household as 'Buddocks'. This dates back to visits to a hi-fi retailer in Burgate, where I would find Ken inveigling customers who walked in with 'Linn tattooed on their buddocks'.

Charlie Haswell, via email

Ken Kessler replies: Whatever the science or the numbers say, I can only vote with my

ears; ditto for FM over DAB. In every case so far, the pre-recorded open-reel tape (US or Japanese, not UK) has bettered the LP so markedly that I am lost for words. I can only point out the reasons so many times: fewer stages between master tape and commercial tape, less-severe EQ (NAB vs RIAA) and of a different nature, vastly superior bass, etc.

After mastering god Bob Ludwig, tape/tube deity Tim de Paravicini and others of that level of expertise – hardly blokes from the cycle shop – explained it to me in words of one syllable, I remain committed – enough to have acquired seven decks and over 1000 tapes. Mr Purcell begs to differ – OK, he hasn't heard what I have. Me? I'm having 'Revox' tattooed on my buddocks.

Jim Lesurf replies: FM tends to have traditional 'analogue' problems such as levels of distortion that rise with the level of the music – particularly any high-frequency L-R 'difference' content. On the other hand, DAB tries to 'cheat' its way along by discarding details it hopes you won't miss. To some extent, these types of behaviour rely on human hearing having its own 'defects' that can sometimes mask these problems.

Since FM has a lower available dynamic range, the peak level compression applied on BBC Radio 3 may tend to make the FM 'warmer' than DAB. And this can be preferable even to a clean feed once you are used to it! But as per above, there are so many factors that all we can do is judge which result we prefer. Although admittedly, in my case, it is to use the iPlayer streams and dodge the bullet of FM versus DAB.



ABOVE: The original 'chrome bumper' Naim Audio NAT01 FM tuner with outboard power supply (right). 'Olive' models were supplied in casework matching that of the later Naim amplifiers

More idler talk...

PLINTHS, PADS AND PLATTERS AS READER DETAILS GARRARD MODS

I enjoyed the letter in the January issue from Alan Ericsson in which he detailed the restoration and modification of his Garrard 401 turntable. I have owned my 401 since the early 1970s from new, when I was in my early 20s – I am now 69! It has been the only turntable I have used in my audio system. It was the classic combination of 401 and SME 3009 arm with Shure V15 cartridge in a Howland West HW1 plinth. In fact, I still use the smoked Perspex cover with my current slate plinth.

Like all pastimes, fashions come and go. When I wanted to change the tonearm in the early '80s, going into various dealers became a terrifying experience as when asked what turntable I used, I was laughed at as I mumbled it was a Garrard 401. Well, they're not laughing now!

The Garrard manual suggests a wooden motor board (not good in my opinion) or a substantial metal plate. My local 401 specialist dealer can supply a flame-cut, lin-thick metal plate for both 301 and 401 decks. My 401 is mounted in a slate skeletal plinth and sits on a custom-made Target turntable wall shelf. This was made by Slateage [www.slateage.com/hifi] and cut especially to accommodate my SME V tonearm.

The only modification to my 401 was to the thrust pad. This was done by Martin Bastin, whom

I unreservedly recommend. I also use a Ringmat MRA platter mat system which is, in my opinion, far superior to the original Garrard mat. If users of the 401 follow the maintenance instructions as laid down in the manual, the 401 will give another 50 years of listening pleasure.

Mike Bickley, via email

Adam Smith replies: It's lovely to hear the stories of the pleasure that these 'old-time' turntables are bringing to people. My Garrard 301 is also something of a family heirloom since it was bought new by my uncle in 1964 – he wanted a 401 but the new deck was selling fast and his dealer offered him a good deal on one of the last 301s it had in stock. He already had a plinth made for the 401, which had to be modified with a sheet of 'wood effect' plastic to fit the 301 instead!

Originally my uncle partnered his 301 with an EMI EPU-100 tonearm and pick-up, which he upgraded to an SME 3009 and Shure M75ED in the 1970s. The turntable has been my pride and joy since he switched to CDs in the mid '80s and now resides in a hefty marine-ply plinth with an Alphason HR-100S arm. Martin Bastin has also worked his magic on the deck's bearing and I, too, can heartily recommend his work. As to your final comment – I completely agree. In these days of disposable everything, I reckon the likes of you and I are at the forefront of 'reduce, reuse, recycle'!



ABOVE: Reader Alan Ericsson's refurbished and modified Garrard 401 turntable which sports a granite stone upper plinth supported on a lower plinth of 40mm-thick MDF



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Photo: [Image of vintage audio equipment]

Photo: [Image of vintage audio equipment]

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Photo: [Image of Luxman CL-1000 preamplifier]

Photo: [Image of Sonus faber speaker]

Sumiko Starling

Photo: [Image of Sumiko Starling record]

Photo: [Image of Sumiko Starling record]

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Sony PS-FL7 turntable

It was a deck designed to keep vinyl replay relevant in a market attracted to the convenience of CD. Did it succeed and, more importantly, how does it sound today?

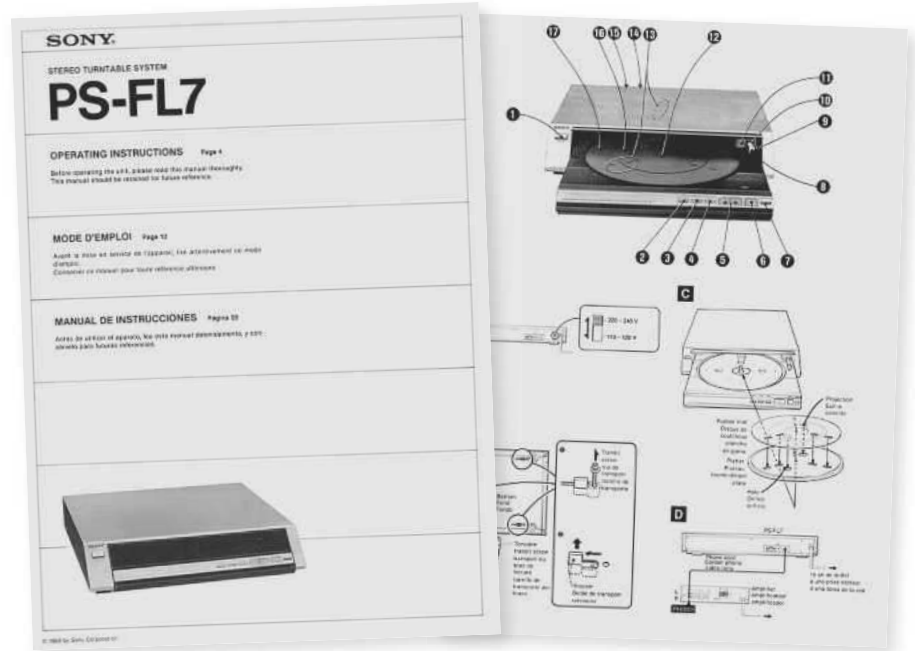
Review: **Tim Jarman** Lab: **Paul Miller**

One challenge faced by those designing hi-fi in the high-tech 1980s was how to re-package the LP in a way that would ensure it remained of interest to consumers in a future that was clearly going digital. Released in late 1979, the Technics SL-10 turntable [*HFN* Apr '19], with its parallel tracking, optical position sensing and slick packaging was one of the first components to address this issue seriously.

When it came to cutting-edge audio products at this time, one could be sure Sony was never going to be far behind and the company's PS-FL7 we have here was another attempt to keep turntable sales going as Compact Disc increased its grip on the market. And at a glance, it doesn't look much like a turntable at all.

BOTTOM DRAWER

Unlike many of the other large Japanese manufacturers, Sony did not rush to produce a 12x12in turntable to compete with the SL-10. Its contemporary offerings in this field were limited to the PS-Q3 and PS-Q7 miniatures, square but only just over 20cm wide and deep. However, these ultra-compact designs did not preclude the company from producing a full-sized modern vision for the LP format. Of all the manufacturers involved in the fight for market share, Sony was perhaps the most



ABOVE: Released in 1985, the PS-FL7 turntable was available in both black and silver finishes, the latter being shown on the cover and inside the clear and comprehensive instruction manual

acutely aware of the impending arrival of CD and the way it would change consumer expectations when it came to automation, ease of use and the general appearance of all types of audio equipment.

Never an organisation to produce a derivative product, Sony came up with

a series of drawer-loading turntables to tempt those with large collections of records as the Compact Disc era dawned. Although bulkier than the SL-10, these new models allowed a greater freedom of placement since other equipment could be stacked on top of them.

MOTOR SKILLS

Given that a full 1980s hi-fi stack may well have comprised a reasonably powerful amplifier, tuner, cassette deck containing two transports, graphic equaliser, timer and, of course, a CD player, Sony's drawer-loading turntables had to be built strongly, and they were. Moving the turntable to the bottom of the stack gave a fresh and obviously up-to-the-minute look to Sony's range, which was just what was needed in those style conscious times.

Released in 1985, the PS-FL7 is one of the later models in Sony's drawer-loading



LEFT: Open wide! The orange light next to the tonearm illuminates the grooves on the record to make finding a specific track easier



series. It may have been built for what would soon become a legacy format, but the technology inside could not have been more contemporary. The whole unit was controlled by a microprocessor with four motors under its command. Of these, one was a linear type, which was used for raising and lowering the arm. Two more were used for tracking and driving the plinth in and out of the cabinet, leaving just the BSL (brushless/slotless) direct-drive motor for the platter. This made full use of the new digital techniques developed for video recorders, the bulk of the circuit being contained in two chips sourced from Toshiba.

The servo system employed two 8-bit DACs, one of which corrected the motor's speed and the other its phase. Both were locked to a quartz crystal reference and as well as being accurate, a key attribute of this system was that only a minimal amount of setting up was required during manufacture. Meanwhile, the PS-FL7's arm was notable for its exceptionally short pivot-to-stylus distance – just 75mm. A

'The tech inside could not have been more contemporary'

finely engineered gimbal pivot was used, mounted on a light and rigid carriage which allowed the pivot point to overhang the remainder of the record.

TWIN MODES

As for the cartridge, a standard T4P pick-up was specified, further enhancing the compactness of the arm assembly and allowing for simple upgrade and interchange if required. Finally, the plinth was cast in 'Sony Bulk Moulding Compound' (SBMC). This proprietary resin was used by Sony for all of its top turntables, including the PS-B80 [HFN Jul '12], TTS-8000 [HFN Sep '14] and PS-8750, and allowed complex shapes with the necessary acoustic properties to be formed with reasonable ease.

The PS-FL7 can be operated in two different modes. In fully automatic mode one opens the drawer, places the record on the platter and presses 'Play'. The record then disappears as the drawer retracts into the cabinet, its size being read by sensors that look up through holes in the platter.

ABOVE: Sleek-looking and compact, the PS-FL7 isn't obviously a turntable when the drawer is shut. Records can be played like this, or with the drawer open for fully manual operation

Playback then continues until the end, although manual arm lifting and cueing (both power operated) is possible. In this respect the PS-FL7 approaches CD players in its convenience and there is no chance of damaging the record once it is loaded.

Track selection is tricky though, despite there being a bright orange LED on the end of the arm to illuminate the record grooves near the stylus. The door is heavily tinted and the area of interest is a long way inside the interior gloom, making finding a specific track or section a hit and miss affair. One can choose the starting point by positioning the arm at any desired point, but when 'Play' is pressed the record is still difficult to see inside the machine.

The alternative is to use the deck in manual mode, which is engaged by using the arm transport buttons to position the arm anywhere one wishes. Playback then starts when the arm lifter button is pressed and the stylus drops onto the record. Used like this, the machine plays with the drawer open so most of the record remains visible. However, the drawer cannot be closed in manual mode and all automatic functions are disabled, including repeat mode and the lifting and returning of the arm once the end of the side has been reached.

SILENT AND CLEAN

Which is the better approach depends on what you want to do, but I found that I was happiest with the PS-FL7 working in the automatic 'play the whole side and forget about it' mode. Of course, all the controls work with the slick precision that one comes to expect from quality Japanese

LEFT: The Sony XL-250G cartridge with its T4P mount can be seen here, along with the holes in the platter mat for the record-size sensors



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VINTAGE HI-FI

RIGHT: With the deck's lid removed the arm pivot is revealed – it's just 75mm behind the stylus tip. The small PCB [centre] contains the IR emitters for the record-size sensing system

equipment of this era, and the way the deck is built makes it feel like it would go on working like this forever.

Despite its unusual appearance there are no difficulties in setting up the PS-FL7. There is no suspension of any sort that I could detect (not even the usual Japanese soft rubber feet) so placement requires some care, although the cabinet seems to be virtually dust-proof so the records stay clean during playback and one doesn't have to get up half way through a side to remove lumps of lint from the stylus.

There is no grounding cable for the arm but despite this, and the proximity of the arm wiring to many complex processes going on inside the machine, I could not hear an excess of hum or any other unusual noises through the amplifier as the records played. The main motor was silent and the arm servo unobtrusive – an improvement over that of the Technics SL-10 turntable with its distinctive 'bump-thump' noises which sometimes become noticeable during quiet musical passages.

TIM LISTENS

Given its unusual layout and construction, it isn't surprising to find that when it comes to sound quality the PS-FL7 cures some of the ills of a conventional turntable but in turn introduces a few of its own. For example, the very short arm seems capable of the sort of lively, largely uncoloured



sound that one normally associates with CD yet it's unusually sensitive to warped records. A traditional arm can usually handle warps without much audible effect, but in the Sony one can see the changes in the vertical tracking angle (VTA) of the cartridge as it rides over the humps. While I'm sure that no *HFN* reader allows their records to become warped (!) there inevitably comes a time when a not entirely flat disc has to be played, and in extreme cases a loss of tracking security was noted with this deck, the effect being increased distortion in the area of the warp.

With the Sony XL-250G cartridge supplied with our review sample I found the sound to be a little hard and bright for my taste, although the overall effect of this will depend to a great extent on the partnering system used. However, swapping the Sony cartridge for a moving-magnet Audio-Technica AT85EP produced a tonal balance with which I was much happier.

When used with reasonably flat records, this combination showed the PS-FL7 to be a decent performer which just seemed happy to play whatever was loaded into it in a matter of fact,

LEFT: Plan view shows the extent to which the drawer glides open before retreating inside the machine – just like a CD player. Sturdy casework allows for other components to be stacked on top

ungilded manner. 'Driver's Seat' from Sniff 'N' The Tears 1978 album *Fickle Heart* [Chiswick CWK 3002] sounded pleasingly upbeat when heard on the PS-FL7, with a most satisfying bite to the guitars that open the track. One could describe the sound as being like a TV picture with the contrast setting turned right up, strikingly vivid at the cost perhaps of some of the fine detail. For rock and some electronic music this is, of course, exactly what you want, although some may prefer a presentation that is a bit more relaxing.

RIGHT ON TRACK

Some classical pieces benefit from equipment having a bit of vim however, an example being Deutsche Grammophon's recording of Beethoven's Piano Concerto No 1, with Maurizio Pollini and the Vienna Philharmonic [DG 2532 103]. While there wasn't quite the space around the performers that top-flight linear-tracking turntables such as the Technics SL-10 and the B&O Beogram 4000 [*HFN* Jun '14] can provide, the performance from Sony's PS-FL7 was still an involving one.

One thing that did surprise me though was the occasional audible waver around a sustained piano note, something that one hears commonly enough with belt-driven turntables but is rarely heard with direct-drive designs [see PM's Lab Report, p 127]. Whether the extreme lightness of the PS-FL7's platter contributes to this I don't know, but it was an unexpected observation given that the turntable's basic speed accuracy was spot-on. In any case, it



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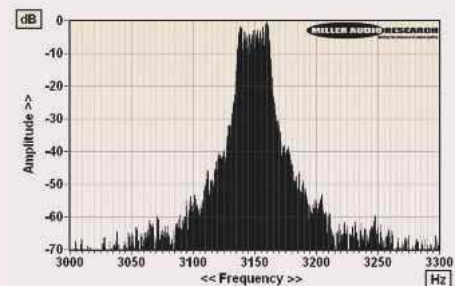


LAB REPORT

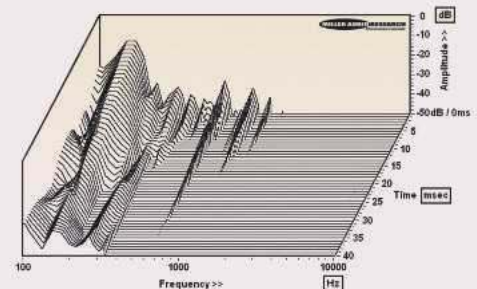
SONY PS-FL7 (Vintage)

Combining a direct-drive platter with a linear-tracking arm in one compact package, this mid-'80s vinyl-spinner was clearly aiming to address both technical and practical (user convenience) issues in one stroke. The BSL (brushless/slotless) motor brings the diecast platter up to speed within 2 seconds with, for the era, a very respectable -68dB DIN-B wtd through bearing/motor rumble. Moreover, the integral rubber mat affords some further isolation so that through-groove rumble is lower still at -70.6dB . These are good results, as is the absolute speed accuracy of -0.02% , although there is some very low-rate drift evident in the W&F spectrum [see Graph 1, below]. Below the range of typical W&F measurements, this sort of drift is typically associated with poorly executed DC motor/belt-drive decks, not a quartz-locked direct-drive, and contributes significantly to the $>0.3\%$ peak-wtd W&F. This may also be linked to a very strong peak at 2.2Hz detected in all the rumble spectra [not shown here], equivalent to -63dB re. $1\text{kHz}/5\text{cm}/\text{sec}$.

The 3.5in linear-tracking arm, its effective mass estimated at 4.5g , drops the stylus into the groove at a downforce of 1.4g , both figures appropriate for the high compliance XL-250G cartridge system that accompanied this deck. The arm fixing is inherently 'loose' so there is significant 'play' in both planes. Neither is there any significant damping – the cumulative spectral decay of the lightweight alloy box-section tube [Graph 2, below] highlighting a broad bending mode deferred to 160Hz with related resonances at 270Hz and 320Hz . The high-Q modes at 649Hz and 980Hz are short-lived, the arm's limited mass contributing to their quick decay. PM



ABOVE: Wow and flutter re. 3150Hz tone at $5\text{cm}/\text{sec}$ (plotted $\pm 150\text{Hz}$, 5Hz per minor division). Note drift



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



ABOVE: Captive phono leads exit adjacent to a (blue coloured) trigger socket that allows compatible Sony cassette decks to be synchronised with the PS-FL7's playback

was a pleasure to hear the complete *Allegro con brio* on side 1 with no degradation in tracking performance towards the centre of the disc (a virtue of the linear-tracking system).

In the final analysis, the PS-FL7 isn't really a match for the Technics SL-10 (or the later SL-7 for that matter), but I get the impression that it was never really meant to be. Seen as the simplest and safest way to listen through a side of an LP the design works with slick efficiency, although as ever with turntables of this type there is little for the hobbyist to do once it is set up, other than play records.

'For rock the sound is exactly what you want'

BUYING SECONDHAND

The PS-FL7 was one of the less common models in the Sony drawer-loading series but the following comments apply to many of the other versions too, some of which are still easy to find secondhand.

The Sony XL-250G cartridge has a replaceable stylus (type ND-250G) and even though Sony no longer makes it, pattern copies are available. The quality of these is quite variable though and you may have to try a couple before

you find one that approaches the performance of the original. The Audio-Technica AT85EP is a good replacement for the whole cartridge and even comes with a stylus optimised for linear-tracking designs.

The remainder of the turntable design is quite reliable although the belt that drives the arm carriage can stretch with age, meaning that the arm stub either moves sluggishly or not at all. The switches behind the control keys can also corrode inside, stopping some (or all) of the functions from being accessed by the user. As with the

belt, these parts are reached from underneath. In practice, most repair operations involve removing the bottom of the turntable's cabinet rather than the top.

Modern switches to a suitable pattern are still available so other than the amount of dismantling required this is not an especially difficult repair. As with all Sony turntables made from SBMC, be very careful when tightening any screws which seat into this material. It's easy to pull the threads out and make a component or assembly difficult to secure back in place. ☹

HI-FI NEWS VERDICT

It may be one of Sony's less well remembered endeavours, but this drawer-loading, linear-tracking turntable deserves another look. An attractive combination of advanced technology and high-quality engineering, it's certainly a different take on what a turntable can be. In fact, our review sample was mistaken for a CD player as it filled our 'vintage room' with music at the 2019 Hi-Fi Show *Live!*. Enough said?

Sound Quality: 70%



ABOVE: The PS-FL7 supports a stack of Sony electronics in this '80s system

HI-FI NEWS SPECIFICATIONS

Turntable speed error at 33.33rpm	33.33rpm (-0.02%)
Time to audible stabilisation	2sec
Peak Wow/Flutter	0.25% / 0.07%
Rumble (silent groove, DIN B wtd)	-70.6dB
Rumble (through bearing, DIN B wtd)	-68.0dB
Hum & Noise (unwtd, rel. to $5\text{cm}/\text{sec}$)	-62.8dB
Power Consumption	6W
Dimensions (WHD) / Weight	$430\times 96\times 382\text{mm}$ / 7.5kg

High caliber

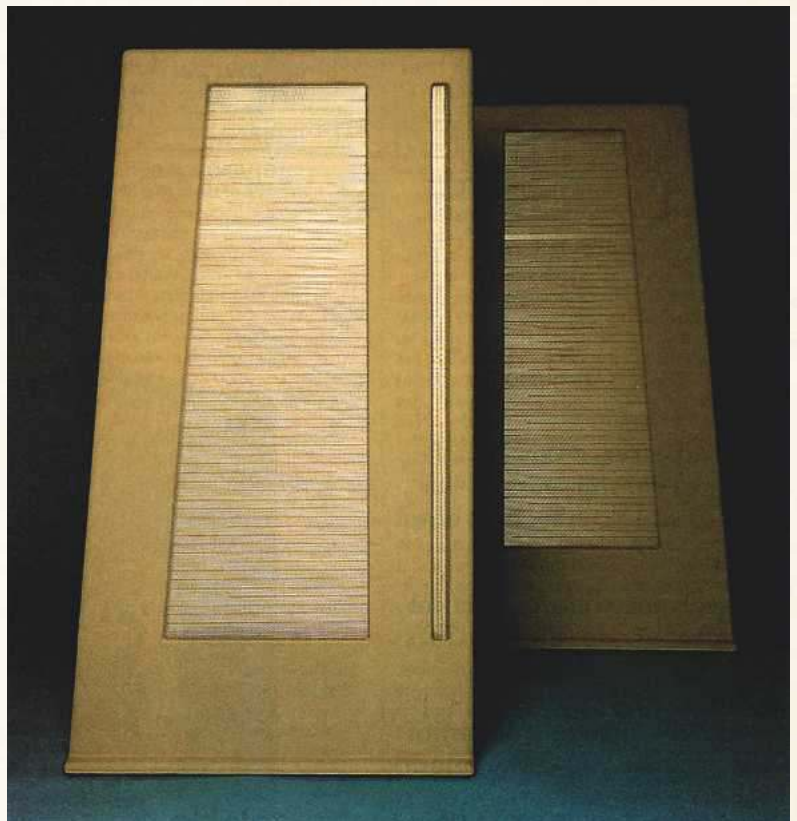
With the latest Apogee, ribbon technology comes in a more affordable package. **Ken Kessler's** assessment follows **Martin Colloms' review**

The US company Apogee has expanded its range of open-panel loudspeakers, which began with the Apogee model itself. This was a large-scale design using three separate diaphragms, with pure aluminium ribbons for frequencies above a few hundred Hertz. Three other models are now in production, comprising, in descending order of size and price, the Scintilla [*HFV* Sep '85], Duetta, and now the so-called 'baby' of the group, the £2500 Caliper.

KAPTON KIDS

Some baby this, for each speaker weighs a substantial 35kg and ideally two persons are required to manhandle it out of its package and install the feet. Once set up, you are not going to move it very often!

Given that the big Apogee is priced at close to £10,000, the Scintilla at the £5000 level, with



ABOVE: The Caliper was Apogee's first 'small' full range two-way ribbon speaker

the simpler Duetta at £3000, the Caliper, some hundreds of pounds cheaper, finds itself in competition with two other US models: the Magneplanar 11 and MartinLogan CLS. It's hard to think of a direct UK equivalent, though the KEF R107 and Celestion System 6000 are both roughly in this territory, as of course is the active Linn Isobarik.

The Caliper and Duetta (as the latter's name implies) are two-way speakers whereas the larger models are both three-way. Finally, the bigger speakers both use pure aluminium ribbons, but the individual ribbon conductor of the Duetta and Caliper are attached to a larger and heavier Kapton foil film substrate, comprising a plastic that's resistant to high temperature.

While I have no reservations concerning the subjective acoustic transparency of the pure aluminium ribbon, I have yet to be fully convinced by the metal/plastic

composite as used in the mid/treble section of both these more affordable Apogee models.

CRUISE CONTROL

The Scintilla was distinguished by its breathtaking inefficiency: 80-81dB/8ohm/1W in the 1ohm mode (the true power input is 8W for this output). The Duetta and Caliper are much improved in real terms in that a normal impedance is offered. That said, the voltage sensitivity is still low, at typically 80dB/1W for a 2.83V (8ohm-watt) input.

Rated as a 'budget' model by its makers, the Caliper is not, as was first rumoured, suitable for use with modest amplifiers. While 150W will gently floor the bass diaphragm on heavy rock bass, it sounds weak on powers up to 50W, and 150W/channel (8ohms rating) is really

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required to help it cruise. For the economy-minded, the Counterpoint SA12 II, also from the UK Apogee agent, Absolute Sounds, could be worth investigating, but at present my vote would probably go to the promising Musical Fidelity P270. Both these amplifier models offer the required power headroom.

All Apogee's loudspeakers employ a heavy open panel construction and hence are bi-directional, with a back-wave sound virtually as strong as that radiated from the front. Consequently, they need very careful placement, clear of reflective rear walls, and often give of their best situated one third of the way down a long room.

The contoured frame is constructed from MDF material, sprayed matt in either taupe (a light beige) or charcoal (a dark grey). The largest diaphragm covers the bass to lower-midrange and comprises a composite aluminium foil and Kapton film structure. It is horizontally pleated for stiffening, in order to resist bending modes about the vertical axis, which is the most likely form in view of its drive method and geometry.

Another Apogee feature is the semi-trapezoidal shape of both the complete panel and, more particularly, the woofer section. By strongly tapering one side, the higher mode rectangular panel resonances are largely dispersed. As with the larger Apogee models, the diaphragm is not integrally self-supporting. A special suspension is fitted, allowing for differential tuning of the fundamental resonance of the upper and lower sections of the radiating element, thus smoothing and extending the response.

BAR EXAM

Magnetic energisation comes from an array of large ferrite bar-magnets, aligned horizontally and covering the main central area, but not following the taper. At 93cm tall, the bass section tapers from 29cm wide at the base to 20cm at the top, and allowing for baffling the effective radiating area is 2000cm², with a fairly generous excursion of 7.6mm before severe overload. (Think of the output of three long-

throw 12in diameter moving-coil woofers per channel!) The drive current flows in a series of horizontal zig-zags directed by precision-cut slits in the diaphragm foil, achieving a sensible overall impedance.

SECOND DRIVER

As for the magnets, these are supported on a heavy steel backplate, extensively perforated to help reduce reflections. Given the gap spacing, any reflections that remain should be well above the operating range of the main diaphragm, whose output is rolling away by 1kHz (sound wavelength 30cm). Uniformly but single-sided driven over virtually its entire area, the bass element should be essentially free from breakup, which is a weakness of most designs that are driven from a single point, eg, the voice coils of cone loudspeakers.

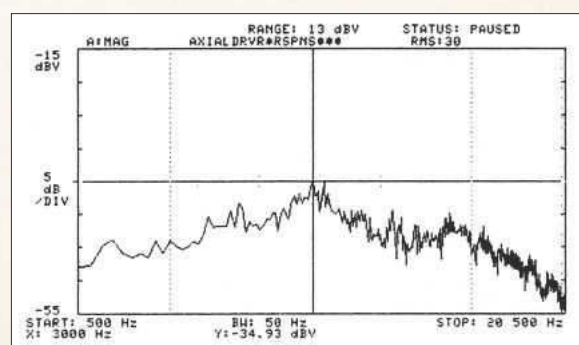
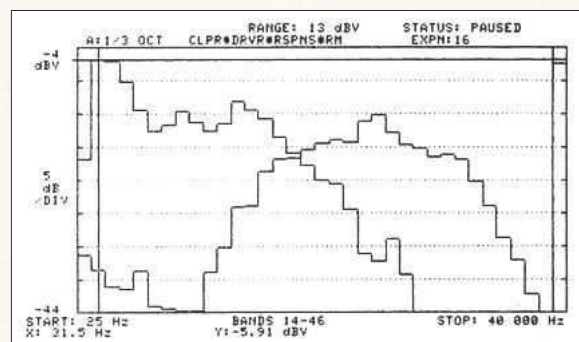
The second driver, covering the mid/treble, is a Kapton film element approximately 30mm wide by 94cm high, fitted with a foam wedge at the rear to angle the resulting two elements slightly in order to alleviate directionality in the vertical plane. The ribbon is tensioned in a deep vertical slot flanked by open bar-magnets extending the full

'It's a "budget" model, but not suitable for modest amps'

BELOW: Brochure from 1989 shows Caliper Signature. The Caliper could be upgraded to Signature spec



BELOW: Graph 1 shows responses (via crossover) of separate LF and HF sections, plotted in third-octave bands while Graph 2 (bottom of page) shows narrow-band response of the HF panel. Note the broad peaks centred on 3kHz and broad roll-off above 10kHz



height of the speaker. Three parallel aluminium strips carry the current, one approximately 6mm wide and the other two 5mm each.

The system comes bi-wired with separated terminals for LF and

HF sections, but shorting straps are supplied for easy setting to a normal single terminal pair. The crossover is very simple, of low-loss design and using the highest quality components, including banks of polypropylene capacitors for the treble section. The slopes are 6dB/octave, and given the time-aligned nature of the system, considerable driver overlap occurs and is indeed encouraged to fill out the response.

Finally, two small dome feet are fitted to the panel front, and the assembly is stabilised by a small, fabricated alloy strut at the rear, carrying an adjustable foot to aid levelling. Given its overall weight, the Caliper is fairly stable but it can be made to rock. With a speaker in this class, a more secure form of floor coupling would be worthwhile.

READY TO ROCK

First impressions can be helpful, but in some cases the reverse is true. A speaker may start quite badly but finish well, proving capable of providing longer term satisfaction, and in the case of the Caliper our first feelings were not particularly positive. Despite the use of a substantially good front-end and considerable care taken with setting up, the sound was found to be lacking in several areas, although it was well focused in a general sense, and gave pleasing stereo.

Take perceived coloration. The Caliper sounded odd on orchestral strings, but the effect is hard to describe; it appeared to emphasise

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FROM THE VAULT

the wrong parts with a touch of nasality. Not sufficiently 'open', the presence-band lacked life, while upper-range harmonic sparkle was also subdued, suggesting a weak final octave. In the Apogee mould, the bass was strong, and in my room the Caliper delivered a thumpy, thudding quality which proved impressive on some rock material.

Comparing this with my recollections of the Duetta, both it and the Caliper have a heavily

down-tilted frequency characteristic; but the Caliper is definitely lighter-textured and faster-sounding, yet not at the expense of any fatiguing emphasis. Both designs possess strong bass, but the

Duetta's power appears at a lower frequency and is thus richer and less thumpy than the Caliper. Both models show a similar roll-off above 12-13kHz, reducing the impression of 'air'. (This characterisation is quite pertinent, since distance in air does impart a treble roll-off.)

MUSIC MAESTRO

As the speakers settled in, the dynamics were appreciated, the sound being remarkably unforced, yet carrying dynamic contrasts and musical edges with consistent accuracy and subtlety. Stereo focus was in the 'panel tradition', being a little larger-than-life and not as concentrated as that provided by smaller box speakers. But it was impressive in its scale, coherence, stability and solidity, while phasey effects were minimal. Wide frontal imaging was possible, though the soundstage was 'darkened', and perceptibly narrowed to the rear.

In general terms the bass was very fine, sounding fast, powerful and articulate, while displaying very low distortion and minimal upper band coloration or emphasis. But it was clearly exuberant, leading to the thumpy quality noted above, centred on the sound produced by a moderately damped kick-drum.

Again to a good standard, the mid register demonstrated an intrinsically high level of musicality, even if it was flawed by a tonal imbalance associated with a depression in the lower presence range below 3kHz, as well as the

moderate nasality. The latter helped sharpen it up a little, but the mid lacked a faithful inner balance.

The treble was above average, but not, in my view, in the Scintilla class, and ultimately suggested that the Kapton used was not a perfect substitute for (and could not replicate the transparency and extension of) a pure metal foil. In absolute level the treble was subdued, and could also have provided more detail and tonal

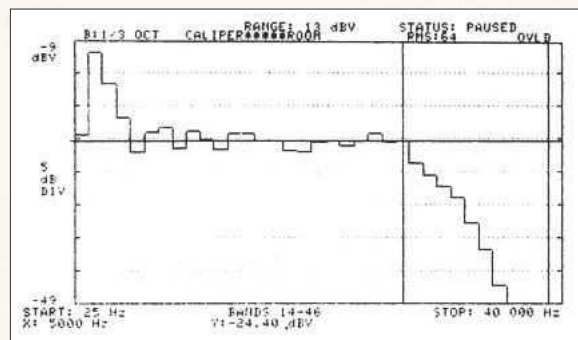
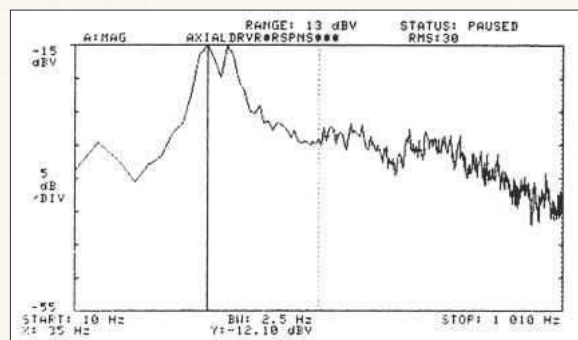
discrimination.

Conversely, it was rather better than that provided by the majority of soft-dome treble units.

While clearly insensitive, the Caliper withstood high input

powers and showed no audible sign of compression up to 200W/channel, though particularly heavy bass drive could flap the diaphragm gently at around 150W peak-programme.

'Too close, and you get boom-boom up the kazoo'



Indeed, it thrived on generous power inputs. The main listening tests were conducted in the bi-wired mode. Single-wire working should thus be avoided if possible.

In the event, I confess to liking the Apogee Caliper despite its weaknesses. Like several other panel loudspeakers, this one was inherently musical, and given careful



TOP: The Apogee range in 1988 (l-r) the new Diva, Caliper, Scintilla and Duetta. The models were continually refined

BELOW: Graph 3 – response of LF section (average of two speakers), showing twin bass peaks

ABOVE: Graph 4 shows the room-averaged response for the Apogee Caliper, derived from 64 individual measurements and plotted in third-octave bands

setting up and system-matching was capable of good results. Indeed, it offers a taste of greatness for a comparatively affordable, if still expensive, speaker, and for many this will be a full-range ribbon at a price they are prepared to pay.

KEN LISTENS

Part of Apogee's master plan has always been to satisfy the affordable end of the market as well as the top-end. If you've followed the company's progress, you'll note that it has lowered the cost with each successive model since the original seven-footer to the point where Apogee ownership is now down to half the cost of the Scintilla.

The Caliper, which I first heard in prototype form in March 1986, eliminates one of the problems encountered with both the Scintilla and Duetta, in that it is much smaller, being roughly of the same dimensions as the Quad.

Considering that the Quad is one of the UK's 'standard' loudspeakers, and hardly taken to task for its size, I don't want to hear any nonsense about the Caliper being too large for the British household. It takes up no more floor space than a medium-sized box on a stand.

Substituting the Calipers for a pair of February 1987 production Scintillas – still tough for one person to lift, even though they are half the weight of their big sister – I found that the positioning was slightly less critical, but still requiring painstaking care if you want to get that perfect balance between soundstaging and bass quantity.

Yes, the Caliper delivers gobs of bass, but it's a fine line between just right and too much. Pull them far enough away from the walls to reduce the bass, and you upset the focus. Position them too close, and you get boom-boom up the kazoo. ☺

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FROM THE VAULT

Optimum positioning in my room was in the same line as the Scintilla, with slightly less toe-in. Final fine-tuning for the bass was a substitution of Symo speaker cable for the various makes I'd tried, tightening up the bass while retaining Stygian extension. It was time to party.

PLEASED AS PUNCH

Driven by Krell KMA 100s, the Calipers conveyed power with almost as much confidence and force as the Scintillas. All of the dynamic capabilities of the Scintilla remained, save for the last amount of contrast at the extreme bottom. I know that the difference between these two loudspeakers is only a few Hertz in the lower registers, but the evidence is a shade less weight. Still, this is trivial, as the Caliper betters anything else I've heard in this region bar the larger Apogee designs. If anything, the Caliper will find friends with those who deem the Scintilla to be too bottom-heavy.

It's around the lower midrange where the Caliper veers from the path taken by the Scintilla, and in two key areas. The family resemblance is too strong for anyone to mistake the Caliper for anything other than an Apogee product, but the Caliper is a more forward, punchy speaker. The Scintilla grows on you; you 'learn' its sound. The Caliper lays its cards on the table, and you either embrace its up-front display or go back to the bank manager for another £2.5k.

Tonally, I didn't find any shocking change; the only contrasting characteristic is one of perspective, with the Caliper bringing the listener that much closer to the front row. I like to listen in the near-field, so it's natural that I would prefer the distancing effect of the Scintilla. Were my room suddenly to expand, I could move down to the Caliper with little sense of sacrifice regarding midrange performance.

The top-end is a slightly different story, with the Caliper actually improving on one aspect of the early Scintilla, and almost tying with the current-production Scintilla. The top-end, despite the forwardness of the upper-mid, remains sweet

'The Caliper brings you closer to the front row'



and non-aggressive, and I found it quite open and airy, in contrast to MC's findings. I can only attribute this alternative opinion to the use of systems differing in all but the choice of power amplifiers and widely differing room conditions.

SPOILED ROTTEN

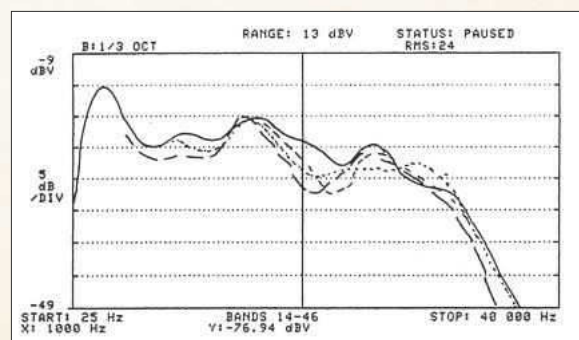
Creating a scaled-down version of a flagship model is one of the toughest feats a manufacturer may face. The Caliper is most assuredly a 'miniature' Scintilla in that it offers the speed and transparency which so distinguishes this design from all other types, retaining its stereo focus and imaging properties. Sacrifices are limited to

a shift in the positioning of the sonic picture, a minuscule loss of bass energy, and a slight loss of resolution in the extreme bottom registers.

Having lived exclusively with Apogee Scintillas for over two years, and having been spoiled rotten by their brilliance, I'm amazed to learn that 85% of their performance can now be acquired for half the cost and half the shot at a hernia. ☹

TOP: Original pages from the May 1987 issue of *HFN* in which Martin Colloms and Ken Kessler play host to Apogee's new compact and affordable Caliper loudspeaker. The cover of the magazine spotlights the technology used by the latest generation of CD players reviewed inside, with a peek under the lid of JVC's XL-V1100BK

BELOW: Graph 5 – overall responses for on- and off-axis positions at 2m. Solid trace, on-axis; dotted, 15° above; dashed, 30° lateral; long dash, 45° lateral



Also in *HFN* this month in 1987

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Paul Miller hears a superbly built Scottish turntable: the Source.

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Ken Kessler on the reincarnated STA-25 valve amplifier.

MONSTER'S ALPHA BEATER

We assess the company's new pick-up, the Alpha Genesis 100.

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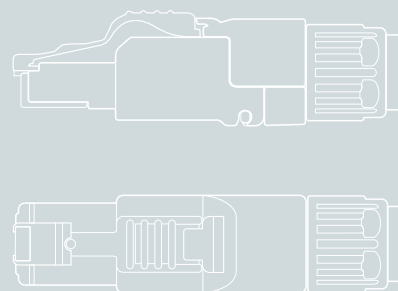
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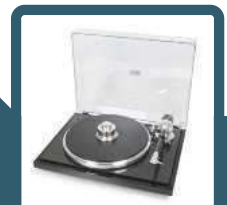
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OFF THE LEASH!

KEN KESSLER TELLS IT LIKE IT IS...

A French hi-fi company and a Swiss watchmaker put their heads together to Ken Kessler's delight



Good grief, it's taken long enough, but there is, at last, a genuine collaboration between a hi-fi company and a mechanical watchmaker – and I don't mean just a logo on a dial. French digital audio specialist and powered speaker provider Devialet has teamed up with Ulysse Nardin, the long-established Swiss maker of chronometers and other fine timepieces, to create a wristwatch that makes sounds.

SIGN OF THE CHIMES

Prior to this, I can't think of one instance where there was such 'cross-pollination' between the two, though it's worth recalling that the legendary Joe Grado was a trained watchmaker (and there may be others who have had horological backgrounds). One imagines his understanding of true micro-engineering helped him to design and construct cartridges, which require nowhere near the skills needed in making a watch, given they have so few parts and produce barely any motion. A cartridge? Thirty components would be a stretch. A watch? A rough average would be 250-plus. Moreover, unlike a watch, cartridges aren't expected to operate 24/7/52. So if anything, Joe's abilities were overkill for hi-fi.

Cello and Linn actually had proper watches made for them, Linn's in particular featuring a radical case, while it would take a

few pages here to list all the companies in hi-fi that had promotional watches. These mainly consisted of affordable quartz models with the labels' various logos, and I seem to recall Musical Fidelity, Revox, Krell and a host of others felt that promotion merited more than a cheeky little t-shirt.

As for watches which need to address sound quality (besides Apple watches, Casio G-Shocks or others which are electronic), there is only one type: one that sounds the hours or minutes via the striking of gongs. They range from the most complicated – minute repeaters, which can produce the Westminster chimes on demand to the minute – to alarm watches which buzz or rattle at a set time, to simpler 'striking' or 'clock watches' which strike hours or half-hours consecutively, or 'ping' on demand. And so complexity increases according to the task.

Ulysse Nardin's new watch is named the Hourstriker Phantom, the last of the types described above. Devialet's role was to

increase the watch's output level so it could be audible. As you can imagine, a tiny gong struck by teensy hammers – the gongs are typically steel rings encircling the watch movement within the case – is not particularly loud. It's even worse when the watch is worn because contact between the watch caseback and one's wrist all but muffles the sound.

'Promotion merited more than a cheeky little t-shirt'

Why do these exist in the first place? They first appeared in the era of pocket watches, pre-dating electric lighting and luminous materials. If you needed to know the time in the pitch dark, and could find your pocket watch on your nightstand, you activated the slider or a button and it would tell you the time with a series of dings. This also helped the vision-impaired. Wristwatches, at half the size and thickness of pocket watches, were barely audible because they had to make do with everything smaller – hammers, gongs and a case against which to resonate.

FATE LENDS A HAND

Playing with materials, carefully drilled ports and other techniques, Devialet has helped Ulysse Nardin to tune a circular plate approximately the same diameter as the dial in the back of the watch, which is connected to the hammers that strike the gong. A series of eight holes on the caseback allows the sound to escape.

Visually the watch shares another link with the particular Devialet model that added to 'Hourstriker' the suffix 'Phantom' – the small circular fretwork logo on the front of Devialet's active speaker is repeated as a design on the watch dial. As for Devialet's technical input, the output level of the watch is a claimed 85dB at 10cm – yes, one-tenth of a metre. That's risible by hi-fi standards, but arguably louder than the norm for any item making sounds mechanically, and which is only 43mm in diameter.

However, here's what's so really cool about this marriage between such disparate brands. Patrick Pruniaux, CEO of Ulysse Nardin, says 'It was fate: Emmanuel Nardin, one of Devialet's founders is in fact a descendant of the Ulysse Nardin family. You simply couldn't make it up'.

Why does this matter, and not just to me with my watch fetish? Simple: this teaming-up of a Swiss watch company and a French hi-fi producer will draw more attention to high-quality sound equipment than any website could ever hope to do. If that improves the health of the industry, by increasing awareness beyond our community, then it must be regarded as not just a good thing, but a Great One. ☺

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