

hi-fi news

& Record Review

Exclusive

STEREO SPIRES

PMC's fact fenestrias are towers of power



It's Majik...

Linn's iconic Sondek LP12 turntable, in colour!

VAC Sigma 170i

The artisan valve integrated

Canned delight

Naim's Uniti Atom headphone amp

FEATURE

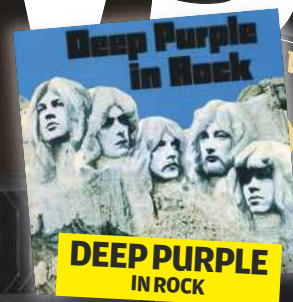
Hidden Treasures

High-value albums revealed!

McIntosh MCD85

CD/SACD spinner with USB DAC

65 YEARS
of Product
Reviews &
Features



VINYL ICON



Class D is hot stuff!
AGD's Gran Vivace monoblocks

• **OPINION** 12 pages of comment • **VINYL RELEASE** The Vaccines' *What Did You Expect?* on 180g LP
• **CLASSICAL COMPANION** Brazilian Composers, beyond Villa-Lobos • **STUDIO TOURS** Hansa Berlin
• **VINTAGE REVIEW** Philips 551 'MFB' preamplifier • **READERS' CLASSIFIEDS** Hi-Fi bargains galore

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Hi-Fi News, September 2019

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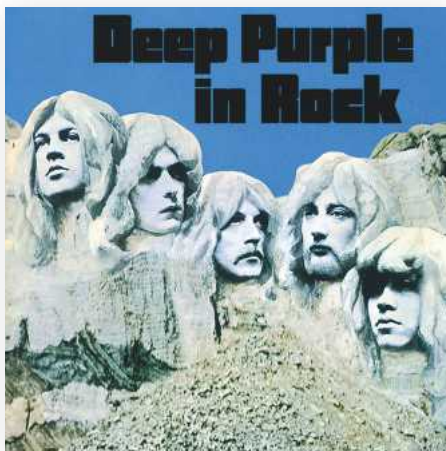
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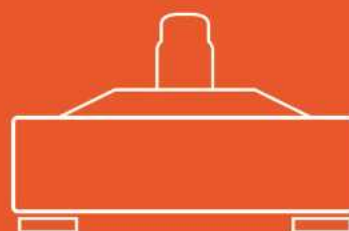


"For the first time in my roaming of the "audioscape," I can say I found a product that is truly a "giant killer."

PF MAGAZINE

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monoblock amplifier pair



"...the Vivace emerged as one of the finest amplifiers I'm aware of, and undoubtedly the very best class D case I've heard to date."

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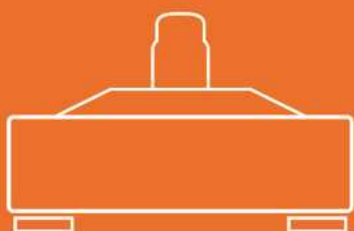


“Alberto Guerra of AGD Productions builds what are quite possibly the most unique amplifiers you’ll see in modern times.”

– Whole Note Distribution and VAL HiFi

GRAN VIVACE

monoblock amplifier pair



“...the Gran Vivace performs very much like a SET (Single Ended Triode) amplifier... but with drive.”

PF MAGAZINE

ANDANTE

preamplifier | dac | streamer



“...you will experience a pride of ownership that is typically reserved for only the most expensive brands.”

SIXMOONS



VAL HiFi

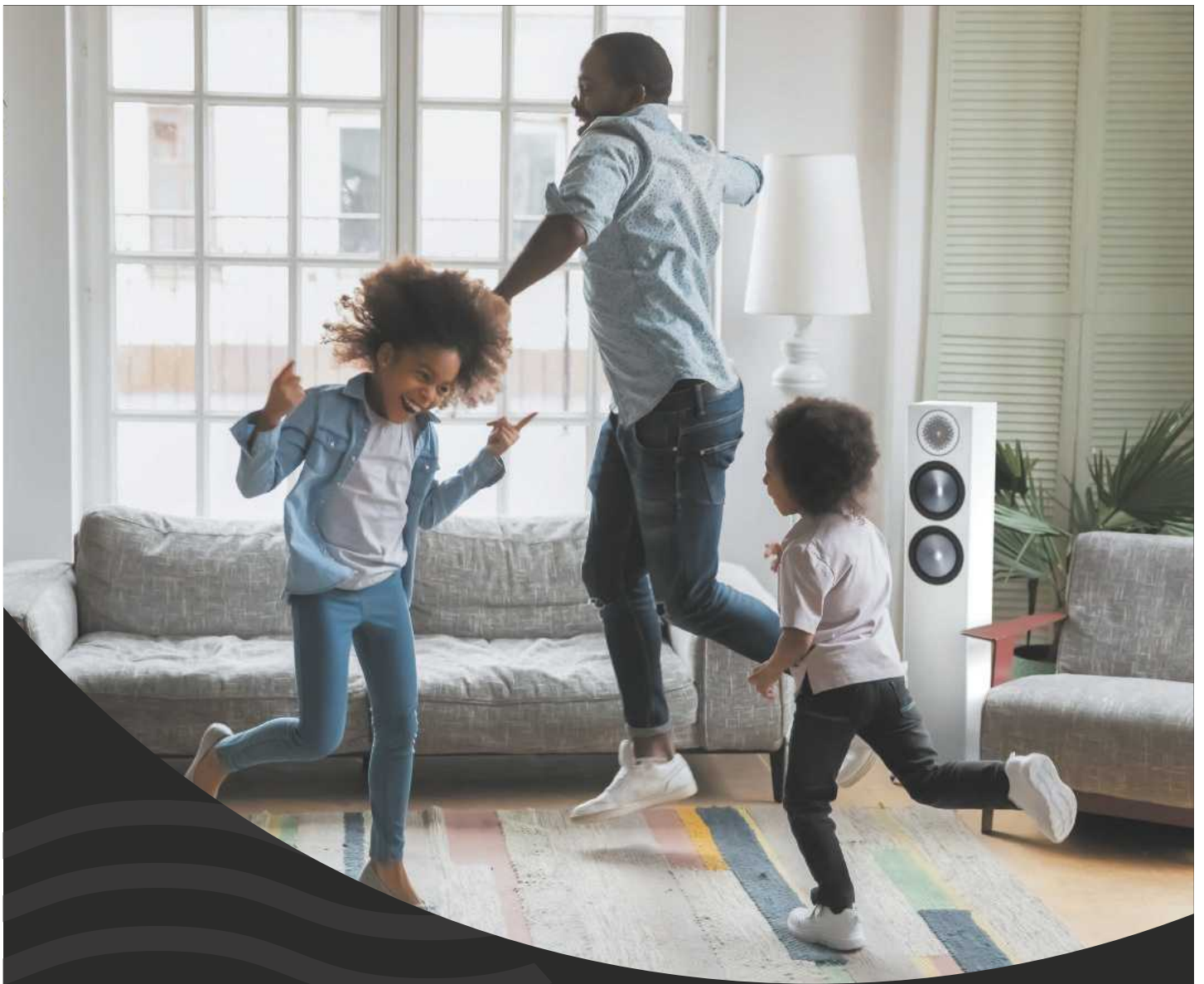
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“

While the sealed cabinet may be 'small', its performance is anything but - this is a polished performer that unearths both the nuance and scale of movie sound mixes, delivering dramatic, deep bass while simultaneously remaining controlled and speedy. ”

EISA HOME THEATRE SUBWOOFER 2020-2021



SVSound.com



The SVS logo consists of the letters 'SVS' in a white, bold, sans-serif font, set against a solid blue square background.

PRIME PINNACLE

“

In practice the Prime Pinnacles are svelte enough to slip into all but the smallest rooms, so if you crave a warm and a full-bodied sound, these towers will have your system glowing.”

EISA LOUDSPEAKER 2020-2021



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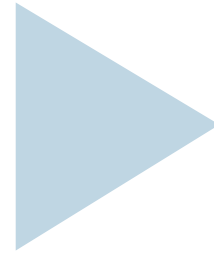
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"There's something deeply alluring about this streaming CD player/integrated amp combination, in both sound and function. In turn, this makes it easier to appreciate the music without being distracted by the technology. Now there's a thought for the future..."

I35 Prisma + CD35 Prisma: HiFi News Highly Commended



"The latest Primare platform is a highly modular amplifier system, but even as just an amplifier the I35 integrated is one of those products that you just love to enjoy!"

I35: HiFi+ Top 100



"If you like a sound that is fast, open, clean, clear, dynamically expressive and devoid of manipulative emphasis, the I25 Prisma ticks all the boxes. Analogue and digital in graceful harmony? That perfectly sums up the Primare I25 Prisma. Enthusiastically recommended."

I25 Prisma: HiFi Choice Five Stars



"Primare R35 – Flagship phono stage is an analogue triumph... it is an incredibly flexible and capable phono stage that seemingly has the ability to extract the very best from any cartridge that crosses its path."

R35: HiFi News Outstanding Product



"Primare's sophisticated PRE35 / A35.2 combination is a class act. Furthermore, while optimised as a pair, both pre and power amp remain very competitive in their own right, the PRE35 as a go-to hub for comprehensive digital systems while the A35.2 is an all-round high-value powerhouse."

PRE35 Prisma + A35.2: HiFi News Highly Commended



"Tonally, the I35 is rich and satisfying rather than bright and breezy, and yet it comes over as both energetic and dynamic sounding."

I35: HiFi+ 2020 Editor's Choice Award



"Make no mistake, products like the Primare I25 Prisma are the best expression of why this is a golden age for audio. This one box does it all, and it does it all damn well!"

I25 Prisma: HiFi+, Integrated Amplifier or Amplifier/DAC of the Year 2019



"Primare's R35 wins HiFi+ phono stage of the year! At the R35's affordable price tag, it's sensational"

R35: HiFi+ Phono Stage of the Year 2020



"Something that Primare has made an art form over the years is their ability to produce equipment that feels special. What results is a product that feels like a deeply clever solution to the business of making an audio system."

I15 Prisma: AVForums, Highly Recommended



"Despite its copious amounts of facilities, you shouldn't think of this amplifier as a lightweight in the sonic stakes. Yes, it has a dry and accurate presentation, rather than embellishing the music, but it's always fun and is backed up by plenty of power, too."

I15 Prisma: HiFi Choice Recommended



"Built with the same care the company brings to its main amplifiers, its low-noise design is informed by the flagship R35 model just as its sound is the familiar 'Primare' mix of weight and substance allied to detail and resolution"

R15: EISA Phono Preamp 2020-2021



"Able to resolve detail, throw a light on dynamic contrasts and pull you into the music without adding its own character, it's an ideal bridge between your vinyl player and amp."

R15: AVTech Media 2020/2021 Best Phono Stage



"In use, its majestic grace, poise and control is matched by a measured and even tonality. Smooth, couth and sophisticated, Primare's I15 Prisma proves that you can have the convenience of app control, stylish elegance and musical satisfaction all in one."

I15: Prisma AVTech Media Award 2018/2019: Best Stereo Integrated Amplifier



"For alongside its fine sound there's extensive functionality including Roon and Chromecast. Decidedly not a minimalist product, the Primare I15 Prisma is a lovely listen that packs a wealth of technology into a small box, and does so with great elan."

I15 Prisma: HiFi News Highly Commended

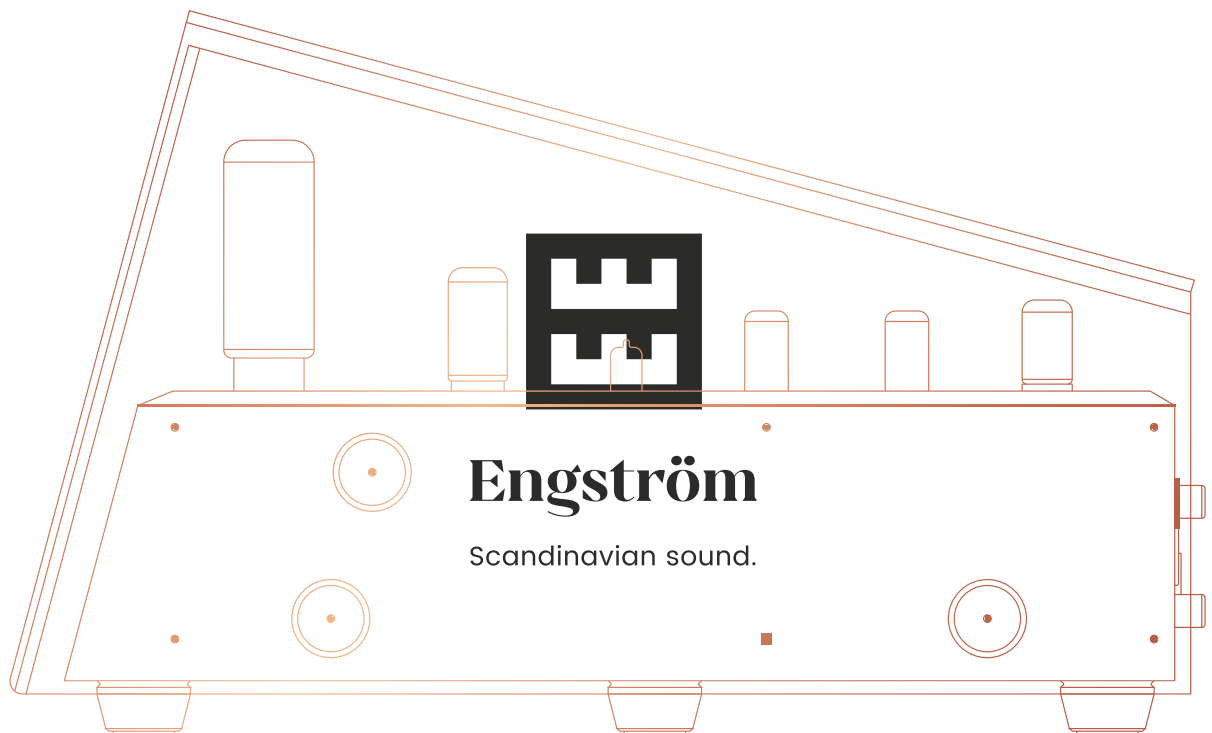
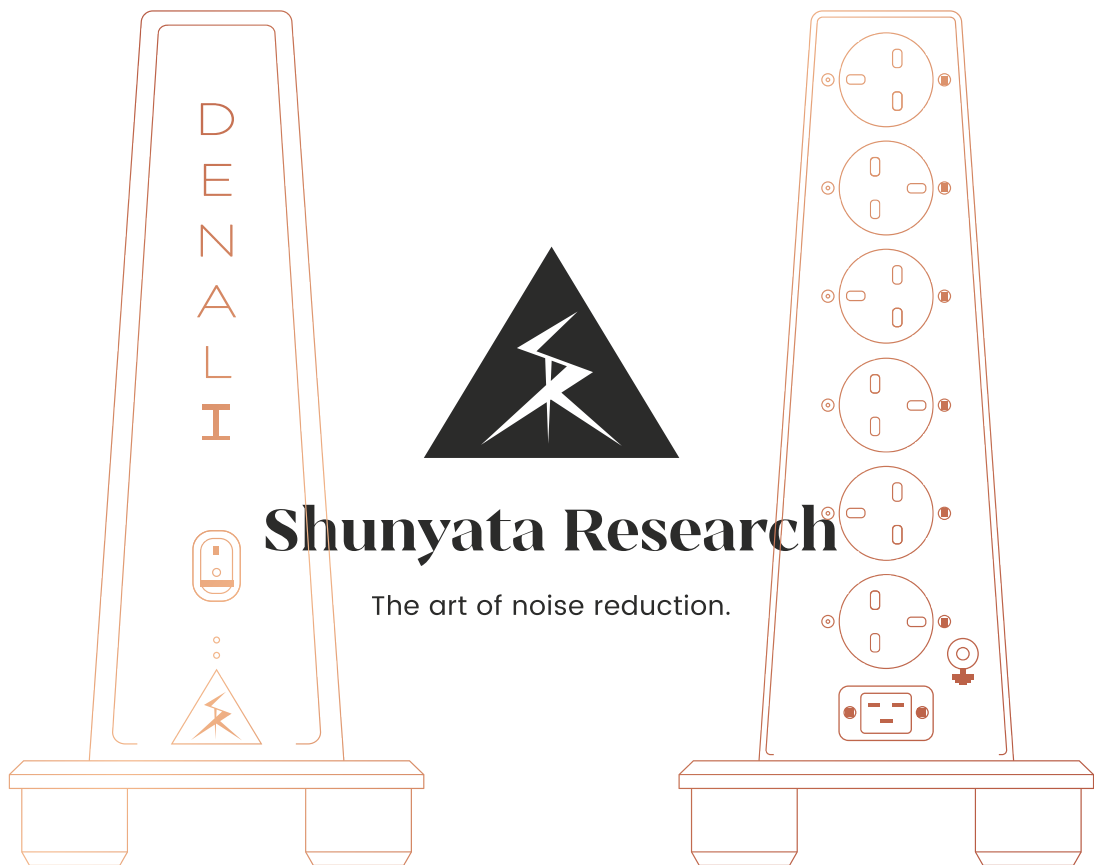


"... a precision and focus that doesn't blunt edges, blur textures or drag tempos and presents the solid and the spacious as a coherent whole with the full spectrum of tonal colours and accurately rendered instrumental timbres."

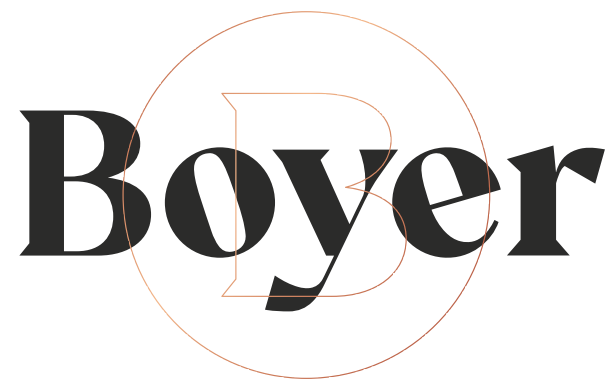
R15: Hi-Fi Choice – Recommended, Five Stars



The quotes above are from only some of the many great reviews and award recognitions the current range of Primare models have received from the UK press. For the full reviews and award citations, as well as many more from both the UK and world press, go to [primare.net](https://www.primare.net)







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RIGHT: Is it an amplifier?
No, the MCD85 is McIntosh's
take on a fully-fledged SACD
player/USB DAC, see p70



ABOVE: Artisan audio at its finest as we explore the hand-crafted
Sigma 170i tube integrated from VAC. Feel the warmth on p58



MUSIC: Our Vinyl Icon ...*In Rock* set
the reputation of Deep Purple in stone
(p82), while we get our shot of The
Vaccines' *What Did You Expect?* before
the LP is re-released on 180g vinyl (p80)

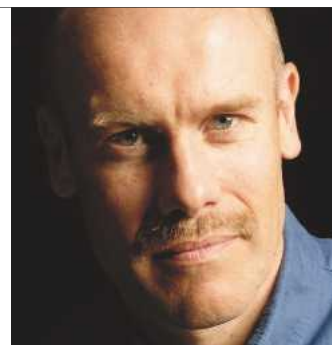
RIGHT: *Hi-Fi News & RR* is the UK's
representative of EISA's Hi-Fi Expert
Group. Editor Paul Miller took over as
EISA's President in June 2016



Think you've seen
the PMC fenestria
loudspeakers
reviewed before? I
certainly thought so
when PMC approached us for an
exclusive review. 'Haven't these
speakers been on the market
for a few years?', I asked. They
had, or at least they had been
launched way back in the 'old
world' of 2018.

But fine fettling in production
and fulfilling the demands of
worldwide distribution, plus the
inevitable delays caused by you-
know-what, has meant a three-
year hiatus between their face-
the-press moment at Munich's
High End show and the
world's first in-depth
review and front cover of
Hi-Fi News. Time flies, but
it's been worth the wait
as these elegant towers
sounded truly fabulous in
the *HFN* listening room. Turn to
p40 for the full story.

Turn first, however, to p39
where you'll discover a little
more about our 'behind the
scenes' logistics and what it
really takes to review a pair
of huge loudspeakers, or
heavyweight amplifier, etc. In
an era of fake news and product
reviews of uncertain provenance
it's reassuring to know that *Hi-Fi
News* is not only the 'Home of
Real Hi-Fi' but it's also a high-end
magazine where hi-fi is tested
and reviewed for real. This is our
pledge to the *HFN* readership,
and a bond we will never break.



While I'm on the subject
of duty of care to our fellow
audiophiles, I must reluctantly
confirm the postponement of
this year's Hi-Fi Show *Live* to the
weekend of 10th/11th September
2022. Although the UK's only
high-end audio event also offers
vastly more open space and

**'Our pledge to the
trusting audiophile
is unveiled on p39'**

fresh air at the Ascot Grandstand
than an old-school show in a
crumbling hotel, your safety and
– as important – your *confidence*
in your safety takes precedence.

Listening to amazing systems
and enjoying seminars without
the stress of social distancing
is vital, so I remain committed
to bringing you all a bigger and
brighter UK Hi-Fi Show *Live* next
year when we can meet and
celebrate, and *relax*. And when
we do, it will still be the biggest
party the UK hi-fi industry has
ever thrown!

PAUL MILLER GROUP EDITOR

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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
Editor of *Hi-Fi Choice*,
Steve was at the helm
of *NME* through the
Britpop years. Steve
brings a unique slant
to our music features

Limited Luxman

ONLY 300 SAMPLES OF THE L-595A SE INTEGRATED BUILT

Those interested in Luxman's L-595A SE (£11,000) had better be quick, as this integrated amplifier, released in honour of the marque's 95th anniversary, is limited to a run of 300 units. The Japanese brand has also turned to its past for inspiration, basing the amp on its 'best-selling' L-570, which debuted back in 1989.

Styling is necessarily retro, with a front panel layout that's almost an exact replica of its predecessor, including square input select buttons and illuminated 88-step volume control. The latter, in this instance, is the new LECUA1000 attenuator. Meanwhile, the two-tone scheme and hairline finish of the L-570 has also been retained, improved by 'modern metal processing technology'.



Rated at just 30W/8ohm in Class A, the L-595A SE will doubtless offer a higher Class AB power output from its three-stage Darlington amplifier. Connections include four line inputs on RCAs and two balanced on XLRs (with phase inversion), MM/MC phono,

pre out/main in and, on the fascia, a 6.35mm headphone socket. Two sets of 4mm speaker cable terminals are fitted. Only available in silver, with matching remote, the L595A SE is available now. **Luxman Corp., Japan, 01480 447700; www.iaguk.com; www.luxman.com**

Q more Acoustic

ACTIVE FLOORSTANDER WITH BMR DRIVERS

After entering the active system arena with its standmount Q Active 200 earlier this year, UK speaker brand Q Acoustics has now added to the range with a floorstander. Each cabinet in the £2300 Q Active 400 is available in matt white or matt black and houses a pair of 58mm BMRs (Balanced Mode Radiators) supplemented by a pair of captive 114mm subwoofers – all four drivers powered by separate built-in amplifiers under DSP control. Completing the package is a wireless Control Hub that provides 96kHz/24-bit transmission, and supports

wireless and wired sources including MM phono, optical digital, Chromecast and UPnP networking. Downconversion of 192kHz files is also supported.

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



HI-FI NEWS' NUGGETS

NETWORK UPDATE

Few technology brands have remained unaffected by the ongoing shortage in semiconductors and many, including Sweden's Primare, have been forced to develop workaround solutions. Hence the Mk2 version of its popular NP5 Prisma network player, scheduled for this summer and hosting an alternative to the AKM sample-rate converter employed in the Mk1. New features are added, including MQA passthrough. www.primare.net

GOOD VIBRATIONS

Described as a 'must have for bass junkies', IsoAcoustics has added to its award-winning line of isolation products with the Aperta Sub, an isolation platform designed for subwoofers weighing up to 36kg. Each stand comprises six 'isolator' discs, three facing up to the base of the sub and three down to the floor, lifting the subwoofer and providing a compliant layer that moderates any structurally-transmitted LF noise. www.isoacoustics.com

Premium preamps

ROTEL'S UPGRADED MKII PREAMPLIFIERS



Rotel is continuing to revive its product stable with MKII iterations – the latest models to get the upgrade treatment are its RC series preamps, following earlier MKII launches of its A14 and RA-series integrated amplifiers [News, *HFN* Jul '21]. Priced at £1150 and £1695 respectively, the RC-1572MKII and RC-1590MKII feature circuit and component changes informed by the company's flagship Michi product development. Seventy-five 'critical' improvements are claimed in total across the pair of preamps, including resistor and capacitor upgrades to the DAC power supply, balanced XLR circuits and volume control. New 384kHz/32-bit Texas Instruments DACs are used with support for MQA rendering via USB (they also gain Roon Tested certification). Both models will be available in black or silver once shipping begins this Summer.

Rotel Co. Ltd, Japan (Rotel Europe/B&W Group), 01903 221500; www.rotel.com

All Sabre, no rattle

VERTERE ANNOUNCES NEW HIGH-END MOVING-MAGNET

Slotting into Vertere Acoustics' cartridge range between the entry-level Magneto MM (£220) and premium Mystic MC (£2000) is the brand's new £845 Sabre. Billed as an upgrade path from a budget moving-magnet design for those less keen on switching to a low-output MC, this MM pick-up is hand-built at Vertere's London facility. It features a machined aluminium-alloy body in an orange finish, with an alignment ridge to assist its mounting into any Vertere tonearm.

The Sabre's response is rated from 'below' 15Hz to 25kHz, and output is a claimed 4.0mV.



To reduce unwanted vibration from its MM generator, the (black) body is clamped inside the orange alloy shell via a quartet of spike screws rather than adhesive. This is an evolution of the technique first deployed by Vertere founder Touraj Moghaddam on Roksan's Shiraz MC cartridge in 1987. Meanwhile, the 'Micro-Elliptical' stylus is mounted to an aluminium tube cantilever, and promises 'maximum tracking ability'.

Additional sound tuning comes from the optimised alignment of the Sabre's AlNiCo magnet, says Vertere.

**Vertere Ltd,
London, 0203
176 4888; www.
vertereacoustics.com**

Nostalgia for the ears

GRADO LAUNCHES PRESTIGE X SERIES HEADPHONES

New York-based headphone specialist Grado has returned to its Prestige Series – the first models designed by company founder John Grado in the 1990s – for a fourth-generation overhaul. Comprising five open-backed models (priced between £110 for the SR60x and £330 for the SR325x), the Prestige X lineup makes use of 'enhanced' drivers said to

be better suited to low-output portable devices, courtesy of upgraded diaphragms, voice coils and magnets. Other updates include the headband (leather on the SR325x, with synthetic leather used for the others), and new cabling with 'super annealed' copper wire. **Grado Labs, New York, USA, (Armour Home) 01279 501111; www.gradolabs.com**



Bright knight rises

HYBRID TUBE/TRANSISTOR INTEGRATED FROM BAT

Priced £12,995 and available in both black or silver finishes, the VK-3500 is the latest hybrid integrated amplifier from Maryland's Balanced Audio Technology, and a successor to the VK-3000SE released in 2014. Described as 'celebrating over 25 years of cutting-edge audio design', this new amp replicates the all-aluminium curved chassis of the company's flagship products while, under the vented bonnet, there's a combination of BAT's REX 3-based 6H30 tube preamp with a 2x150W/8ohm bipolar power amp. Circuitry benefits from what are described

as 'second-generation oil capacitors' and non-invasive electronic protection.

In addition to its two balanced XLR inputs there's a trio of RCAs, one supporting an optional MM/MC phono module designed by Victor Khomenko, whose initials grace the model number (see inset picture). The VK-3500 also features a balanced preamp output for direct or second-zone use, plus an RCA tape loop. BAT's

VK-R5 remote offers input switching, volume and polarity inversion. **Balanced Audio Technology Inc., USA, 01423 358846; www.balanced.com; www.karma-av.co.uk**



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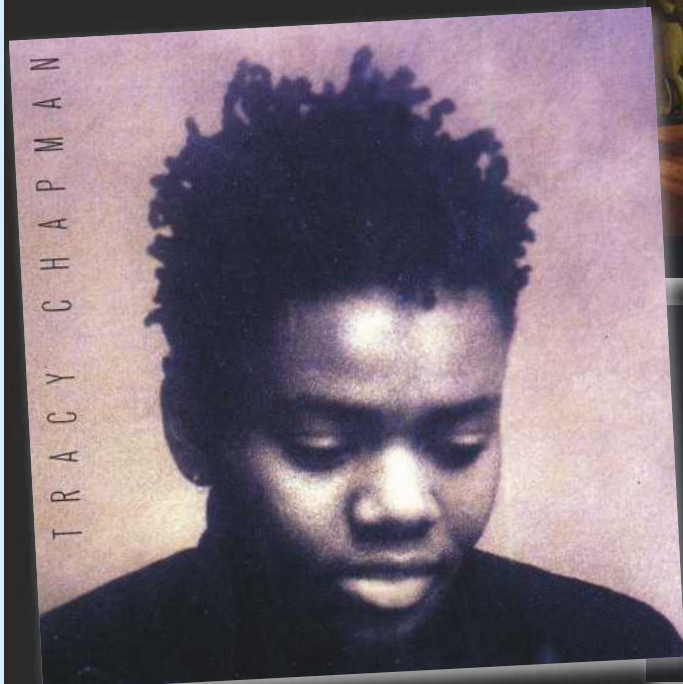
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INVESTIGATION



ABOVE: Tracy Chapman sold millions of copies of her self-titled debut LP but it has never been reissued. A mint vinyl copy is currently worth £50 or so

ABOVE RIGHT: Vinyl copies of Bob Dylan's *Rough And Rowdy Ways* are already rising in price while Madonna's 'Lucky Star' with original picture sleeve is worth £1700+. Then there's *Now That's What I Call Music 4* from the same year – £400 on CD – while a mint vinyl copy of George Michael's *Older* is worth £800

Hidden Treasures...

Do you have a Banksy in that box of unplayed records, or a supermarket disc worth hundreds? **Johnny Sharp** on some less likely LP/CD gems

In this age of downsizing, decluttering and digitally repurposing much of our once-analogue lives, it's easy to devalue physical possessions. Audio equipment itself is hard enough to justify owning sometimes when space is at a premium and the people we share our lives with don't quite understand why we need a system the size of a small family car to enjoy music. I mean, why can't we stream it from 'the cloud' or some such magic location, onto compact Bluetooth speakers?

HARDY PERENNIALS

But even if you do decide at some point to make space by disposing of a few boxes of records and CDs you no longer play, it might be worth checking that you're not dumping items whose value looks set to rise in the years to come. Here's a few things to consider...

There are plenty of iconic artists around now who've had consistent success for over 50 years. These are the ones for whom statues are built and after whom dual carriageways

in their home towns are named. The older they are, the more their reputation grows, but they aren't going to go on forever. When they do take their final curtain call, the value of their back catalogue is likely to rise even more steeply. That's what happened after David Bowie's sudden passing in 2016.

How many years do the likes of Bob Dylan, Neil Young, Joni Mitchell and Elton John have left before they stop releasing music? Plenty, we hope, but already these artists' back catalogues are growing in value.

Dylan just turned 80, and mint vinyl copies of albums such as 2006's *Modern Times* fetch over £50 in good nick. Meanwhile, his latest, *Rough And Rowdy Ways*, particularly in its coloured vinyl format, is rising in price already.

Another elder statesman of rock, Paul McCartney, has the added selling point of being a former Beatle, and anything Fab-related will always be in demand – even the less celebrated projects. Macca's early '90s collaboration with producer Youth, *The Fireman*, isn't

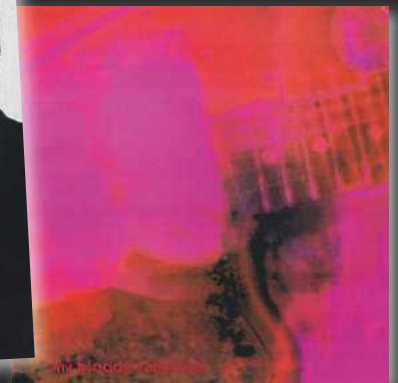
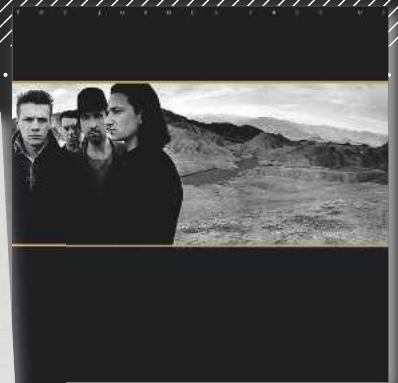
that fondly remembered by a lot of Beatle obsessives but their albums have never been reissued. Hence, for instance, 1993's *Strawberries Oceans Ships Forest* changes hands for around £200.

ON THE RISE

Archive albums that haven't been reissued are always worth holding onto. This holds true even in the case of titles that sold in their millions when they first came out.

In some cases, artists are known to be resistant to the idea of repressing their albums on vinyl. Tracy Chapman is a case in point – her self-titled debut LP from 1988 shifted truckloads but she is said to have no interest in permitting it to be reissued, with the result that its current value of £25-30 for a mint copy is only going to rise.

The late George Michael was also known to be no fan of the remixed, repackaged, deluxe reissue trend, and since his passing in 2016, his estate has been true to his wishes for the most part. 'Last Christmas' might well have cleaned up if it had



been released in the festive period in the year after his death on Christmas Day 2016, but his management refused to permit its re-release.

A result of that (as well as the fact it's a classic album from a much-missed superstar artist), and the fact that not many vinyl copies were pressed originally, is that original LP copies of his 1996 *Older* are now going for as much as £800 online.

EARLY ADOPTERS

For fans, there's sometimes a feeling of slight resentment when an artist that you embrace early on suddenly becomes huge. It's not fair! You loved them first and what credit do you get? Well in a few cases, at least, you might just get your rewards before you get to heaven.

Early flop releases from future superstars might later become highly sought after, as they have with the likes of David Bowie. A picture sleeve version of his originally released 'Space Oddity' single from 1969? £3000 to you, sir.

In September 1983, Madonna's UK debut single 'Lucky Star', despite a striking sleeve of her Madge in sunglasses, didn't do anything major chart-wise, and it was only when it was re-released in a different sleeve the following year, after the success of 'Holiday', that it became her second Top 20 hit. That first incarnation is now worth £1700.

ABOVE LEFT: Hawkwind's *In Search Of Space* LP with die-cut sleeve by Barney Bubbles now trades for £150 or more while the late artist Keith Haring's sleeve for Emanon's debut album "*The Baby Beat Box*" has pushed up its value

ABOVE: The Jam's *In The City* is valuable on vinyl whether it's the LP or the album's title-track single

ABOVE RIGHT: Another keeper is a vinyl copy of U2's *The Joshua Tree* in its original sleeve while My Bloody Valentine's *Loveless* on vinyl is worth £200

Similarly, did you buy the first Jam single (or album) before they were on *Top Of The Pops* every week? 'In The City' goes for £500+ and the debut album of the same name is also sought after as a first edition.

Early CD singles from future superstar artists can also do well. Coldplay's self-released *Safety* EP from 1998 was snapped up only by their earliest fans, but is now worth around £2000. And while we're on the subject of CDs, don't disregard them. The collectors market is highly focused these days on vinyl, but that's partly down to supply and demand – the relatively small vinyl runs of albums in the 1990s and 2000s makes them rare. But at times the converse problem existed.

The *Now That's What I Call Music* series of chart hits began life in the UK in 1983 and maintains a global presence to this day. A copy of *NOW 4*, from November 1984, on CD is now worth around £400 and rising, because it dates from the early days of the format, so there weren't many made. If you, keen to hear the hits of day on the exciting new Compact Disc format, snapped up one of the small run of silver platters available, you have a valuable artefact on your hands.

Sometimes attractive packaging, rarely associated with the CD format, can also boost their value. For instance, Oasis released a Vox amplifier-shaped box set of CD singles in 1996, a package which now fetches around £1500.

STATE OF THE ART

Artwork on LP covers can also enhance their desirability to collectors, particularly if it's the work of a cult artist. The counterculture LP illustrator to the stars was Barney Bubbles, which is why his work for Hawkwind's 1971 album *In Search Of Space*, with a die-cut sleeve, is

worth £150 or more. His cover for the UK Vertigo release of Kraftwerk's *Ralf and Florian* from 1973 also helps boost the value of that one to similar levels.

The same is true

for records such as hip-hop outfit Emanon's debut album "*The Baby Beat Box*", with a sleeve by the late, great artist and activist Keith Haring.

The mother of all priceless sleeve artworks, however, is the Capoeira Twins' 1999 12in '4x3/Truth Will Out', some copies of which were hand-sprayed by Banksy. It's now worth around £3000 according to *The Rare Record Price Guide*. Meanwhile, Royksopp's *Melody* ➤

'Collectors now focus on vinyl, but don't dismiss CDs'

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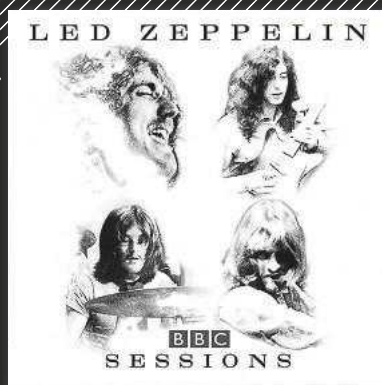
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AM 2LP promo set from 2002 also features artwork by Banksy, but because there were a few more copies produced, this is a relative snip at just £400.

TIED TO THE '90S

Broadly speaking, the period from the end of the 1980s to the early 2000s were vinyl's wilderness years, as unloved 12-inchers were piled high in bargain bins at a fraction of the price of their shiny silver counterparts. But many a skint student indie kid from back then is now an avid vinyl collector with a few quid to spare, and the records they loved back in their youth they now want on the original vinyl.

My Bloody Valentine's 1991 classic *Loveless* mostly sold on CD at the time of release, but now it's in growing demand and there's scant supply of the original Creation records UK vinyl incarnation. If you have one, its current value of around £200 is firmly on the up.

Then there's U2 – a mint vinyl copy of *The Joshua Tree* in its original gatefold sleeve now goes for around £100 simply because CDs were just taking over when it was first released in 1987.

LPs that featured otherwise unreleased tracks, especially those by acts whose fans tend towards the obsessive, can also turn out to be valuable commodities in the right

ABOVE: Led Zeppelin's *BBC Sessions* 4LP box set from 1997, the Capoeira Twins' '4x3 / Truth Will Out' single from 1999 with Banksy artwork, Deacon Blue's *City Of Love* – part of HMV's '1921' series – and the 3LP version of Smashing Pumpkins' *Mellon Collie & The Infinite Sadness* from 1995

ABOVE RIGHT: Do you have this Kylie Minogue in your collection? The singer's *Light Years* complete with Sainsbury's orange sticker is now worth £300

format and condition. Led Zeppelin's *BBC Sessions*, for instance, came out in 1997 and sold mostly on CD, but because the tracks on it weren't released on other compilations, collectors later sought out the 4LP box set to complete their Zep collection on vinyl. Even though it was reissued in 2016 as *The Complete BBC Sessions*, the original version is still more valuable and currently fetches in excess of £200.

On a similar note, the 3LP vinyl version of Smashing Pumpkins' *Mellon Collie & The Infinite Sadness* from 1995 had extra tracks on it, making it worth up to £500 now.

In recent years, the trend for limited edition vinyl reissues has snowballed, to the point that some seemingly unlikely players have entered the niche vinyl game.

SUPERMARKET SWEEP

Only a few months after Sainsbury's began stocking vinyl in 2016, it was so encouraged with the results that it launched its own range of limited edition releases on coloured vinyl, including Madonna's *Like A Prayer*, Jethro Tull's *Aqualung* and Michael Bublé's *Nobody But Me*.

You might imagine that there isn't much you can buy in a large supermarket that will end up being

collectable, but in this case you'd be wrong. Most of the series have held their value and some have even become very sought-after.

The 2018 reissue of Kylie Minogue's albums *Light Years* (2000) and *Fever* (2001), for instance, were sold in runs of 2500 blue and white vinyl gatefold LP packages respectively, and at the time of writing the cheapest mint copies of either are listed on Discogs.com for

£300. It helps that the original albums never saw the light of day on vinyl, of course.

And who knew that orange branding would ever add cool to a product? These releases are

most valuable when they have the Sainsbury's label still on the package.

Presumably liking this idea, HMV launched its '1921' series in 2019 featuring its own limited-edition vinyl releases. So, The Who LP *Who* was pressed on 5000 numbered cream vinyl discs. Other artists in the series included Kate Perry, Deacon Blue, Phil Lynott and Marc Bolan.

None is worth a king's ransom just yet but if you have any of them, keep hold. All of which shows that regardless of how much room it might take up, music in physical formats is as valuable as ever to people who truly appreciate it. ☺

'Unlikely players have entered the vinyl game'

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RIGHT: With concerts cancelled and the doors of recording and rehearsal studios closed, the pandemic has seen the music business adapt to new ways of working as it tries to keep the industry on song. But it's been a struggle for many whose pre-Covid revenue streams have all but disappeared



When Covid sets the beat

How has the pandemic affected the music business? **Mike Barnes** finds out

BELOW: Record producer and engineer 'Risky' Russ Russell pictured in Parlour Studios near Kettering. He is co-director of the business

In the first lockdown, recording studios shut down voluntarily because there was no guidance on how to work safely', says Olga Fitzroy, Executive Director of The Music Producers Guild. 'It was the first time Abbey Road had ever shut. AIR Studios closed in the first lockdown as well. There was really strong messaging: "Stay At Home".

The only people who kept open were those who were mixing or mastering on their own.'

From spring 2020, the Covid-19 pandemic impacted all activities across society. Decisions were made to close some workplaces and venues in the hospitality sector and retail outlets, while others were allowed to remain open. In the first few weeks, at least, it was a confusing situation.

the start as no one knew how long it was going to last', he says. 'But even before we were forced to close a lot of artists were cancelling, while some had vulnerabilities that made them want to isolate right from the beginning. We lost loads of work.'

But in Russell's case this was only a temporary setback. Once people had processed the initial shock and disruption, and with live venues shut down, musicians needed an outlet. They came up with new ways to continue working, recording at home and, in Russell's words, 'sending stuff in to be fixed and mixed. Before very long I was absolutely swamped with work'.

Russell also gave advice to musicians who were attempting to achieve professional results with their home recording set-ups.

'This is where Zoom and Google hangouts really came into play', he says. 'I could have meetings with people and advise them while they were setting up their equipment.'

FIXED 'N' MIXED

'Risky' Russ Russell, a director of Parlour Studios near Kettering, specialises in recording rock and metal bands. 'It was very strange for everybody at



I called it "remote producing". It was almost as if I was in the room.'

During the first complete lockdown Russell took the opportunity to renovate Parlour Studios with a small business grant from the local council. And by the time they were able to reopen he had introduced a new air filtration system, put up sanitising stations and was able to offer musicians the option of working in isolation booths as a way to ensure social distancing.

PLAYING IT SAFE

As a recording and mixing engineer, Olga Fitzroy has worked with Paul McCartney on the *Love* album, Dave Grohl of The Foo Fighters, Coldplay, Peter Gabriel and many others both live and in the studio. She was involved in mixing the performances for the closing ceremony of the 2012 Olympic Games and for the subsequent soundtrack album *A Symphony Of British Music*.

The Music Producers Guild is an independent, non-political group and as a representative, Fitzroy has been working with The Musicians Union, the BPI (British Phonographic Industry) and the DCMS (Department for Digital Culture, Media And Sport) to develop safe working practices.

'We have been in contact with Public Health England and the Health and Safety Executive to adapt generic government guidelines for the studio environment', she explains. 'And when there has been an update to the social distancing guidelines we've been working on our sector-specific guidance.'

Her recent work includes recording strings in The Hall at AIR Studios – one of the world's largest recording rooms – for Netflix TV series *The Crown*. She explains how they went about this.

'Due to social distancing rules all orchestral studios currently have much smaller capacities. AIR and Abbey Road have a capacity of about 50 when they can hold 90 to 100. It was the first time that I've recorded with the string section players 2.5m away from each other – you can't have people sharing music stands. I was worried that there would be tuning problems,



TOP: AIR Studios where Olga Fitzroy (above) recorded strings for *The Crown* (above right) during the pandemic and (far right) Abbey Road Studios, where capacity is currently limited

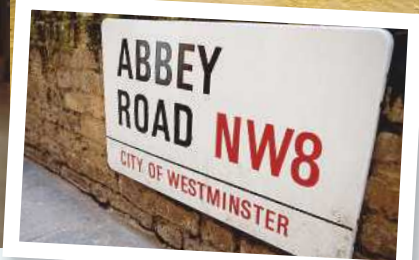
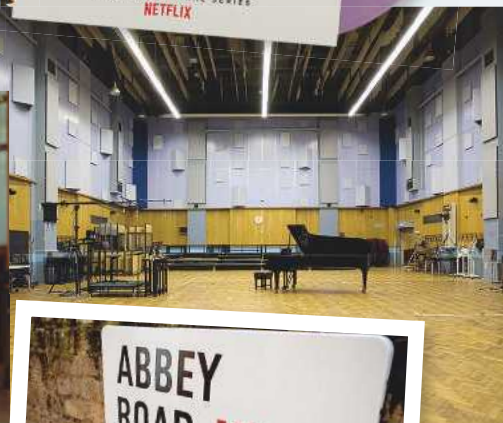
BELOW: Singer Catherine Anne Davies, her 2020 album *In Memory Of...* and (right) Bernard Butler



but there weren't any at all. The players have adapted to it well.'

Vocalist and multi-instrumentalist Catherine Anne Davies released an album *In Memory Of My Feelings* with guitarist Bernard Butler in 2020. She has played live with Simple Minds since 2014 and also records solo as The Anchoress – her recent album *Art Of Losing* reaching the UK Top 40 this spring. In 2019 she installed a recording studio in her home in Bucks, which she runs as Craven Industries.

'I'm so lucky I did this, because if I hadn't, I'd have been paying rent on a space I couldn't use', she says. 'There are a lot of things that happened with the timing that have been serendipitous and I am aware a lot of my friends and colleagues have not been so lucky.'



"The string players were 2.5m from each other"

Regarding the album with Butler, 'It was the first time I've not attended the mastering of a record that I've made', she says. 'It went straight over to Sean Magee at Abbey Road and he sent it back to us for our approval. But that's really the only way that the pandemic affected the album, though we did have some manufacturing delays in terms of the vinyl being ready.'

SOLE TRADER

As a producer, Davies ideally takes an active role with people who record at Craven Industries. ➞



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INVESTIGATION

'In a lot of cases I'm also being brought in as a co-writer', she says. 'I work with younger female artists who want to be comfortable in a space that's usually male-dominated. That's my unique selling point and being a multi-instrumentalist as well, I can fill in all the gaps.'

'I see the role of producer as part therapist, part psychologist and part cheerleader. A big part of producing is spending time together and building up a relationship and it's very difficult to do that remotely.'

As a sole trader Davies has picked up some government support. But as she notes, her studio's gross turnover, including outgoings such as equipment maintenance is 'vastly different' from net profit, which is what the scheme is based on. 'In terms of income it's nothing like I'd be used to at all', she says.

JUST NOT COOL

'Risky' Russ Russell and his business partner in Parlour Studios are company directors, but they are also registered as individually self-employed for their production work and so have been eligible for

government grants. But Russell notes that he has since picked up enough work to not claim any more and it would 'not be cool' to do so.

PORTFOLIO CAREERS

But those who have set up just as limited companies and company directors are not eligible for support, which is about a third of the members of the Music Producers Guild. 'The music industry brings £5.2 billion [each year] into the UK',

says Davies 'But I speak every week to people who are on their knees financially – really successful people who have gone from earning a very decent living to nothing. It's

short-sighted and I don't think the government understands.'

Olga Fitzroy has found some difficulty in dealing with government departments. 'There are some very good officials in the DCMS who come from the music industry and completely understand that it's a proper job', she says. 'But I've been on calls with people in government



ABOVE LEFT: Olga Fitzroy poses for the camera at the 2016 Music Producers Guild Awards where she was voted Engineer And Producer Of The Year

ABOVE: The *Art Of Losing* released in March 2021 by The Anchoress, the stage name of singer Catherine Anne Davies and (right) promo shot of Davies

BELOW LEFT: Producer Nick Brine at the mixing desk of the Coach House studio at Rockfield. He worked with The Stone Roses on their 1994 album *Second Coming* and with Oasis on *(What's The Story) Morning Glory?* (below)



ISABELLA CHARLESWORTH

whose general attitude is that it's a hobby and it's nice to have, but it's not a real profession and industry.'

This assessment of the recording industry as partly professional and partly hobbyist has dictated which studios have been allowed to operate. At the time of writing larger studios have re-opened but smaller rehearsal facilities and recording studios remain closed.

Fitzroy: 'The distinction is more about the activities than about the person *per se*, because many people have portfolio careers. If it's rehearsing or recording for something that will make money, then you can do it. If not, you aren't allowed to do it because it's not thought to be an essential activity.'

ARTISTS IN RESIDENCE

Nick Brine first made his name as a recording engineer in the 1990s, working at one of the UK's most famous studios, Rockfield in Monmouthshire [*HFN* Jan '21], with bands such as Oasis and The Stone Roses. He still does most of his sessions in the studio. Keeping social distance is relatively easy, but the residential studio is also a tourist attraction and has lost two revenue streams in the pandemic, as it has not been possible to continue with holiday lets or master classes, which typically involve 20 to 30 students staying over.

He also co-runs Leeders Vale studio in Ebbw Vale. But they have fallen foul of bureaucracy as the rent



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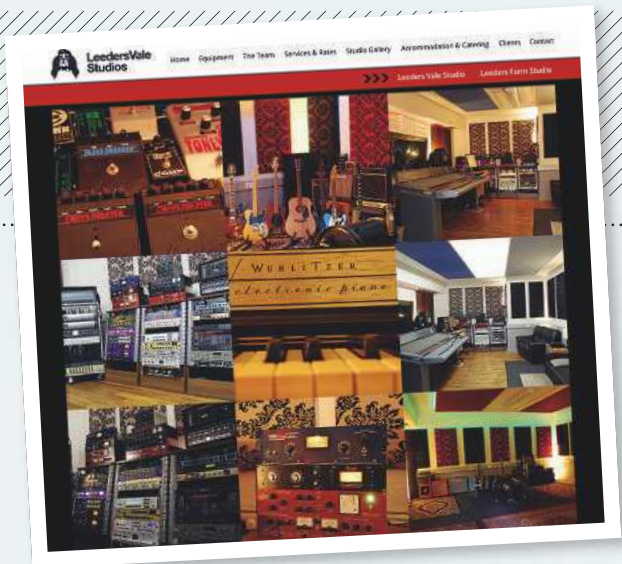
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they pay for the space includes business rates. Because the landlord forwards the rates on, rather than them, they weren't eligible for two government grants in 2020.

Brine had moved with his family to Alicante on the Costa Blanca where he ran a residential studio, predominantly recording bands from the UK. In 2020 he would travel back and forth to the UK but with travel restrictions, including Covid testing, not to mention a scarcity of flights from Alicante, he has now decided to move back to Britain.

HYBRID WORKING

Nowadays most musicians have access to good quality recording equipment, but there are limits to what can be recorded at home, like achieving a good drum sound in your living room. With this new hybrid way of working forced upon people, does Brine think that the traditional recording studio has maybe had its day?

'I've done a couple of albums with people in America and the UK and we've not had to meet up at all throughout the process. But most of the bands that I work for want to get back into the studio', he replies.

'Some have hated doing it remotely because something that could be done in a few hours in the studio is taking days. My preferred way throughout the last year has been to initially meet up in the studio if we can, and get the basics down. Then we can do the rest remotely and they can send me vocals, for example. But I would always want to be in the studio. The camaraderie, the fun, the creativity, even the stress and the pressure... Nothing can replace that.'

Meanwhile, Olga Fitzroy thinks this new way of working with reliable high-quality audio feeds might have some unexpected positive effects. 'I think remote

ABOVE: Leeders Vale Studios in Ebbw Vale, Wales, which is co-run by Nick Brine. He misses the camaraderie and creativity that working face to face with musicians in the studio environment can bring

TOP RIGHT: Heavy metal producer 'Risky' Russ Russell salutes the camera with a 'sign of the horns', said in some cultures to ward off evil spirits... He says that Parlour Studios is now fully booked for later this year, as well as through January 2022

ABOVE RIGHT: Nick Brine behind the mixing desk at The Quadrangle studio in the Rockfield complex. As a result of the pandemic he has now moved back to the UK from Spain, the international commute ceasing to become cost-effective or, indeed, at times even possible

REMOTE CONTROL

Recording studios are first and foremost run as businesses, but during the pandemic some found that even when they weren't open as usual, they'd become a community hub for musicians. 'Risky' Russ Russell was prepared to help out clients who would have normally booked studio time by 'remote producing' work via Zoom free of charge.

'I knew that I was probably going to earn money out of the project at some point, be it mixing or mastering', he says. 'Then there is the mental health aspect of musicians being trapped at home when they are so used to touring, which is how they made most of their income. Some people were really struggling. To be able to carry on working and to have contact helps so much. I had messages afterwards from people saying, "Thank you, you really did save me from the pits of despair", so I was happy to do that.'

At Leeders Vale studio in Ebbw Vale, Nick Brine has always engaged in community work, such as taking in those with special educational needs as interns. But it was difficult to continue this during the pandemic, and they have run up against bureaucracy.

'We've never asked for money before and we didn't want it for ourselves. It was used to run projects such as remote classes for bedroom producers', he explains. 'But if you are not already a grant-funded business you are not in the system, so we didn't get anything.' Like Russ Russell he has taken a 'phlegmatic' approach and waived cancellation fees.

'People have cancelled because they are unable to do it or have not felt comfortable, or new restrictions have come in – and some would have been quite lucrative production or engineering sessions', Brine says. 'But you can't say, "I still want paying". Where is that going to leave you? And hopefully when we come out of this, relationships will have been built and the trust will carry on.'



monitoring does work and will cut down international travel, like flying for 12 hours to attend a session for a day', she says. 'And more people might think that maybe they can collaborate with someone in a different country.'

KIND OF MADNESS

'Risky' Russ Russell is pleased to confirm that Parlour Studios is still in demand. 'I have just booked the whole of January 2022 and October and November 2021 is full,' he says. 'Musicians are resilient. I mean, who else would travel in the back of a transit van up and down the country for next to nothing, playing to three people? That's the kind of madness

that spurs musicians on and I love it. It has seen people through.'

And when we do finally put the pandemic behind us, Fitzroy is confident that through the lobbying of groups such as the MPG, the importance of the music industry, and the recording studio sector in particular, will actually become recognised more widely.

'Five years ago nobody in government would be able to tell you what a studio was', she says. 'Now the DCMS are about to run a government study of recording and rehearsal studios in the country, so it feels that slowly they are realising that we exist. However, there is still a lot of work to do.' ☺

INVESTIGATION



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LEFT: Innovative, research-based test and measurement underpins every review in *Hi-Fi News*. Each month you will discover performance-determining facts that are unique to our reporting



ABOVE: The 1.7m tall, 80kg fenestrias [p40] are slowly moved into position in our listening room

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IN THIS ISSUE...

LEFT: Step one on their journey through the month-long *Hi-Fi News* review process, PMC's fact fenestria flagships arrive at our door in their many boxes, ably assisted by PMC stalwarts Keith Tonge [left] and Ian Sutton.

RIGHT: Employees of high-end distributor Absolute Sounds arrive to pack and carry away last month's cover stars, the all-alloy 82kg Magico A5 floorstanders – the conclusion of an intensive review journey.



PMC fact fenestria

Launched three years ago but only now released for review, PMC's flagship fenestria is a towering statement
Review: **Andrew Everard & Paul Miller** Lab: **Paul Miller**

The PMC fact fenestria – the British brand's flagship 'domestic' speaker (note lower case f) – was launched at a packed press conference at Munich's High End Show. That's the 2018 High End Show, and it's taken over three years for it to arrive for review – in which time the price has risen from the inaugural £45,000 to the £54,995 for the pair you see here. In the intervening period there's actually only been one Munich show – that in 2019, at which the company launched its smaller 'fact signature' models: the 2020 show fell victim to the pandemic, as did this year's at least twice, being rescheduled from May to September, then cancelled completely.

All that while we'd been wondering what had happened to the fact fenestria speakers, which take their name from the idea of an open window on the music or, as PMC put it at the launch, 'the speakers you'll never hear'. Yes, we get the idea of neither adding to, nor subtracting from, the sound, but for years they were truly living up to that never-to-be-heard billing.

FLOAT ON

Anyway, now they're here, and still pretty imposing at 1.7m tall, and weighing a healthy 80kg apiece complete with their stabilising plinth. Expert installation is required, not just because of the size and weight of the things, but because the construction of the speaker involves a lot of assembly work on delivery. The speaker involves two bass cabinets – one sitting on that substantial plinth, the other inverted on top, plus a floating metal section, called the Nest. This slots into a cutout formed by those two assemblies, on which are mounted the tweeter and midrange driver.

Even then you're not done, as the outer 'cabinet' of each speaker is formed by four 'planar wings'. Far from decorative, these are part of the mechanics of the entire assembly, acting as tuned mass dampers to tackle resonances [see PM's interview

with designer Oliver Thomas, p43]. But at its heart, the fact fenestria is a relatively simple speaker – a three-way design with elements, although all-new here, familiar from other PMC models. The tweeter is a 19.5mm version of the company's long-running Sonomex design, with a soft dome and neodymium magnet, mounted in a 36mm surround, itself isolated by a silicon mount PMC calls an 'Aureole'.

SHAKEN NOT STIRRED

The tweeter shares that 'Nest' assembly, which is open-backed, milled from a billet of aluminium and shaped both to avoid baffle diffraction and isolate the

whole assembly from the bass 'bins', with a rear-chambered development of the company's famous 75mm soft-dome midrange driver. The new version uses a cotton dome rather than the silk of past designs, as does

the tweeter, here doped with a revised chemical cocktail. This is said to give better stiffness as well as lightness, while any unwanted rear energy vents into a tuned chamber [see PM's boxout, p41].

The bass section – or rather sections – of each speaker demonstrate familiar PMC thinking, using the company's ATL (Advanced Transmission Line) loading, venting out via Laminair ports. The latter are tuned using Oliver Thomas's knowledge of airflow gained during his time spent working in F1 engineering. Rather like the diffusers used on racing cars, this design is all about smoothing airflow. For the fact fenestria, both the geometry of the ATL and the choice of lining materials within the 'tunnel' have been refined. So no major changes to the thinking here, but tweaks.

RIGHT: The 19.5mm soft dome treble and 75mm soft dome mid are isolated from the main cabinet by a separate, hourglass-shaped baffle. Pairs of transmission line-loaded 165mm bass units, with flat carbon-fibre/cell foam sandwich diaphragms, are mounted above and below

'The crossover is massive and complex, filling the plinth'



GRAND DOME

Front and centre of the tall, elegant fenestria is the PMC75-S midrange dome, a development of the iconic PMC75 used in PMC's active studio monitors and SE Home models for years. Previously, PMC had damped internal resonances immediately to the rear of the dome but has greatly improved this in the PMC75-S by using a vented (hollow) pole-piece to dissipate rear-radiated energy into a separate chamber. The latter extends out from behind the motor structure, its computer-modelled profile spun from a single piece of aluminium. A bitumastic material coats the inside of the chamber together with multiple layers of acoustic foam to absorb the unwanted rear output of this mid driver. Reduced distortion and improved response 'flatness' are the key benefits, the latter also enhanced by the re-designed, two-part 150mm magnet and motor design with its copper shorting ring.

The dome driver itself is made from cotton, impregnated with a plasticised lacquer to combine light weight with a high degree of self-damping. A dual suspension/surround, also fashioned from a doped cotton but with a tighter weave, permits greater displacement without rocking – read higher SPLs with lower distortion. The entire midrange assembly is isolated from any main cabinet vibrations by PMC's 'Nest' – a profiled, machined aluminium frontispiece mounted onto the cabinet with silicone bushes. The compliance operates over three axes and is tuned to be effective down to very low frequencies, claims PMC. PM

However, while ATL and the Laminair ports are found in other PMC designs, the bass drivers here are all-new, and developed purely for this speaker. The 16.5cm flat-diaphragm 'piston drivers' use a membrane comprising carbon fibre layers sandwiching a Rohacell foam core. These are driven by 14cm magnets, and are mounted between the main enclosure and a decoupled secondary baffle, which floats on a magnetic suspension sealed with a gasket. The enclosures themselves use a range of thicknesses of HDF (High-Density Fibreboard), from 18mm up to 30mm, this also forming the internal 2.4m-long ATL labyrinth as a structural part of the cabinet assembly [see illustration, p41].

Those planar wing panels, available in Tiger Ebony, Rich Walnut or White Silk, attach to the sides of the bass enclosures via floating mounts, allowing them to damp out resonances by vibrating in opposition to the main speaker. The technology, echoing that used to stabilise tall buildings in earthquake zones, creates an effect PMC says operates down into the lower midrange, and also helps reduce room interactions. Having once been resident on a high floor of a hotel when a – mercifully small – earthquake struck, I get the principle. Amid the shaking there was a definite sense of a great mass literally swinging into action up above to calm things down.

The crossover here is massive and complex, filling the plinth, which is CNC-routed from a single piece of HDF, and connecting out to the driver sections via

a series of multipin connectors between plinth, enclosures and Nest. The crossover points are at 380Hz from the bass to the midrange, and 3.8kHz from midrange to tweeter. The company provides a couple of adjustments to the rear of the plinth, allowing the treble and bass each to be subtly adjusted. Three sets of substantial spanner-friendly rhodium-plated combination terminals are provided with jumper bars to allow single-, bi- or tri-amping/tri-wiring, and high-quality – and very sharp! – spikes are provided.

SOLID ROCK

The fact fenestria speakers certainly make a statement in any room, even though they're not as big as some pictures might suggest. They're relatively slender at just 37cm wide, and PMC says the ATL design means they're not fussy about positioning, and should be used with a slight toe-in to firm up the image. I'd advise the usual cautions about using them in corners or equidistant from walls, but they do seem very room-friendly. And, of course, those controls down on the crossover do allow a modicum of room-tuning – though I'd go easy with the bass boost, however tempting it may seem.

As far as the listening position is concerned, things are similarly simple – just ignore that big bass-box on the top, and sit with your ears on the same level as the Nest midrange assembly, and you won't go far wrong. In that position the fact fenestrias sound similar to, but rather better than, a good two- or three-way speaker ☺



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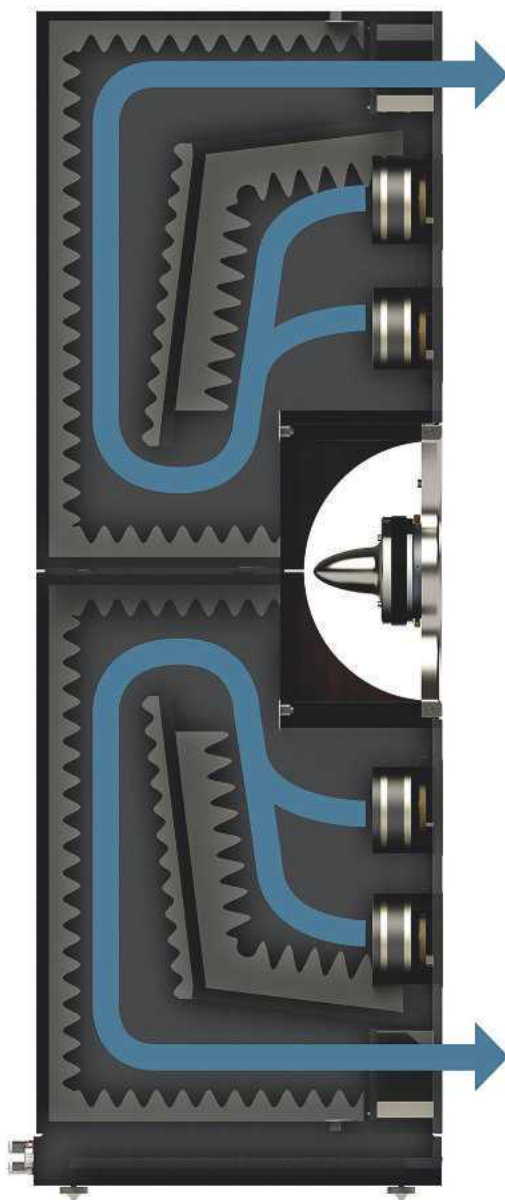
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LEFT: The fenestria is divided into two mirror-image cabinets where the pairs of 165mm cellular/carbon-fibre bass 'piston drivers' feed into folded 2.4m transmission lines that exit at the very top and bottom of the enclosure

Bryston power amplifiers were employed in the development here – PMC distributes the Canadian brand in the UK – and this may explain why even with the Classé Delta Pre/Mono amps [*HFN* Jun '21] in harness, I was aware of having to crank the level on the preamp pretty hard to stir the fact fenestria speakers into life.

Given the power on tap from the Classé amps – PM measured 400W/8ohm and 760W/4ohm – this is clearly something to be considered. It's not just a matter of needing high-quality amplification for these speakers as high power is required, too.

Given that power, the fact fenestrias can certainly deliver, rocking out with the raw southern swagger of the title track of Blackberry Smoke's *You Hear Georgia* set [3 Legged Records 3LG14CD]. There's fine instrumental definition and speed, all underpinned with a big, solid bass thump, and impressive soundstaging.

GROOVE KINGS

The same is true with the latest Crowded House set, *Dreamers Are Waiting* [EMI 3534658], the loudspeakers giving fine insight into the performances. They lurch appealingly into 'Playing With Fire' with real drive, and just as easily slip into the easy groove of 'Start Of Something', the beautiful harmonies on this song persuasively rendered to draw the listener into the very heart of the music.

Similarly, these speakers grab your attention with the vocals on Paula Cole's *American Quilt* album [BMG 538668572], set against superb, if spare, backing and with fine ambience. And when the fact fenestrias get the opportunity to show their scale and weight, as in the refined yet dramatic performance of Walton's *Crown Imperial*, from the Dallas Wind Symphony's

album of the same title [Reference Recordings RR-112], they can delight.

They deliver detail deep into the orchestra – twinkling tuned percussion and glorious woodwind and brass timbre, but for all their size these never

sound like big, slow speakers. Instead, they're fast and agile, while still capable of massive slam. The slow processional theme has richness and weight and the great percussion crump at the end of that section shakes the room. Fabulous stuff. ➔

OLIVER THOMAS

Commercial Director and CTO, Oliver Thomas, kick-started the fenestria project in 2013 as an exercise in 'blue sky thinking'. PMC's iconic midrange dome was to remain at the heart of the speaker but it was also an opportunity to evolve its design. Improving the dissipation of the dome's rear radiation was key [see boxout, p41], so did PMC look at the frequency-selective metamaterial approach to damping seen in KEF's LS50 Meta [*HFN* Jun '21]?

'Not directly', admits Oliver, 'though we do have a parallel technology in development'. The design goals for the fenestria were arguably broader in scope, both in reducing driver distortion and minimising cabinet noise.

For example, the curved side panels act as tuned mass dampers, working in anti-mode to the main cabinet resonances. 'These panels are working hardest below 100Hz', reveals Oliver, 'and we have chosen the compliance of the rubber mounts, in tandem with the mass of the curved panels, to best achieve this. The position of the mounts is critical too, situated at points of maximum displacement'.

Where does the fenestria take PMC? 'There's new tech, including a smaller mid dome already used in our ci140 on-wall speakers. Also the anti-vibration mounts inspired the decoupling between the cabinet and plinth in our twenty5i series. The bass units are so expensive to manufacture there's a limit to what we can put them into', laughs Oliver, 'but there's a deal of learning here that'll inevitably trickle down into our domestic designs'. PM



from the company's main fact range and with a hefty dose of bass to underpin goings-on. We've had some big speakers through our hands demonstrating much more 'character' – for good or bad – than the fact fenestrias make obvious, but there's little chance you'll consider these speakers to be inauspicious or just plain ordinary on your first acquaintance with them.

One point worthy of consideration, however, is PM's observation regarding the sensitivity of the speakers [see Lab Report, p45]. While they present a relatively easy-going 6ohm nominal load, they fall some way short of the quoted 86dB/2.83V/1m, suggesting some decent amplifier power won't go amiss. I imagine that some of the larger

'They are fast and agile, combined with massive slam'

inakustik

PHYSICS NOT VOODOO



"There's a lot of hand-made cable here for the money, making it a reliable bet for that first 'big upgrade'."

Paul Miller, Hi Fi News, February 2021

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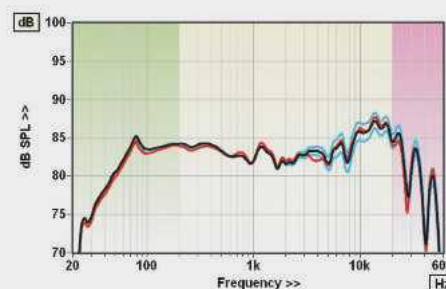
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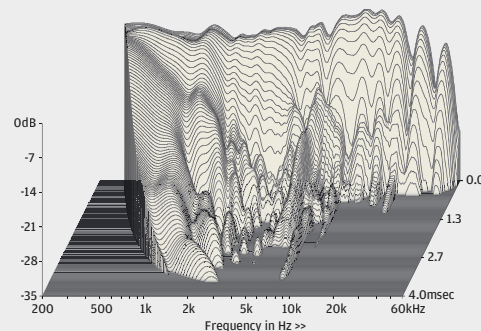
PMC FACT FENESTRIA

For the size of cabinet, the fenestria's 86dB rated sensitivity is not especially high and, in practice, turns out to be substantially lower on test at 82dB/1kHz, increasing to 82.7dB when averaged across 500Hz-8kHz. Thankfully the speaker is a complex but not especially tough 6ohm nominal load to drive. There's a 4.7ohm/81Hz minimum and despite the load remaining sub-8ohm from 8Hz-170Hz, 370Hz-2.7kHz and above 4.6kHz, the largest phase angles are a very modest +25°/-32°. High SPLs will still demand a high power amplifier but, despite the diminished sensitivity, THD is low at ~0.25% through the bass and very low through the passband of the dome mid at ~0.1% (re. 90dB SPL). Driver modes are very well controlled too [see CSD Graph 2].

The ideal listening axis, on the mid dome, is not far off the 'average' seated height but if you sit higher (towards the treble dome) then the response dips between 2kHz-5kHz (-3.7dB/4.6kHz). This effect was more obvious with one speaker, hence the 1.3dB pair matching (tightening to 0.5dB, 200Hz-3kHz and 5kHz-20kHz). Otherwise the forward trend has a mild 'BBC dip' with a lift above 8kHz responsible for the ±3.1dB and ±3.3dB response errors, followed by some lobing above 20kHz [pink shaded area, Graph 1]. PMC's useful HF control operates above 2kHz [blue traces, Graph 1] tilting up/down to reach a sensibly modest, but certainly audible, ±1.1dB above 6kHz. Meanwhile, the quartet of bass drivers peak at 79Hz (40Hz-425Hz, -6dB), augmented by the folded transmission lines at 22Hz-136Hz to deliver a low, corrected LF extension of 33Hz [-6dB re. 200Hz; green shaded area, Graph 1]. PM



ABOVE: Response inc. nearfield summed driver/port [green], freefield corrected to 1m at 2.83V [yellow], ultrasonic [pink]. Left, black; right, red; ±HF, blue



ABOVE: Cabinet is fairly 'silent' leaving a bass driver mode at ~1kHz and minor dome modes at 5kHz-8kHz

LEFT: PMC's three-way 380Hz/3.8kHz split crossover supports tri-amping and tri-wiring if the link plates are removed from the trio of chunky cable connectors. Subtle ±LF and ±HF bass/treble tone adjustment is possible at 90Hz and 2kHz

the instrument convincingly scaled without being unnaturally close-up. But then that's the hallmark of these speakers – they have all the weight and solidity of those multiple bass drivers, without ever sounding over-large or ponderous.

STATELY SOUNDS

This is apparent with the Band Of Brothers' set *A Jazz Celebration Of The Allman Brothers Band* [New West Records NW6474]. It's a concept that sounds like it shouldn't work, but it does, the jazz musicians charging through 'Whipping Post', thanks in no small part to the fact fenestria's combination of weight, information and speed, driving the rhythms thrillingly. The sound is big and punchy, with really powerful, characterful brass.

And that attention to detail is once more reinforced with John Challenger's atmospheric *Salisbury Meditation* album [AJM AJM001, 96kHz/24-bit], helped by the way these speakers cast the organ slightly distant in the acoustic, just as it should be. The impression of walking into a cathedral and hearing the instrument playing, rather than a close-up view, is highly persuasive with Albinoni's 'Adagio'. It's a great, unforced, stately sound, complete with the resonances of the space, and a fine exemplar of what the fact fenestria can achieve. ☺

HI-FI NEWS VERDICT

These flagships manage to sound suitably big and weighty, without any of the excessive bloom or slowness one might expect from those two hefty bass bins on each channel. It's a striking piece of engineering, and delivers speed and detail, along with exceptional soundstaging and an involving effortless listen. Just don't stint on the amplification, for these speakers need plenty of grip and power to be heard at their best.

Sound Quality: 88%



However, you don't need massive musical forces to hear what these speakers can do. With Martha Argerich's legendary 1965 recording [Warner Classics 9029669767, 192kHz/24-bit], the pianist, then just 24, plays with vivacity and wonderful expression, and there's a great sense of ambience around the piano in the studio, plus speed, attack and lightness of touch all at once. The imaging is rock solid, and

HI-FI NEWS SPECIFICATIONS

| | |
|---|----------------------------------|
| Sensitivity (SPL/1m/2.83V – 1kHz/Mean/IEC) | 82.0dB / 82.7dB / 81.3dB |
| Impedance modulus: minimum & maximum (20Hz–20kHz) | 4.7ohm @ 81Hz 11.6ohm @ 255Hz |
| Impedance phase: minimum & maximum (20Hz–20kHz) | -32° @ 29Hz +25° @ 160Hz |
| Pair matching/Resp. error (200Hz–20kHz) | 1.3dB / ±3.1dB/±3.3dB |
| LF/HF extension (-6dB ref 200Hz/10kHz) | 33Hz / 26.8kHz/25.9kHz |
| THD 100Hz/1kHz/10kHz (for 90dB SPL/1m) | 0.25% / 0.09% / 0.9% |
| Dimensions (HWD) / Weight (each) | 1700x370x623mm / 80kg |

AGD Gran Vivace

Infineon Technologies' Class D solutions have been seen before in audiophile amps, but this is the first to feature gallium nitride FETs. The 'tubes', however, are pure decoration!

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

Unlike its meaning as a show of arrogance, in a design context a 'conceit' is, variously, 'an ingenious or fanciful comparison or metaphor', 'an artistic effect or device', or 'a fanciful notion'. AGD's £18,000-per-pair Gran Vivace is all three. To understand the utterly bizarre use of a valve's glass envelope as a housing for a solid-state amplifier, think of a similar conceit in another field: smart watches which, instead of emulating Apple's genre-defining rectangle, look like analogue timepieces.

Perhaps designer Alberto Guerra was inspired by the likes of TAG Heuer, whose designs offer reassurance for newcomers to smart watches by making them look familiar. Thus, the AGD Gran Vivace (Italian for 'lively') is a transistor amp made visually friendly for tube lovers. With all due respect to Guerra, that battle ended in two camps, so this is unlikely to part valve aficionados from their 6550s, or KT120s.

SMART GLASS

Instead, the glass tube is merely a siren's call. Get past it, and there's a serious power amp, the valve shtick's novelty soon forgotten. As PM explained, the bit about 'First to use the unique GaNTube with Gallium Nitride Power-Stage integrated into a Vacuum Tube' is mere license. True, it uses a specific type of transistor in a Class D switching output stage, but the circuit board is simply housed inside a valve-shaped 'thing' sticking out of the chassis [see PM's technology boxout, p47].

It's important that one understands and then dismisses this ploy so as not to be diverted from the task at hand: to amplify. Guerra, when asked about the tube's *raison d'être* beyond its cool looks, said, 'I wanted to remove the stain that was applied to Class D. To do that, I had to design something at the leading edge of

the technology and the GaN power FET was ideal for my design'. However, the ol' warm 'n' fuzzy thermionic valve aesthetic still offers what he calls a 'positive first contact experience'. Says Guerra, 'A black box Class D amp may not have delivered that same, impactful first impression'.

The Gran Vivace is the big sister to the Vivace, launched in 2019 and conceived as a modular platform that could be developed into a higher powered version, as well as for multichannel solutions. Guerra says that he wanted 'to eliminate the fear of obsolescence'. So the Gran Vivace occupies the same 279x127x279mm (whd) dimensions and weighs the same 10kg as the Vivace, but inside that solid alloy chassis with its faceted, Perspex top is a larger, more

powerful PSU to increase the Vivace's 100W factory rating to 350W.

Other changes involved different power components for the output stage, including the GaNTubeKT120 with its dedicated 'audio grade' GaN power transistors,

rated at 400V versus the Vivace's GaNTubeKT88's 200V. Guerra said the power increase also required optimisation of the layout, and selecting different grades and types of caps, resistors, and inductors.

The work has since trickled down to the Vivace, now with MkII status.

"The valve is a "positive first contact experience"

SONIC SPECTACULAR

Once you get over the visual novelty value of the 'tube' itself, the amp is a model of simplicity, with superlative build quality. I

RIGHT: The thick alloy chassis plays host to a ZVS (Zero Voltage Switching) power supply using Infineon Technologies' 'Cool-MOS' HV FETs. Eight sockets in the tube base connect to the pair of mini PSU/Class D PCBs [see boxout]





LEFT: Certainly a sight to fire the imagination of audiophiles, but this is no KT120 pentode. Instead, the air-filled glass bottle holds a very solid-state, analogue Class D amplifier. Touch sensitive on/off switch is also lit

And why not? It eliminates all that circuitry, a set of interconnects and shortens the path; the only sacrifice is extra inputs. As the Gran Vivace has two selectable inputs, I fed the Otari MX5050 directly via XLRs, and used the single-ended input for other sources. Also, the partnering Andante preamplifier never made it past PM's lab tests, it proving faulty and was rejected.

Straight in with a bombastic, relentless sonic spectacular: 'Sabre Dance' from Khachaturian's Gayne Ballet Suite on open-reel tape

[Everest T-43052]. A performance that never fails to leave listeners breathless, the Gran Vivace instantly conjured up slam and power to test the Wilson Sasha DAWs' [HFN Mar '19] mettle. The extension down below was as rich, convincing and palpable as anything I've heard in my room, but the ear-opener was the total absence of overly-taut, thin bass that I might have laid at the foot of Class D in the past.

had it making music in under two minutes. There are only three switches: the primary on/off rocker at the back, a soft-touch on/off button at the front, and a selector to choose between the balanced XLR or single-ended RCA input. The speaker terminals are multi-way 4mm types.

My only concern is the vulnerability of the GaNTube, exposed and waiting to be smashed or knocked over. I would ask AGD to fashion a cage as per the smaller AGD

Audion, but obviously more in keeping with the Gran Vivace's modern look, rather than the Audion's 'steam punk' plumage.

Most listening was undertaken *sans* preamp, as I'm currently fixated on sources with output controls, eg, most tape decks, phono stages for LP-only systems, etc.



CLASS D IN A BOTTLE

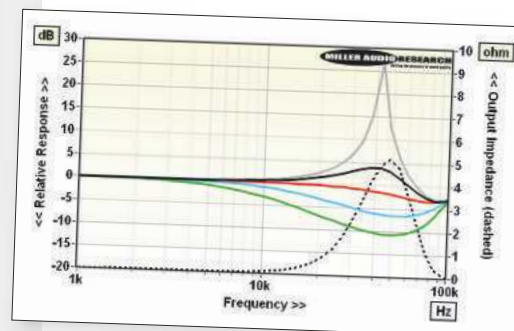
At one time, designer Alberto Guerra worked at Infineon Technologies (IT) and his familiarity with this world leader in semiconductor solutions inspired the core design of his AGD 'GaNTube' Class D amplifiers. The PWM modulator comes from IT's latest Merus range of Class D amplifier solutions. We've seen an early version of this (then International Rectifier) solution before [HFN Sep '15] although that amplifier never benefited from one of IT's more recent innovations – the 'CoolGaN' HEMT or high-electron-mobility transistor. This gallium nitride substrate offers specific advantages over conventional MOSFETs, rendering it more suitable for high power, very high frequency switching applications – such as the output stage of a Class D amp...

AGD has squeezed its ~800kHz switching Class D amp into an illuminated tube 'bottle', but there's neither a vacuum nor filaments inside – this is a purely decorative artifice! Inside each glass tube are two small PCBs, one [top left] hosting the local PSU regulation and protection, the other [top right] combining IT's IRS20957SPBF driver IC with 600V-rated 'CoolGaN' HEMTs. While noise and spurious are low in this design [see Lab Report, p49] the 'traditional' bridged Class D architecture and inductive output filtering retain some drawbacks – output impedance [dashed trace, see Graph, right] rises steeply at HF, as does distortion, while the frequency response varies with speaker load impedance [unloaded/8/4/2/1ohm = grey/black/red/blue/green traces]. Put simply, if the impedance trend of your speakers rises in the treble then the Gran Vivace will likely sound brighter, and vice-versa. **PM**

WARM LOVE

In mere seconds, I was forced to forget my limited past experiences with Class D amplifiers, most of which sucked. But let's not be absolutist about this – I'm sure there are more than a few Class D amps that avoid the apocryphal scratchy, anorexic, edginess. Here was one of them, a potent new-age FET amplifier that seemed to have more in common with single-ended triodes than with those early Class D experiments.

Not only did the AGD Gran Vivace reproduce the weight and energy of the orchestra, it also created a natural-sounding space which reminded me – I swear I haven't touched a drop – of my beloved 211 triodes, of all things. No cloying triode softness, *per se*, just an airy warmth which remained consistent when I



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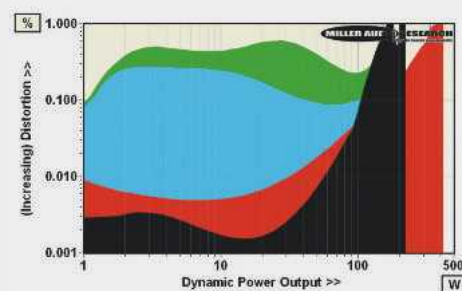
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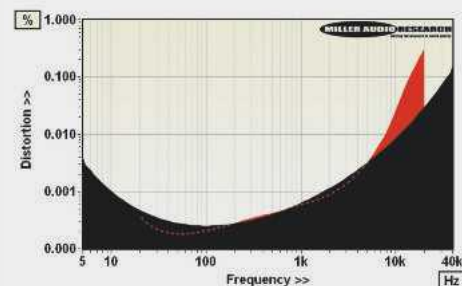
AGD GRAN VIVACE

The designer of this amplifier has gone to great lengths to develop a very 'clean' implementation of Infineon Technologies' Merus AUDAMP24 Class D solution. Levels of switching noise and other spurious are extremely low, typically $<-120\text{dB}$ below full output, while the A-wtd S/N ratio is some 15dB wider than achieved by the older, MOSFET-based IRAUDAMP solutions at 95.3dB (re. 0dBW). Overall gain, via the balanced inputs, is a sensibly low +23dB requiring $\sim 2.8\text{V}$ for full output while efficiency (power out versus AC mains drawn) is $\sim 90\%$. AGD rates the Gran Vivace variously as 350W/4ohm and 200W/8ohm while, on the lab bench, it achieved closer to 380W and 195W, respectively, at 1% THD. The near-doubling of output between 8 and 4ohm loads is illustrative of the 'stiff rail' Class D architecture but it also explains why there's little or no dynamic headroom. Figures of 205W, 400W and 335W under dynamic conditions into 8, 4 and 2ohm reflect this [see Graph 1, below] while the drop to 150W/1ohm is due to over-current protection.

Graph 1 also indicates a marked increase in THD into loads below 4ohm – typically $>0.1\%$ from 1-100W/2ohm versus 0.002-0.08% into 8ohm. Under continuous conditions, distortion increases from 0.004%/1W, 0.005%/10W and 0.09%/100W (all at 1kHz). Distortion also increases with frequency [see Graph 2, below] from 0.005%/1kHz to 0.07%/10kHz and 0.3%/20kHz (all at 10W/8ohm) in line with the response of the reactive output filter network. Into an open load the Gran Vivace's frequency response rises to +2.5dB/20kHz (peaking at +27dB/43kHz) and is tempered under load to +1.3dB/20kHz and $-0.35\text{dB}/20\text{kHz}$ into 8 and 4ohm respectively [see boxout, p47]. PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max current is 12.9A



ABOVE: Distortion versus frequency at 1W/8ohm (black, 5Hz-40kHz) and 10W/8ohm (red, 20Hz-20kHz)

HI-FI NEWS SPECIFICATIONS

| | |
|-------------------------------------|-----------------------------|
| Power output (<3% THD, 8/4ohm) | 195W / 380W |
| Dynamic power (<3% THD, 8/4/2/1ohm) | 205W / 400W / 335W / 150W |
| Output impedance (20Hz-20kHz) | 0.004-0.057ohm |
| Freq. response (20Hz-20kHz/100kHz) | -0.27dB to +1.4dB / -2.9dB |
| Input sensitivity (for 0dBW/190W) | 205mV / 2770mV (balanced) |
| A-wtd S/N ratio (re. 0dBW/190W) | 95.3dB / 118.1dB |
| Distortion (20Hz-20kHz, 10W) | 0.0003-0.3% |
| Power consumption (Idle/Rated o/p) | 16W / 220W |
| Dimensions (WHD, each) / Weight | 279x127x279mm / 10kg (each) |



ABOVE: Switched, single-ended RCA and balanced XLR inputs are joined by a single set of 4mm speaker cable binding posts for this minimalist monoblock amplifier

fed it something from the other end of the spectrum: an SACD.

While not as far removed from open-reel tape as, say, streaming, the SACD format is an exemplar of what digital can do. Even so, I opted for a 50-year-old recording, Jeff Beck's *Truth* [Mobile Fidelity UDSACD 2223]. This is an album I have adored since the day it was released, and the Gran Vivace was so transparent and free of grain or sibilance that it was illuminating to hear how Rod Stewart's voice had changed from this set recorded when he was in his early 20s. This amp leaves textures alone, free of the overly hygienic scrubbing some such products inflict on the sound.

SENSE OF PLACE

But appreciating Stewart the Younger involved avoiding tempting distractions. Beck's guitar playing simply soared, with exquisite fluidity, and dynamics that attested to speed and range, while the Micky Waller/Ron Wood rhythm section underscored the entire affair with mass and extension to match that of the Khachaturian tape.

This amplifier accomplishes what Guerra wants – its mission is to prove that Class D needn't encourage the loathing of high efficiency amps with high-speed switching output stages. Listen to the acoustic version of the song 'Greensleeves' on this disc if you remain unconvinced. It shimmers with all the tonal grace of an early Jadis design.

As the Beck album also involves all manner of effects – notably wah-wah – I dug out another tape milestone, Enoch Light's *Discotheque* [Command 873]. My guilty pleasures now include kitschy instrumentals we're not allowed to call Muzak, this set featuring a freaky mix of covers from 'Hello Dolly' to 'Watermelon Man' to a brace of

Beatles tunes, with an orchestra playing rock-as-clichés. Regardless, it was lively and ripe with hot transients, and here the Gran Vivace amp lived up to its name.

On to two live sets, 43 years apart: Barry Manilow's *Live* [Arista 1R2 6648] on tape in 1977, and 2020's *Mick Fleetwood & Friends Celebrate The Music Of Peter Green* [BMG 050538 618 419], on CD. This allowed the Gran Vivace to recreate soundstages and audience noises with unexpected realism. In both cases, there was genuine atmosphere and a sense of place, both free of artifice. Manilow's baying fans, assorted blues guitars and throaty vocals on the Green tribute: the sound was effortless.

As for housing a Class D amp in a valve bottle, that may be about cool looks, seducing old-school audiophiles, or creating a user-swappable module. More pertinent is that the AGD Gran Vivace is a contemporary amplifier that thinks it was designed in the 1930s at Western Electric. Ignoring whatever spiel you hear about the transparent envelope, the Gran Vivace is a helluva lot of fun. ☺

HI-FI NEWS VERDICT

So technically subversive is AGD's Gran Vivace, one must re-think its essence as one would DS Audio's optical cartridge. Only by banishing any prejudice against Class D amplifiers, and getting past the undeniable weirdness of a solid-state-amp-in-a-valve, can one luxuriate in its sheer power, grace, and – yes – warmth. This is less an acquired taste than it is a test of bias. Not a valve's bias, but one's own.

Sound Quality: 84%



Naim Audio Uniti Atom Headphone Edition

The evergreen Uniti Atom all-in-one platform, complete with custom streaming solution, is adapted to service the needs of the most demanding headphone users
Review: **Andrew Everard** Lab: **Paul Miller**

Never let it be said the product name isn't long enough – in the 12 years since Naim launched its network audio all-in-one, to which the buyer need only add speakers, it's grown from the simple NaimUniti of the initial model, all the way to this, the £2399 Naim Audio Uniti Atom Headphone Edition. And yet here, less is more.

This new arrival, despite being the same price as the existing Atom, which continues in the range, has shed the power amplification of what is the company's most compact streaming system, slotting in below the full-width Nova and Star models. Here the unit is re-purposed as a dedicated device for followers of the 'head-fi' trend, complete with a choice of conventional and balanced headphone outputs. Well, that's almost the whole story...

STREAM CITY

This is the latest evolution of Naim's in-house streaming platform first unveiled with the arrival of the current Uniti models [HFN Nov '17], and which has gone on to underpin not only the Uniti range, but also both the Mu-so lineup and its latest-gen ND-series of network players [HFN Sep '18]. The intention of futureproofing has been borne out, not least with the inclusion of Chromecast built-in, along with both Bluetooth and Apple AirPlay 2.

Just about anything you want to stream from your computer, phone or tablet is accommodated here, along with a high-res UPnP/DLNA interface able to handle files up to 384kHz/32-bit and DSD128. There's also Roon-ready capability for those who swear by it, such as myself.

RIGHT: Large toroidal transformer [lower left] feeds separately-regulated supplies for internal Wi-Fi solution [centre, right], Atmel micro-based USB and Network inputs [right], main SHARC DSP [centre], TI PCM1791 DAC-based analogue stage [top] and headphone preamp [far right]

But back to the Uniti Atom Headphone Edition, and having had good experiences using both Uniti and Mu-so systems as part of multiroom set-ups – another facet of the Naim eco-system, although the company is no longer unique in this respect – I was interested to see how this unit would adapt to the headphone world.

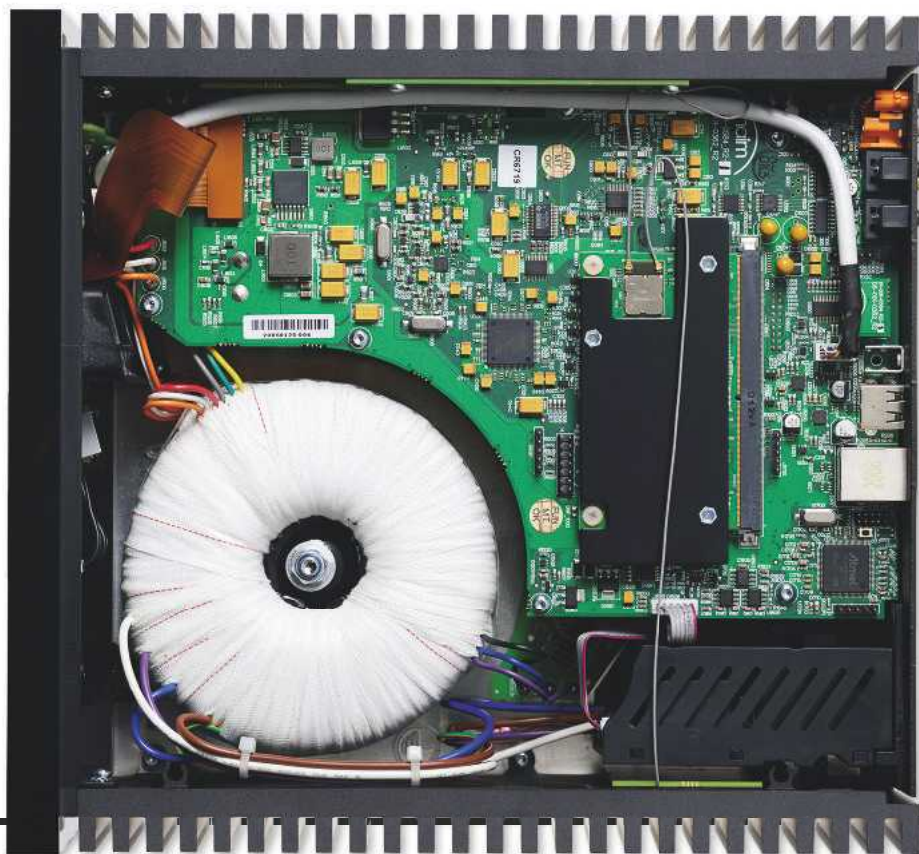
The Atom HE may not be the company's first foray into headphone listening – that was the Headline headphone amp. Also, the DAC-V1 was designed in part as a bridge between PCs and 'phones. Similarly, much play was made of the quality of the Supernait 3's integral headphone amp a couple of years back – but the Atom HE is otherwise Naim's most complete offering to date for fans of personal listening.

Not only can it stream music from the user's own collection, be it located on network storage or USB devices, it can also deliver online services including Spotify Connect, Qobuz and Tidal, not to mention the 'hi-res' 320kbps AAC BBC radio streams as part of its Internet radio capability.

PREAMP TOO

All these services are best accessed via the Naim app, although the unit also comes with an RF remote handset [see p53]. In addition there are both optical and coaxial digital inputs as well as a single set of analogue ins, the latter digitised at 48kHz [see PM's Lab Report, p53].

It should be noted that one of the gains made in the development of the current





LEFT: To the left of the large colour display are a USB-A port, 6.3mm and balanced 4.4mm headphone outputs while buttons to the right cover play/stop, input and 'favourites' settings

Most of my listening to the Uniti Atom Headphone Edition was, unsurprisingly, carried out using a variety of headphones, but I also tried it running as a preamp into my main system.

EASY DOES IT

It acquitted itself well in both roles, though I wouldn't have minded a fixed output option on the preamp sockets, enabling it to be used as a source as well as

Naim platform was greatly improved Wi-Fi capability. Despite the absence of any external antennae for this or its other wireless modes, the Atom HE is fully capable of handling hi-res PCM or even DSD given a reasonable home network signal strength, although many will want the reassurance of the wired Ethernet connection located on the rear of the unit.

So regardless of input, all signals pass through Naim's long-refined SHARC-based digital signal processing, and the company's favoured TI PCM1791 DAC, and thence to the output stage – which is something Technical Director Steve Sells and his team have reportedly spent much time fettling.

Yes, this is a headphone amplifier, with both 6.35mm unbalanced and 4.3mm Pentaconn balanced sockets on the front panel, plus a four-pin XLR balanced

headphone output to the rear, but it can also be used as a preamp, thanks to both RCAs and XLRs round the back.

IN THE BALANCE

Now this is rather interesting, as there's no sign of Naim's usual DIN connectivity here, although the company is at pains to emphasise that the current Uniti models have never offered such provision. However, balanced XLR preouts – and matching power amp inputs – are only currently found on the

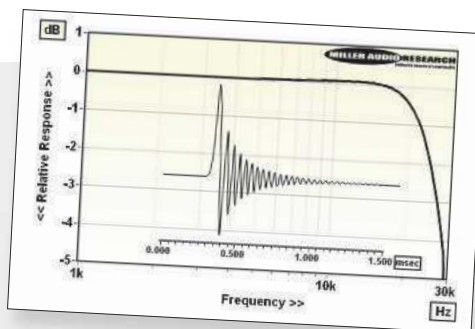
company's flagship Statement pre/power [HFN Jun '15], alongside the familiar DINs used for unbalanced working. So it will be interesting to see whether Naim launches more mainstream power amps (and indeed preamps) equipped with balanced XLRs.

'B&W's P9 'phones were made to work for their living'

DIGITAL DOMAIN

The response and time domain behaviour of the Uniti Atom's digital heart is entirely determined by Naim's custom 16x upsampling digital filter. This brickwall IIR filter is executed on a SHARC DSP and is combined with two series-connected 3rd-order analogue filters (6th-order roll-off) at the output. In common with the proprietary

WTA filter used in Chord Electronics' DACs, Naim's bespoke filter cannot be adapted to accommodate MQA, should either company have been inclined to offer this facility in the first place. Specifically, Naim's digital filter avoids acausal pre-ringing, but does exhibit extended post-ringing [see inset Graph]. The partnering Burr-Brown PCM1791, a legacy 'Advanced Segment' DAC, operates up to 192kHz/24-bit and DSD64, but its response here does not exceed 30kHz with either 96kHz or 192kHz media. Instead, Naim's digital filter cuts in earlier, delivering a ~60th-order roll-off at -3dB/27kHz [see Lab Report, p53]. **PM**




a streaming pre. It's also worth noting that Naim says all three headphone outputs can be connected simultaneously, which could be handy given that rear-panel XLR output, but that for best performance it's best to stick to using one output at a time. Incidentally, the front headphone outputs will mute the preouts when 'phones are connected, while a button above them switches the rear output on and off.

It's worth sticking to that 'one headphone at a time' suggestion for while the Atom HE doesn't sound laboured even if you do use all the outputs simultaneously, there's a useful gain in impact and clarity to be had, whether or not balanced 'phones are being used. And that 'useful gain' in quality is sufficient to take the Atom HE from excellent to superb.

In fact whichever kind of headphone output you use, this is a device able to bring out the best in a wide range of accompanying models, from easy-going moving-coil types to demanding planar magnetic designs such as the balanced Oppo PM-1 [HFN Jul '14].

But whichever you use, the essence of the Atom Headphone Edition is that it manages to drive headphones with both ease and conviction, while at the same time maintaining those Naim-esque qualities of detail and rhythmic acuity.

Even relatively lush headphones such as the B&W P9 Signature [HFN Mar '17] are kept under strict control and made to work for their living, while more obvious 'monitor' designs including the original Focal Spirit Pro [HFN Dec '15] – still among my favourites – sound fast, wide open and thrilling, without straying into harshness.

Without resorting to the complexities and 'fiddle factor' of designs such as SPL's Phonitor xe [HFN Jul '21], Naim has managed to design a headphone amp all 



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LAB REPORT

NAIM UNITI ATOM HEADPHONE ED



ABOVE: Alongside wireless [inside] and wired Ethernet ports are USB-A, coax, two Toslink optical and one pair of analogue inputs (RCAs). Preamp outs are offered on RCAs and balanced via 3-pin XLRs, with a balanced headphone output on a 4-pin XLR

about the most important sonic trait – the direct communication of music. And that means just about every style of music you choose to throw at this streaming headphone amp, including really raw recordings like Motörhead's *No Sleep 'Til Hammersmith* [Bronze BMGRM023LP] sounds suitably driving and thrilling, for all its abrasive edge. Similarly, a characterful vocal such as Sonja Kristina's cover of ELP's 'Still... You Turn Me On' [Purple Pyramid records' *A Tribute To Keith Emerson And Greg Lake*; CLO 1539] is beautifully resolved and has superb character.

By the way, should you ever want to hear the original 'god of hellfire', Arthur Brown, tackling the first part of 'Karn Evil No. 9' in his 70s, or Keith Emerson's son and grandson attempting 'Fanfare For The Common Man', this curiosity is the one for you.

MAJOR SCALE

The sound here is never less than entirely focused on the performance, as is clear with *American Quilt* [675 Records 538668572], the rootsy Paula Cole set of standards across a variety of genres. The singer's voice is revealed with all its textures intact, to glowing effect, while the accompanying musicians are exceptionally placed, for example on the stomping 'Black Mountain Blues'.

LEFT: The illuminated keys on Naim's RF 'Zigbee' remote allow full access to its menu and features, even in low-light conditions



Without recourse to any obvious signal-manipulation, the Naim Atom HE seems to do a fine job of dispelling that 'shut in' effect sometimes afflicting headphone listening, even when powering closed-back designs such as the Focal Stellias [HFN May '19].

And the Uniti Atom HE puts in a good showing with the scale and drama of classical music, too, whether it's the gentle, small-scale scoring of the *Brazilian Landscapes* album of recorder, percussion and guitar [OUR Recordings 6220618; DSD 128, see p94], which is treated to a lucid, beautifully-measured view of the instruments, or the weight and power of the Budapest Festival Orchestra/Iván Fischer recording of Brahms' Third Symphony [Channel Classics CCS SA 43821; DXD].

From the opening chords of the Brahms, the Atom HE, driving the Oppo PM-1 headphones in this case, delivers a sound of real drama and impact, but packed with detail and with a delicious sense of the orchestra ranged before the listener. The wide-ranging ability of this compact but substantial streaming headphone amp is never in doubt. ⬆

HI-FI NEWS VERDICT

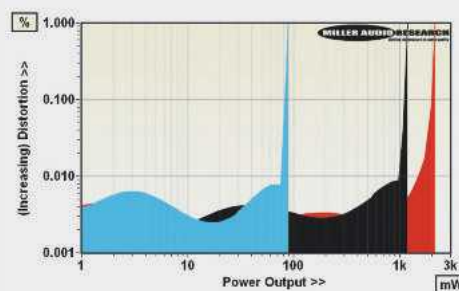
Although it's had headphone amps in its lineup before, Naim is something of a latecomer to the whole streaming head-fi arena. However, the arrival of this unit, delayed by you-know-what, was well worth waiting for. The Atom HE sounds magnificent across a range of musical styles and partnering headphones, combining fine detail, power and control. It's even a respectable streaming preamp, too.

Sound Quality: 88%

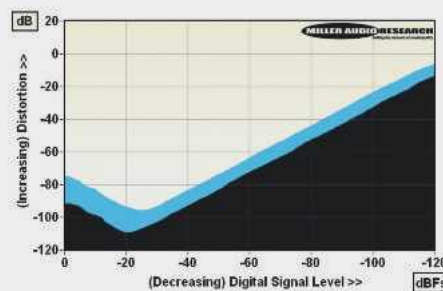


All inputs are eventually routed via Naim's choice of PCM1791 DAC, including the *analogue* RCAs which run through a PCM1803A ADC at 48kHz/24-bit. This limits the frequency response to -3dB/22kHz while all other 88.2kHz+ *digital* inputs are limited to -3dB/27kHz courtesy of Naim's custom IIR digital filter solution [see boxout, p51]. The DAC/preamp path offers a modest 104dB A-wtd S/N ratio but excellent ± 0.1 dB linearity over a 100dB dynamic range, low distortion that falls to 0.0002-0.001% over the top 30dB of its range [20Hz-20kHz, Graph 2] and exceptionally low <15psec jitter with all input sample rates.

Note that the ADC clips with analogue inputs above 2.9V and that the maximum balanced line output is 4.75V via analogue or full-scale digital inputs. Gain is a higher +12.5dB via the headphone output and so its maximum output is 7.1V with a 0dBfs digital input (clipping at volume '92') or 7.8V via the analogue input. The maximum single-ended power outputs [see Graph 1] are 89mW/600ohm (voltage limit), 1190mW/32ohm and 2225mW/8ohm (current limit), all perfectly in line with Naim's rated 1500mW/16ohm. The output impedance is not vanishingly low at 5.2ohm, representing a signal loss of some 1.2dB/32ohm, but this and any possible response variations, will be minimal into higher, 600ohm headphone loads. Moreover, the -93dBV (22 μ V) unwt'd residual noise suggests the Uniti Atom will serve high sensitivity 'phones with usefully quiet backgrounds. Finally, headphone distortion actually reduces under load here from 0.006% at 0dBV/unloaded to 0.005%/30mW/32ohm through the midrange, albeit with a slight increase from 0.0075% to 0.01%, respectively, at 20kHz. PM



ABOVE: Continuous power output vs. distortion into 600ohm (blue), 32ohm (black) and low 8ohm (red) headphone loads. THD is largely unaffected by load



ABOVE: Preamp distortion vs. 48kHz/24-bit digital level over 120dBfs range (1kHz, black; 20kHz, blue)

HI-FI NEWS SPECIFICATIONS

| | |
|--|-----------------------------|
| Maximum output (<1% THD into 47kohm) | 7.8V (Balanced XLR preamp) |
| Max. power o/p (<1% THD; 8/32/600ohm) | 2225mW / 1190mW / 89mW |
| Output Impedance (20Hz-20kHz) | 5.2-5.3ohm (22-296ohm, XLR) |
| A-wtd S/N ratio (re. 10mW/0dBV) | 85.5dB / 103.7dB (DAC/pre) |
| Distortion (20Hz-20kHz, re. 10mW/0dBV) | 0.004-0.01%/0.002-0.009% |
| Frequency resp. (20Hz-20kHz/30kHz) | +0dB to -0.6dB/-14dB |
| Digital jitter (48kHz / 96kHz) | 15psec / 12psec |
| Power consumption | 12W |
| Dimensions (WHD) / Weight | 245x95x265mm / 7kg |

Spendor Classic 3/1

There are three two-way standmounts in Spendor's 1970s-inspired Classic range, and the 3/1 is the centre model. Is this entirely UK-built model the sweetspot of the series?
 Review: **Ed Selley** Lab: **Paul Miller**

Rather than follow tradition in everything it does, Spendor has wisely divided its loudspeakers into different categories. The company's A-Line and D-Line models aim to reflect changes in consumer tastes by combining fresh in-house design thinking with engineering philosophies it has spent years refining. Alongside these sits the Classic Series which, as the name suggests, sees the brand build upon proven technologies from its earliest days with an eye to keeping the flame of its renowned '70s designs alive [see boxout, p55].

The £2730 Classic 3/1 is the second smallest member of the Classic Series and one of three two-way models in the range. What defines the 3/1 as a Classic (and every other member of that lineup) is its cabinet. Where the models in the A-Series and D-Series feature an extensively braced enclosure with a relatively narrow front baffle, the 3/1 has a cabinet whose sides are comparatively thin. This is allied to a wider baffle which is proportionally thicker.

DEAD HEAT

The result is a cabinet that's subject to controlled damping rather than an attempt to make it wholly inert – an impractical ambition at this price, anyway. Spendor's approach finds viscoelastic damping pads adhered to the panel walls, converting a proportion of this unwanted vibration into heat. The brand maintains that this controlled release of energy is critical to the overall performance of the speaker.

Mounted to the front baffle are a 22mm fabric dome tweeter and a 180mm mid/bass driver, both of which are built in-house. The tweeter can be found in a large number of Spendor designs and key to its operation is the presence of a large rolled surround around the dome. The surround is integral to the dome's dispersion, improving its behaviour as it heads towards the crossover point at a relatively high

3.7kHz. Meanwhile, the tweeter itself is placed in an extremely shallow waveguide.

The 180mm mid/bass unit adheres to the longstanding tradition of Spendor drivers by being made from what the company calls EP77 ('EP' standing for 'Engineering Polymer'). The exact composition of this material is something Spendor keeps to itself, but the design of the unit here is derived from the mid/bass driver used for the flagship speaker in the Classic Series, the 200TI [HFN Oct '19]. Yet while the cone is similar, it now sports a revised surround and a 180mm pressure

die-cast alloy chassis with a new suspension system. Also, this relatively large driver is augmented by a rear port, making the 3/1 the smallest member

of the Classic Series to be reflex-loaded and the only one not to have that port at the front.

As well as that relatively high handover point between the two drivers, the focus of Spendor's two-way crossover design has been the blending of reasonable sensitivity with a benign impedance trend [see PM's Lab Report, p57]. Spendor is the first to point out that there's nothing truly exotic going on here, with precision-wound inductors and high-linearity

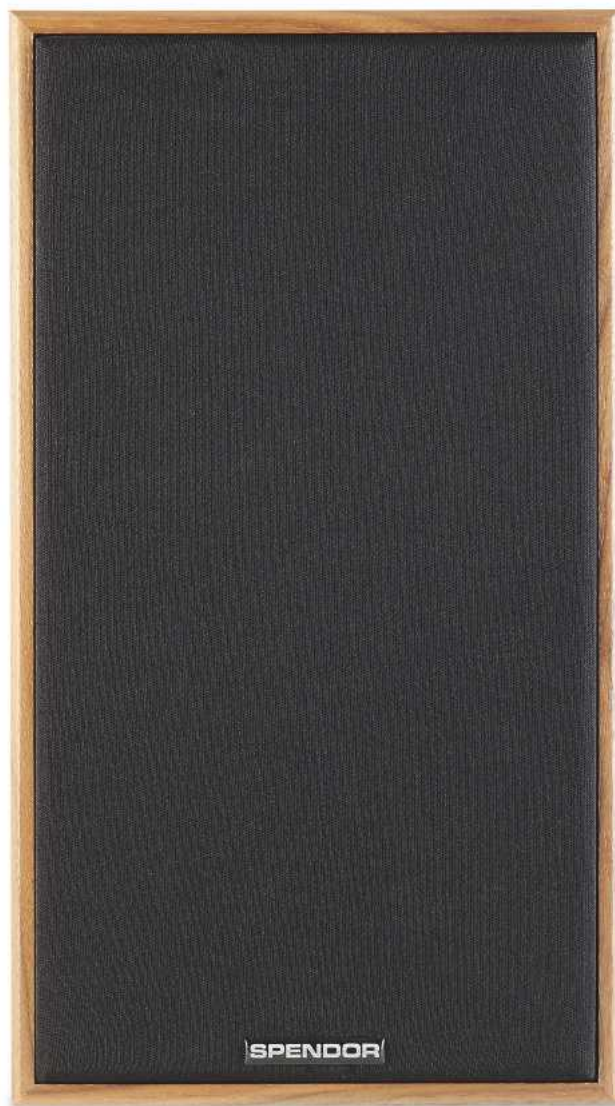
plastic film capacitors the order of the day. Perhaps what *is* relatively unusual in current times is that the Classic 3/1 can be bi-wired or bi-amped via two pairs of sturdy speaker terminals – a feature that was also present on the company's original BC1 [HFN Sep '10] from the mid '70s.

KEEPING ITS COOL

Aesthetically, the 3/1 certainly lives up to its 'Classic' branding. If you're looking for

'The speed
might well
take your
breath away'

RIGHT: The MDF cabinet is available in either cherry or walnut [pictured here] veneers. Rebated baffle accepts a magnetically-attached cloth grille. Optional 'Classic' stands are available



swooping curves, contemporary colour schemes and other up-to-the-minute detailing, you have very much come to the wrong place. Yet here lies an irony, for by studiously ignoring modern styling the Classic Series finds itself on trend thanks to the current enthusiasm for retro-styled equipment. It looks – dare I say it? – cool.

There is an honesty to this Spendor loudspeaker that has great appeal, and this is boosted by the very high standards of build here. As well as the walnut finish pictured, a cherry veneer is also available. Removable grilles are supplied and the 3/1 and the rest of the Classic Series now use magnetic tabs to negate the need for mounting holes in the front panel.

Mention also has to be made of the dedicated stands that are available for the speakers. At £995 per pair they certainly aren't cheap, but they match the design of the 3/1 perfectly and support it at the corners of the cabinet. Once it was

SPENDOR AT THE BEEB

The Classic Series has its roots in the very beginning of the Spendor brand when former BBC engineer Spencer Hughes turned his work with Bextrene as a driver material into a range of loudspeakers. As well as developing the BC1 for use as a BBC monitor, the company was one of the earliest to produce the LS3/5A under license, its production supplanting the company's own SA1 monitor speaker. After Hughes' death in 1983, his son Derek continued to develop the company's speakers to reflect improvements in driver material and cabinet design.

The current Classic Series is not a slavish copy of those originals, however. Philip Swift, who has co-owned Spendor since 2000, has gradually updated the range over recent years, making changes to the longstanding 3/5 speaker to such a degree that last year it was renamed the Classic 4/5. With all the designs in the lineup though, the fundamental values of benign impedance, respectable sensitivity and a cabinet that releases stored energy in a slow and controlled manner are viewed as crucial to the overall performance of the loudspeaker. As Swift notes, the past shapes Spendor but it doesn't define it.

established that these stands enabled the loudspeakers to be heard at their best they were used for the entirety of the listening.



WHOLE NUMBER

The fundamental user friendliness and self-effacing quality of this design never interferes with its ability to turn in a performance that's genuinely emotionally engaging. 'Fuel To Fire' on Agnes Obel's 2013 album *Aventine* [Play It Again Sam PIASR615CDX] is a deceptively simple piece, but what the 3/1 does so effectively is to stitch the little details in the recording into one glorious and believable whole.

The movement of the piano keys, and the decay of the plucked bass strings on this track are served up in a manner that ensures they are distinct and almost tangible. Yet rather than detract from the overall experience they become crucial to the suspension of disbelief.

LEFT: Spendor's own 180mm (polypropylene derived) EP77 bass/mid driver is joined by a 22mm soft-dome tweeter set into a very shallow waveguide

Then, locked centre stage and the focus of the performance is Agnes Obel herself. The ephemeral quality of her voice is recreated beautifully and never feels overcooked.

Indeed, this speaker feels seamless, open and effortless in what it does, all qualities aided by how little cabinet coloration is perceivable. Spendor's approach to speaker design might be more traditional than that of rivals, but it is unquestionably effective, the Classic 3/1 virtually disappearing from the soundstage.

Crucially, when the music goes low, this speaker has the extension and grip to maintain that feeling of realism. 'Simmer', the opening track on Hayley William's *Petals For Armour* [Atlantic 075678649943] is underpinned by a deep, relatively complex combination of drum and synth patterns. The Classic 3/1 conveys this with a speed and articulation that might well take your breath away if you've been lulled into the belief that this speaker's vintage appearance is any indicator of its overall performance.

TRUE GRIP

Bass weight is no less impressive. True, there are similarly-priced loudspeakers – including other standmount designs – that might deliver more outright shove than the Classic 3/1. But never did I feel short-changed as to the extension on offer, in part because of the impressive low-down grip and the manner in which the bass is integrated with the upper registers.

This means that little details which can sometimes be lost in the pursuit of impact are always present and easy to hear. It ensures that the melody played by the bass on 'Repo Man' on Ray LaMontagne's *God Willin' & The Creek Don't Rise* [RCA 88697758652] can be heard as such, rather than simply as 'bass'. ☺



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SPENDOR CLASSIC 3/1



LEFT: Also perfectly veneered, the rear face of the Classic 3/1 hosts a reflex port and dual sets of 4mm speaker cable posts supporting both bi-amping and bi-wiring via the split, 3.7kHz crossover

amp and Chord Hugo 2 headphone amp [HFN Aug '18] with 2go streamer, the bite and drive of the Supernait 3 and three-dimensionality of the Chord duo were all present and correct in a rendition of Gregory Porter's 'Revival' from the 'Deluxe' Qobuz version of *All Rise* [Decca 0861978]. This made for a weighty and propulsive presentation without the slightly hard edge this combination of electronics can exhibit at times.

Switch to the fuller sound of Cambridge Audio's Edge A [HFN Nov '18] amplifier/DAC and this Spendor

This helps the Classic 3/1 whip up genuine levels of fun alongside all that reach-out-and-touch realism. Its time in my listening room coincided with a voyage of discovery into the earlier works of Labi Siffre and here it proved to be the perfect listening partner. It captured all the swagger and boisterous energy of 'The Vulture' on *Remember My Song* [Mr Bongo MRBCD011] in a way that ensured the focus was firmly on the music rather than the technical attributes of the design.

WALK THE LINE

The behaviour of the tweeter was particularly helpful here as, like a few recordings of this vintage, the track can sound a little thin and bright on the wrong equipment. The Classic 3/1 revealed a richness that went a good way to alleviating this.

Another area where this speaker impressed was its ability to walk a neat line between reproducing the qualities of the equipment to which it was connected and retaining its own positive qualities. On the end of a Naim Supernait 3 integrated

speaker conveys the amp's character without losing its own articulation and rhythmic engagement. And nothing I asked to drive the 3/1 felt like it was being worked hard, which held true for the speaker itself. Yes, pushed to firmly anti-social levels it starts to harden up somewhat. But you can rest assured it will go loud enough for most domestic situations before this becomes the case. ☺

HI-FI NEWS VERDICT

The Classic 3/1 is a speaker that you buy with your head, but which then goes on to win your heart. This is an exactly made, classically handsome standmount that should present few challenges to most sensible partnering equipment. It balances tonal accuracy and realism while bringing a compelling feeling of joy to everything you play through it. The result is a classic in all senses of the word.

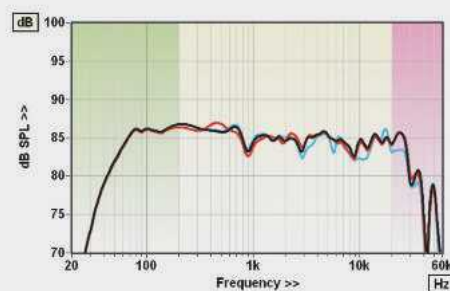
Sound Quality: 85%

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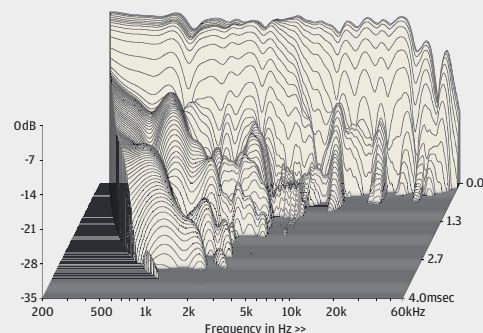
Rated at an above-average 88dB sensitivity, in practice this elegant standmount achieved closer to 85dB (84.5dB/1kHz and 84.9dB averaged 500Hz-8kHz) in our tests. This is in keeping with a two-way of this stature, particularly one engineered to deliver a typically uniform forward response trend and without presenting a killer load to the partnering amplifier. The latter amounts to a very 'driveable' minimum of 5.7ohm/175Hz at just -6°, and sub-8ohm from 105Hz-800Hz, representing a 6ohm rather than a nominal 8ohm specification. The maximum swings in impedance phase are -55°/84Hz/16.6ohm and +65°/1kHz/12.2ohm – again, perfectly 'manageable'.

The response, meanwhile, measured on an axis midway between the treble and mid/bass units [Graph 1] shows two small dips of 2-3dB at 900Hz and 2.9kHz, contributing to the ±2.1dB and ±2.4dB response errors, although the trend is generally orderly if slightly downtilted. The impulse response is clean, with phase-inverted treble, while the CSD waterfall [Graph 2] shows mild, quickly suppressed cabinet modes and other resonances associated with each dip. The soft dome treble is free of the abrupt breakup we typically see with high stiffness domes, rolling off above 26kHz to achieve 38kHz (-6dB re. 10kHz).

Low frequency performance [Graph 1] is impressive for a single 180mm polymer driver working over a 58Hz-2.1kHz (-6dB) bandwidth into a limited enclosure volume. Distortion is just ~0.5% at 90dB SPL and the reflex port, tuned to 34Hz, supplements the bass extension down to a deeply impressive 45Hz (-6dB re. 200Hz). PM



ABOVE: Response inc. nearfield summed driver/port [green], freefield corrected to 1m at 2.83V [yellow], ultrasonic [pink]. Left, black; right, red; w grille, blue



ABOVE: Cabinet resonances are quickly suppressed as are the driver/mistermination modes at ~1kHz/3kHz

HI-FI NEWS SPECIFICATIONS

| | |
|---|--------------------------------|
| Sensitivity (SPL/1m/2.83V – 1kHz/Mean/IEC) | 84.5dB / 84.9dB / 82.9dB |
| Impedance modulus: minimum & maximum (20Hz–20kHz) | 5.7ohm @ 175Hz 42ohm @ 72Hz |
| Impedance phase: minimum & maximum (20Hz–20kHz) | -55° @ 84Hz +65° @ 1kHz |
| Pair matching/Resp. error (200Hz–20kHz) | 1.1dB / ±2.1dB/±2.4dB |
| LF/HF extension (-6dB ref 200Hz/10kHz) | 45Hz / 37.7kHz/38.3kHz |
| THD 100Hz/1kHz/10kHz (for 90dB SPL/1m) | 0.5% / 0.25% / 0.2% |
| Dimensions (HWD) / Weight (each) | 395x220x285mm / 10kg |

VAC Sigma 170i

Hot on the heels of VAC's flagship separates stack on our March '21 cover comes the more affordable derivative, the integrated VAC Sigma 170i – is it a true Mini-Me?

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

If I wasn't averse to tattoos, I'd have one that says, 'Always Read The Owner's Manual First'. I spent so much time trying to illuminate the VAC Sigma 170i's iQ warning lights that I was wondering if the review sample was a dud. Doh: in this application, the £10,000 single-chassis alternative to the Signature stack [*HFN* Mar '21], they don't light up at switch-on. Here they only work when something is amiss. Blast it! I never did see them in action.

How so? That's because this 'baby' VAC integrated never missed a beat. If anything, I spent all my time marvelling at the mix of grace and grunt, for this compact unit defies the potential of its valve complement, a 'mere' quartet of KT88s. Not quite a 'beast', perhaps, but the cautious factory rating of 85W is more than met by PM's measurements [see Lab Report, p61]. But at £10k, any amp should be a powerhouse, save for single-ended triodes of the sub-10W variety.

FULLY LOADED

Our black-metal-flake-painted review sample (silver is an option) came fully-loaded, allowing me to exploit a couple of sources in balanced mode. The optional extras add £3700 to the mix; they include the balanced XLR input for £800, the MM/MC £1500 phono stage and – wholly an aesthetic choice but worth the added protection of the glassware – the cool glass/metal cage at £1400 [pictured, p21].

Back to the iQ 'Continuous Automatic Bias System'. It operates at all times, keeping an 'i' on the valves with one LED per tube. The lights glow green for a weak tube, or red for a failed tube or if it detects any potentially terminal issue, operating in advance to protect the unit. Green merely suggests replacing the valve at your convenience; red calls for turning off the

Sigma 170i and replacing the duff tube when it cools down completely.

Why should this matter? Those weaned on valves during the dark years of 1970-1985 (like me), when replacements were hard to get, will value anything that provides peace of mind. Valve aficionados circa-2021? Consider yourselves blessed, as tubes are no longer as rare as Beluga. VAC uses octal-based KT88s, but one mustn't be tempted to fiddle with others of that fitting. Founder and CEO Kevin Hayes explained to me that he chose the KT88 as a tried-and-tested tube of true merit, and he is not one swayed by trends.

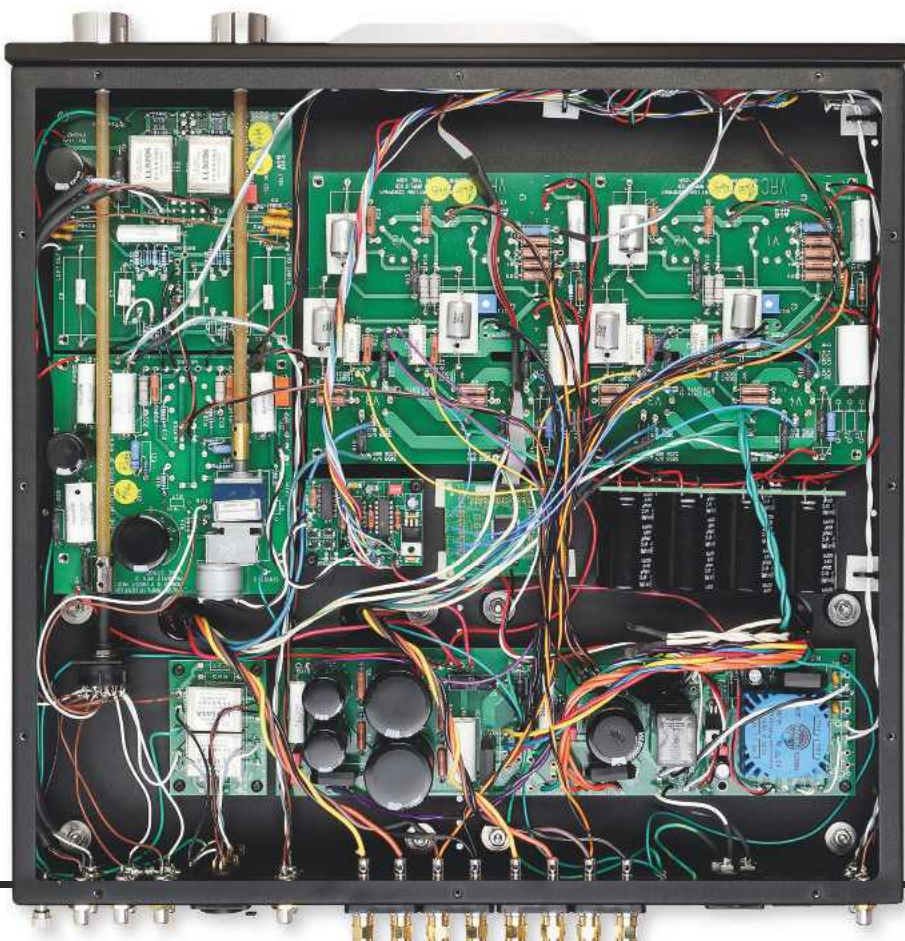
Integrated valve amps have been tempting me and diverting me from separates frequently of late, especially since I added the EAT E-Glo i [*HFN* Oct '20] to my review system as an exemplar of the

genre. The Sigma 170i perfectly reflects its two primary virtues: convenience and compactness. Less critical for many will be the need for one less AC outlet, or one less pair of interconnects (between preamp and power amp). In my case, space-saving alone is a worthwhile reason to consider an integrated alternative.

PERFECT MATCH

As our pictures here illustrate, too, the Sigma 170i is less complicated to set up than its dearer sibling, with no confusing, dedicated inputs. Blessedly, it provides multiple taps for speakers [see PM's boxout, p59] and I was able to try all three, enjoying a perfect match for Falcon Acoustics' 15ohm LS3/5As [*HFN* Dec '18], a cluster of nominally 8ohm models, and the 4ohm Wilson Sasha DAWs [*HFN* Mar '19].

RIGHT: Inside the point-to-point wired Sigma 170i showing L/R audio boards [top right] with low-ESR bypass capacitors, optional phono PCB [top left] with Lundahl transformers used for MC input and balanced line input [bottom left]





The back panel is self-explanatory but note that the optional phono module takes over Input 1, with controls fitted to the top plate rather than the fascia. Here you'll find toggles to select MM or MC, the latter with three possible settings of 100, 200 and 470ohm. Around the back there are also 'cine' throughput sockets and preamp output RCAs next to the XLR balanced inputs. The front panel, too, is self-explanatory and while the supplied remote control only operates mute and level via a motorised analogue pot, how often do you have two sources running concurrently?

LUSH LIFE

Up-and-running in mere minutes, the VAC Sigma 170i – even before any

lengthy warm-up – revealed itself to be a thoroughbred of classic valve sound. Hayes favours, I believe, ultralinear over triode, and I have no issue with that whatsoever. While hands-on perfectionists might prefer having the facility to access both, at no

point was I feeling the need for any added warmth or whatever else is attributed to pure triode operation.

With feeds from various open-reel tape decks, I wallowed in the assorted tracks from a compilation aimed at philistines such

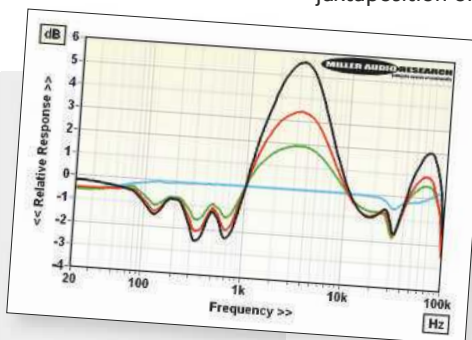
as myself. *Tchaikovsky's Greatest Hits* [Mercury MEF9126] is a testament to that label because even at 3¾ips, the sound was gorgeous. Though there are no artists' credits (and nor was it from the

'From the opening cut it took on a new dimension'

TAP TUNING

As we saw with the Signature 200iQ [HFN Mar '21], VAC offers numerous transformer taps to step-down the high voltage/high impedance output of its KT88 tubes to better match the lower impedance and higher current demand of the attached loudspeaker. In this case the 8-16ohm, 4-8ohm and 2-4ohm taps offer a source impedance of 7.0-7.75ohm, 3.45-3.8ohm and 1.75-1.9ohm, respectively, from 20Hz-20kHz. Conceived to 'match' an 8, 4 or 2ohm load, respectively, in practice very few speakers provide this linear impedance. Instead the amplifier 'sees' a load that swings up and down with frequency as the various reactive components of crossover and drivers come into play, causing the system response to rise with increasing speaker impedance and fall with decreasing speaker impedance.

Arguably, my reference B&W 800 D3 loudspeakers [HFN Oct '16] might not be the Sigma 170i's likeliest partner, but they still perfectly illustrate how its response is modulated by the impedance trend of a 'real' loudspeaker. The inset Graph shows the native, unloaded response of VAC's 170i [cyan trace] versus that driving the 800 D3s via its 8-16ohm tap [black trace], 4-8ohm tap [red] and 2-4ohm tap [green]. Note how the 'lift' to the mid/presence – caused by an inductive upswing in the 800 D3's impedance – is moderated by choice of tap. For most speakers with a nominal 4, 6 or 8ohm load, VAC's 4-8ohm tap [red trace] yields the best balance between power output, distortion and response. PM



ABOVE: Seen without glass/alloy cage exposes the two KT88 output tubes and two 12AU7A driver triodes per channel. Controls cater for mute/AV bypass with rotaries for input select/volume while 'iQ' display bar shows tube status. Note optional MM/MC tube phono stage [left]

legendary Living Presence series), via the 170i the delivery was lush and cossetting even when compared to other amps in triode mode. When my wife happened to pass by, she made a remark about how she wished her flute playing sounded as fine.

Strings were extended, detailed and fast as lightning, and also utterly free of any 'screech' or unwanted edginess. But probably the most telling element was the sense of space and air, which remained from speaker to speaker, including the juxtaposition of changing from the big

Wilsons to wee Tannoy Autograph Minis.

Moving to a more highly-pedigreed tape, in that it was twice the speed and not anonymous, the grandeur of Handel's *Messiah*, with Stokowski conducting the London Symphony Orchestra and Chorus [London LCL75014], rattled even

this non-believer. The vocal elements were as perfectly defined as I have heard, while the recreation of a concert hall defied the constraints of my listening room.

BLESSED RELIEF

A switch to vinyl raised a thorny question, which is a subset of the integrated-vs-separates debate, and I would be remiss not to address it. The sum of £1500 will pay for any one of a number of astounding standalone valve phono stages, most with a far greater choice of settings, eg, models from Pro-Ject, Icon Audio, EAR-Yoshino, EAT, ⇄

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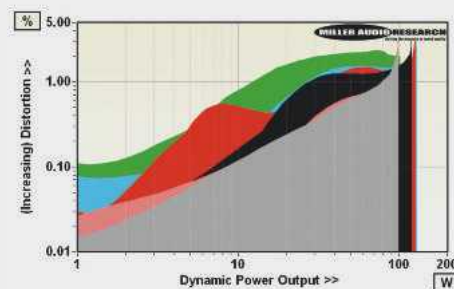
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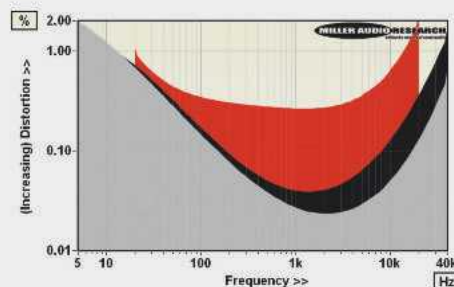
VAC SIGMA 170i

VAC's co-founder and guiding light, Kevin Hayes, has chosen an output transformer configuration that best suits *power* transfer into 8, 4 and 2ohm loads at the expense of high source impedance [see boxout, p59]. As a result, the choice of 8-16ohm, 4-8ohm or 2-4ohm taps fundamentally influences power, distortion and response into different loads. Gain is highest at +48.3dB (balanced in) via the 8-16ohm tap as is power output into 8ohm at 2x25W (1% THD), 83W (2%) and 102W (3% THD), with distortion increasing from 0.038%/1kHz to 0.65%/20kHz and 0.35%/20kHz [all 0dBW, black trace Graph 2]. Power is slightly *lower* into 8ohm via the 4-8ohm tap but so is distortion [grey trace, Graph 2], yielding 2x48W (1% THD) and 95W (2% – clipped), and 0.023%/1kHz to 0.13%/20kHz (re. 0dBW). Into 4ohm, power via the 4-8ohm tap reaches 2x23W (1% THD), 68W (2%) and 105W (3%) and, again, slightly lower power but lower distortion via the 2-4ohm tap at 2x48W (1% THD) and 93W (2% – clipped).

These trends are very clear under dynamic conditions [see Graph 1] with 120W (8-16ohm) and 99W (4-8ohm) available into 8ohm, and 128W (4-8ohm) and 99W (2-4ohm) into 4ohm. Into lower impedances, 130W and 105W is possible into 2 and 1ohm via the 2-4ohm tap. Into a non-reactive 8ohm load, the response shows a -0.6dB dip at 20Hz and 30kHz with a (presumed) transformer peak at ~70kHz. Stereo separation is >60dB through the midband but noise – exacerbated by the excessively high gain – is higher than 'average' and the A-wtd S/N *lower* at 73.5dB (re. 0dBW, 4-8ohm tap) and 71.3dB (8-16ohm tap). PM



ABOVE: Dyn. output vs. THD into 8ohm (8-16ohm tap; black, 4-8ohm tap, grey), 4ohm (4-8ohm tap, red; 2-4ohm tap, pink), 2ohm (2-4ohm tap, blue) and 1ohm (2-4ohm tap, green). Max. current is 10.3A



ABOVE: THD vs. freq. at 1W/8ohm (8-16ohm tap, black; 4-8ohm tap, grey) and 10W (8-16ohm tap, red)

HI-FI NEWS SPECIFICATIONS

| | |
|-------------------------------------|--------------------------|
| Power output (<3% THD, 8/4ohm) | 95W / 105W |
| Dynamic power (<3% THD, 8/4/2/1ohm) | 99W / 128W / 130W / 105W |
| Output imp. (20Hz–20kHz/100kHz) | 3.45–3.8ohm / 5.8ohm |
| Freq. response (20Hz–20kHz/100kHz) | –0.6dB to +0.3dB/–1.4dB |
| Input sensitivity (for 0dBW/85W) | 10mV / 99mV |
| A-wtd S/N ratio (re. 0dBW/85W) | 73.5dB / 92.3dB |
| Distortion (20Hz–20kHz, 1W/10W) | 0.023–0.13% / 0.20–0.95% |
| Power consumption (Idle/Rated o/p) | 242W / 390W |
| Dimensions (WHD) / Weight | 457x203x440mm / 32kg |



ABOVE: Balanced (XLR), three single-ended (RCA) inputs (one used for MM/MC here) and a direct (HT) input are joined by a preamp output (RCA) and choice of 2-4ohm, 4-8ohm and 8-16ohm speaker outputs on 4mm Cardas cable terminals

and far too many others to list. And who can even count the exceptional solid-state phono stages, from Rega, Thorens, MoFi, *ad infinitum*?

And yet... the entire matter of justifying an integrated phono section, encompassing convenience/space-saving/one less set of cables, as well as 100% compatibility cannot be ignored. It is precisely the same rationale for buying an integrated amp *per se*. Luckily, VAC's optional phono stage is exceptional.

I didn't expect anything less from the 47kohm MM stage, which was perfectly accommodating of my Ortofon 2M Red [HFN Oct '08] cartridge. But what proved a blessed relief was how the three MC settings handled the TechDAS TDC01 Ti [HFN Sep '14], Kiseki Blue [HFN Jul '18], Denon DL103GW and EAT Jo N°5 [HFN Dec '18] pick-ups.

REAL DEAL

My go-to bass tester, Tony Joe White's *Homemade Ice Cream* [Analogue Productions APP-2708-45], proved revelatory in the truest sense of the word, in that it exposed something previously unseen (or heard). I knew the Sasha DAWs provided prodigious bass, but the Sigma 170i mated so well with it

that from the opening cut, 'Saturday Night, In Grove, Louisiana', the experience took on a new dimension.

Those of you who read liner notes will appreciate what it means when a band includes the cream of Nashville: the

LEFT: VAC's heavyweight alloy remote offers control over the motorised volume and mute, but not input selection



late Reggie Young on guitar, David Briggs providing piano and organ, Norbert Putnam on bass and Kenny Malone on drums. They're among the reasons why Chad Kassem chose this LP for Acoustic Sounds' deluxe 45rpm treatment. Any of you who harbour the notion that no tube amp can provide lowest octave solidity like a transistor amp need to hear this via VAC's 170i.

Whether it was the bass guitar lines or the percussion work, the foundation this amplifier created was one of weight, presence and almost-scary realism. Better still was the handling of White's distinctive, rich, swampy vocals.

This prowess, however, wasn't dependent on the superior pressing at higher speed. With the 2014 reissue of Etta James' sublime *Tell Mama* on Bear Family [BAF108026], certainly not known as a label of the audiophile tendency, the otherwise average recording did not hold back one iota of James' peerless, powerful vocals on this milestone LP.

You want emotion? Here Etta James rips out your heart, and the Sigma 170i ensured that every dynamic moment was treated with respect. Damn, this is a fine amp. ☺

HI-FI NEWS VERDICT

Not wishing to revive the separates-vs-integrated debate, I'm loath to declare VAC's Sigma 170i an alternative to its far beefier pre/power kin. Yet it laughed at everything I could throw at it, delivering via Sasha DAWs the kind of levels and soundstage which did justice to the scale of both 'big band' and classical orchestras. It's a love letter to the much-revered KT88, and it left me stunned.

Sound Quality: 89%



System Audio Legend 40.2 Silverback

Most compact SA floorstander is not only offered in fully active 'Silverback' guise, but now supports 'RAM Tweaks'
 Review: **Mark Craven** Lab: **Paul Miller**

System building and component matching is the backbone of hi-fi. Sure, it might seem a never-ending process, each change yielding new results and then more experimentation, but it's an enjoyable one. The Legend 40.2 Silverback tested here, an active three-way floorstander with digital crossover, Analog Devices DSP and integrated DAC, bypasses a lot of that journey – and if combined with the optional wireless Stereo Hub (£400 when purchased with the speakers, £700 separately), removes the need for any cabling except a mains lead. Yet Danish manufacturer System Audio (SA) then uses the Silverback's digital architecture to offer its own take on audiophile fine-tuning, via a newly-launched range of DSP upgrades it calls 'RAM Tweaks' [see boxout, p63].

The result is a £4500 loudspeaker offering a good deal of flexibility, and there's also the option of automated room EQ, plus manual adjustment, via the SA Cockpit app (currently in beta testing). The question, therefore, is whether such flexibility appeals to you. If the idea of USB-delivered DSP manipulation, smartphone apps and wireless streaming makes you sweaty, SA's passive Legend 40.2 (£2900), a cosmetic update on the Legend 40 [HFN Aug '20], will undoubtedly suit you better.

DANISH DOPPELGÄNGER

This Silverback model is more than just a stablemate of the Legend 40.2 – in many ways it's the exact same speaker, with an unchanged cabinet design and identical drivers but a 'shorted' port. Finish options for the 950mm-tall enclosure are satin black or satin white, both shipping with black magnetic grilles that cover almost the entire front baffle. Styling is modest even with the grilles removed – the only embellishment is the SA logo – and its slender 190x300mm (wd) further emphasises the Legend 40.2 Silverback's discreet nature. Accommodating these

loudspeakers shouldn't prove tricky in any domestic listening space, even once the outrigger feet have been attached.

Meanwhile, the driver array comprises a 25mm woven silk tweeter with DXT (Diffraction eXpansion Technology) acoustic lens, and a trio of 135mm woven fibre units – one a bass/mid, the other two dedicated bass drivers. Powering these are a quartet of Texas Instruments' Class D amplifiers with a claimed output of 300W.

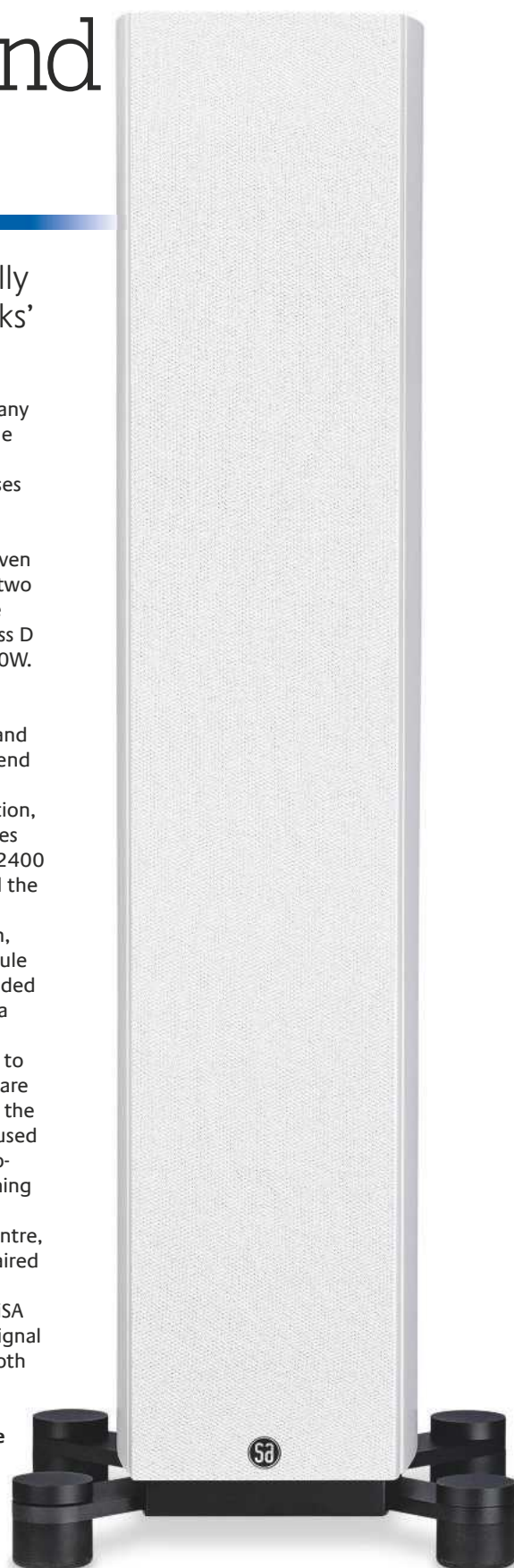
CHANNEL HOPPING

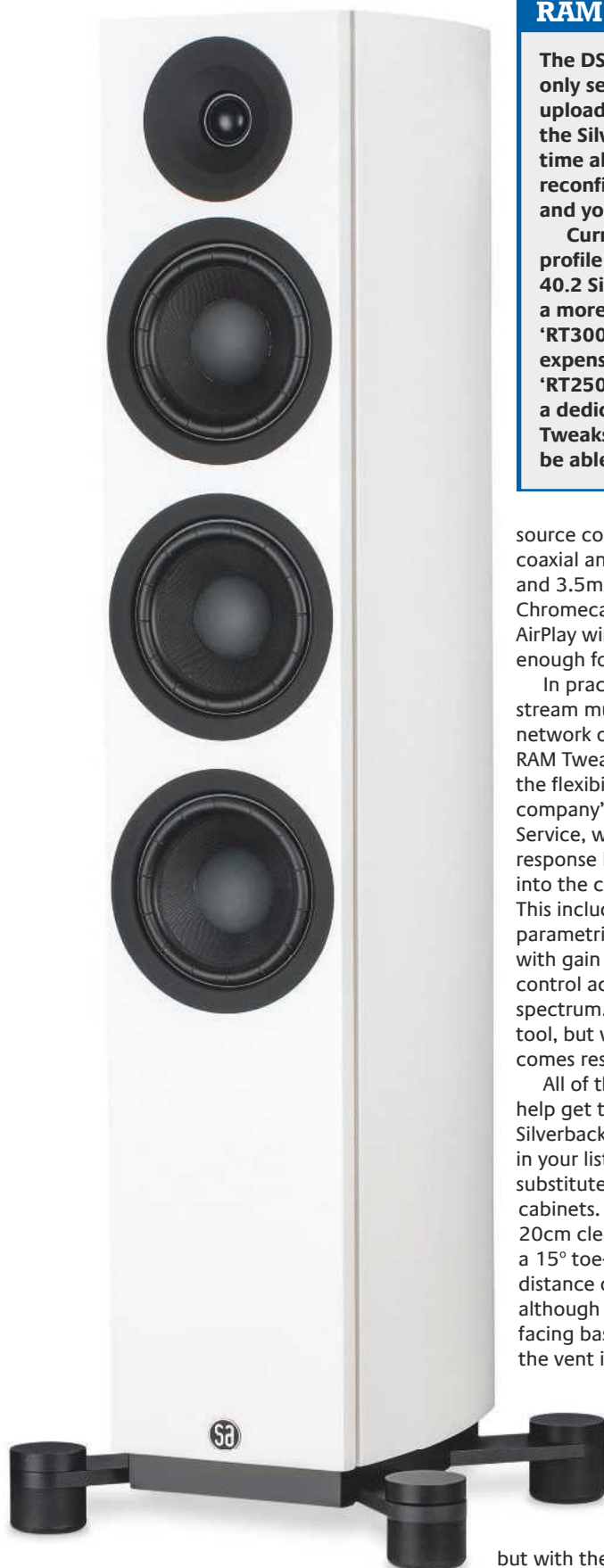
For those with bigger listening rooms and deeper wallets, there's the £7000 Legend 60.2 Silverback [HFN May '21], which boasts some 560W of active amplification, ups the woofer size to 150mm, and uses four of them. The range also has the £2400 standmount Legend 5.2 Silverback and the on-wall £1700 Legend 7.2 Silverback.

In addition to onboard amplification, the introduction of the Silverback module (the passive Legend 40.2 can be upgraded if desired) replaces binding posts with a USB service port and IEC mains socket, plus an XLR input for wired connection to a balanced preamplifier. Around these are a series of status LED lights that signify the channel position of the speaker when used with the wireless Stereo Hub. For a two-channel set-up, it's just a case of assigning one as right and one as left, but it also caters to multichannel installations (centre, surround back, etc), if the speaker is paired with the eight-channel Surround Hub.

System Audio's hubs use wireless WiSA technology to stream a 96kHz/24-bit signal direct to the Silverback speaker, and both models are well endowed in terms of

RIGHT: The 135mm woven-fibre midrange [top] and two 135mm bass drivers look identical but the mid unit has a shorter (lighter) voice-coil. The tweeter with DXT lens/waveguide was developed with the Danish patent holder





RAM TWEAKS

The DSP at the heart of all Silverback models has sufficient capacity to not only service future updates but also accommodate 'performance modifiers' uploaded by users. These are SA's new 'RAM Tweaks' that allow changes to the Silverback speakers' crossover frequencies, bass alignment and extension, time alignment and protection limits. You can, with due deliberation, entirely reconfigure the sound of the 40.2 Silverback to suit its position in your room and your personal taste.

Currently seven RAM Tweaks are offered, including the original 'RT100' profile and the new-this-year 'RT200' version that's pre-loaded into all Legend 40.2 Silverbacks. This, says System Audio, provides a 'smooth response' and a more detailed, accurate sound than earlier DSPs. Other options include 'RT300', which aims to extend low frequency response to below 20Hz (at the expense of maximum SPL) while retaining the tonal balance of 'RT200', and 'RT250', which reworks the crossover to turn the upper bass/mid driver into a dedicated midrange unit. The uploading process isn't complicated (RAM Tweaks can be downloaded from System Audio's website), but don't expect to be able to perform quick-fire A/B comparisons.

source connectivity. USB-B, HDMI ARC, coaxial and optical (x3) digital, plus RCA and 3.5mm analogue, and Bluetooth, Chromecast, Spotify Connect and Apple AirPlay wireless hook-ups should be enough for anyone using these speakers.

In practice you'll utilise the hub to stream music direct from your home network or streaming service, and SA's RAM Tweaks to massage the sound. But the flexibility doesn't stop there. The company's app-based EQ facility, Room Service, which aims to smooth in-room response below 300Hz is now integrated into the comprehensive SA Cockpit app. This includes a three-preset manual parametric EQ adjustment with gain and Q value control across the full spectrum. It's a powerful tool, but with power also comes responsibility...

All of the above could help get the Legend 40.2 Silverback singing sweetly in your listening room, but nothing is a substitute for optimal placement of the cabinets. SA recommends a minimum 20cm clearance from the rear walls, a 15° toe-in and an 'ideal' listening distance of 2.5m-3m. Remember that although the speaker retains the rear-facing bass reflex port of the passive box, the vent is sealed in this Silverback guise.



WEIGHT GAIN

Getting a grasp of the Legend 40.2 Silverback's sound is less straightforward than with most speakers, due to its changeable nature, but with the 'out-of-the-box' DSP in charge

and no adjustments made to the EQ it reminded me – unsurprisingly – of the company's passive 40 model, albeit with some changes in sonic profile. The earlier speed and detail was just as obvious, but this pricier model also sounded weightier, more purposeful and more full-range.

FEELING LUCKY, PUNK

Metallica's mid '90s reinvention as a hard rock outfit resulted in a barrage of bass-rich, up-tempo tracks, none more energetic than 'Prince Charming' [*Reload*; Vertigo 536 409-2], which was delivered with just the right sense of snarl and grit. The guitar riff was crunchy, accompanied by focused, taut drums, and while the speaker couldn't do much about the recording's lack of tonal subtlety, it ably kept up with the seat-of-your-pants presentation.

Lalo Schiffrin's 'Main Title' from the *Dirty Harry* soundtrack [CD rip; Aleph Records] let the Legend 40.2 Silverback make a scintillating impression. The Argentine composer lays on everything from a quick-fingered bassline and sustained cello notes to synthesised strings and tabla drums. Here each instrument arrived with its own noticeable timbre and character, and didn't fight for space on a soundstage with good depth.

At this point I uploaded System Audio's RT300 RAM Tweak, with its promise of a more analytical sound and greater bass extension. It was the latter that I found noticeable in my room, and in truth it served to over-emphasise some of the Schiffrin track's deepest double-bass notes, making them sound too plump

'Bass-rich, it had just the right sense of snarl and grit'

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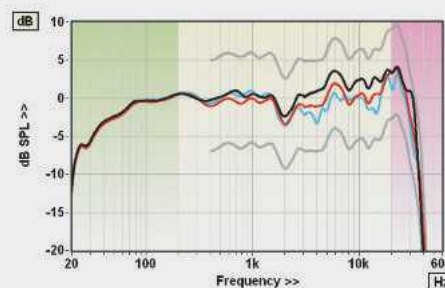
LAB REPORT

SA LEGEND 40.2 SILVERBACK

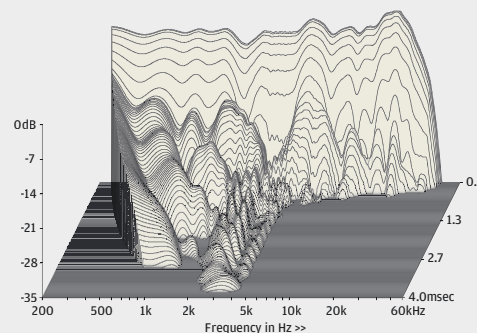
Tested here without any 'RAM Tweaks' [see boxout, p63] this active version of the Legend 40.2 employs the same cabinet and trio of 135mm carbon-fibre reinforced bass and mid units, but with the rear-facing reflex port internally 'shorted' to yield a 2nd-order sealed-box bass alignment. Incidentally, there's a ~27msec latency on the analogue input... Meanwhile, the two lower woofers are driven in parallel from one TI Class D amp, delivering a -6dB bandpass of 45Hz-250Hz while the upper mid/woofer extends over a far wider 25Hz-2.9kHz (-6dB re. 200Hz). Thanks to SA's actively-tailored bass, the diffraction-corrected LF extension (-6dB re. 200Hz) is far lower at 31Hz [green shaded area, Graph 1] than the 50Hz we saw in the passive Legend 40 [HFN Aug '20]. Distortion is also reduced to <0.25% through bass and midrange at 90dB SPL but increases closer to the Legend 40's 1% once the DXT tweeter takes over.

The forward response, measured just above the cabinet at the likely listening axis, is not especially uniform but follows the uptilted presence/treble trend of the Legend 40, its HF response extending out to 34kHz (-6dB re. 10kHz) following a +3.0dB peak at 22.5kHz. There is a ~3dB dip at 1.5kHz here, seen closer to 1.2kHz in the Legend 40 and suggesting the mid/treble crossover has been adapted, together with a 'new' ~3dB reinforcement at 6kHz that skews the response uniformity to ±3.1dB and ±3.3dB, respectively. Pair-matching, again, was a slightly poor 2.2dB as one of our speakers possessed a higher 2kHz-20kHz output than the other [black/red traces, Graph 1].

The effect of the grille [blue trace, Graph 1] is to diminish the presence output, while the ±6dB gain settings do just what they say [grey traces]. On both speakers, there is some fine structure in the response between 3-5kHz that's also reflected in a persistent but low-level resonance seen on the CSD waterfall [Graph 2, below] – and also the Legend 40 before it. PM



ABOVE: Response inc. corrected nearfield <200Hz [green], freefield corrected to 1m [yellow], ultrasonic [pink]. Left speaker, black (with grille, blue); right speaker, red; ±6dB settings, grey (from 400Hz)



ABOVE: Resonances typically decay quickly here with low-level modes remaining at 1-2kHz and 3-5kHz

HI-FI NEWS SPECIFICATIONS

| | |
|---|------------------------|
| Pair matching/Resp. error (200Hz–20kHz) | 2.2dB/ ±3.1dB/±3.3dB |
| LF/HF extension (-6dB ref 200Hz/10kHz) | 31Hz / 34.1kHz/33.4kHz |
| THD 100Hz/1kHz/10kHz (for 90dB SPL/1m) | 0.2% / 0.1% / 0.9% |
| Dimensions (HWD) / Weight (each) | 955x190x265mm / 19.4kg |

LEFT: In this active 'Silverback' version of the Legend 40.2 the port is plugged inside to yield a sealed-box bass alignment. Input is via balanced XLR or wireless via the Stereo Hub. Sensitivity (amplifier gain) can be adjusted by ±6dB and the speaker configured for stereo or multichannel duty via the back panel

adequate. But while the Legend 40.2 Silverback certainly gave a grippy portrayal of the backing piano and drums with Adele's 'Set Fire To The Rain' [21; XL Recordings XLCD520], it never allowed them to really fly into the room.

HOME IMPROVEMENT

It made light work of Adele's vocals though, leaving them hanging and emotive in the centre of the stereo image, albeit without the sense of unfettered openness that can be found on more accomplished systems. Meanwhile, the articulation of Johnny Cash's vocal on 'Hurt' [American IV; American Recordings 063 339-2] was spine-tingling.

The evenings, on the whole, may be getting lighter and warmer but I was still inspired to spin John Williams' 'Holiday Flight' theme from Christmas flick *Home Alone* [CD rip to FLAC; CBS Masterworks], a bell-festooned, jumpy orchestral piece with stabbing brass chords and crashing cymbals. System Audio's active towers brought dynamism to the piece, avoiding a slurry presentation for something that sounded lively and powerful without losing track of its major key musicality. I closed down the app, shoved my USB stick in a drawer, and enjoyed the show. ☺

HI-FI NEWS VERDICT

Definitely a case of 'more than meets the eye', System Audio's slender midrange active speaker arguably overflows with customisation potential, from automated and manual EQ via the optional Stereo Hub to a pick 'n' mix approach to DSP. Tweakers will enjoy the flexibility, but more enjoyable still is the Legend 40.2's compelling sound, which majors on resolution, bass power and a fine grasp of rhythm.

Sound Quality: 83%



and indistinct. I preferred the less aggressive profile of the RT250 RAM Tweak to this one, but eventually reverted back to the default RT200.

A criticism that can be levelled at the Legend 40.2 Silverback is that there are limitations put on its presentation by the cabinets and drivers themselves. As I said earlier, this is a slim, not-too-tall loudspeaker with modestly-sized bass drivers, and so while it's capable of sounding deliciously punchy and dynamic, and 'larger' than it looks, it still didn't overwhelm with me with a room-filling sound, regardless of volume.

By way of example, the euphoric tech rhythms of Paul van Dyk's 'Touched By Heaven' [From *Then On*; Vandit Records] were pushed forward brilliantly, the speaker's amplification proving more than

Linn Majik LP12/Krane

Linn's 'most affordable' route into the world of the iconic Sondek LP12 turntable is all the more convenient now its Majik deck is packaged with Clearaudio-sourced Krane arm
Review: **Nick Tate** Lab: **Paul Miller**

Meeet the latest 'entry level' Linn Sondek LP12. As you can see, things have changed since 1973, where the first model came out of the (then) new company's Glasgow factory, complete with a fluted Afrormosia hardwood plinth and tinted Perspex dustcover. Or have they? Rather like the newest Porsche 911 sports car that looks similar to the original '70s icon, this has many of the visual clues of the first Sondek but much has changed under the skin – almost entirely for the better.

The way that Linn now prefers to sell the deck is a little different. When new, it was bought separately, and your Linn dealer would likely fit a Grace G707 tonearm and Supex SD900 moving-coil cartridge to complete the package. Now, the Glasgow company prefers to offer Sondeks in 'curated collections' from the get-go. So the entry-level Majik LP12 version costs £3450, but the psychedelic lacquered turquoise special finish you see here is an additional £300.

BEARING COMPARISON

The Majik LP12 comes complete with a Krane tonearm and Adikt MM cartridge; the latter if bought separately costs £430, the former's price is still to be confirmed at the time of writing. The Majik package also includes goodies that owners of older Sondeks will be interested to read about. First is the Karousel main bearing, launched last year as a £750 upgrade, but standard on new LP12s. This is basically a meatier, better made version of the already fine Cirkus bearing. One more bearing change preceded that since the original Sondek was launched [see boxout, p67].

This deck features the Majik subchassis, which replaces the pressed-steel version of yore with an aluminium part. This has a mounting for the bearing at one end and

armboard at the other, so is a key part of the deck's architecture. On its own, this is a £330 upgrade. The Majik LP12 power supply is integrated into the deck and while it's not a frequency-synthesiser type like the Valhalla and other Linn PSUs it does include a noise filter. It appears more than adequately precise too [see PM's Lab Report, p69].

Altogether, this assemblage of bolt-on LP12 bits makes for a deck that seems reasonably priced in the great scheme of things. Put in context, a stock Sondek from 30 years ago would be running a far inferior bearing and subchassis. Indeed, even the baseboard has changed, for instead of a cheap plywood affair it is now a stiffer, lower resonance alloy plate. It also comes with a 45rpm adapter (remember those?) and there's a wider choice of standard finishes than ever.

But what, I hear you ask, is the possibility of getting a better power supply?

BITE THE BULLET

The new Lingo costs £1450 and offers a synthesised frequency source that skips the need for adapters as 33.3/45rpm is directly

switchable. Or you could bite the bullet and go for another of Linn's curated packages, in the shape of the £7010 Akurate LP12 which the company describes as 'loaded with upgrades'. These include a superior Kore subchassis, a

machined from solid armboard, Trampolin baseboard, Lingo power supply and Krystal moving-coil pick-up. The top £18,870 Klimax LP12 package includes an Ekos SE tonearm and Kandid moving-coil cartridge.

Back to the Majik LP12, and the bundled tonearm is closely based on an affordable

'Here, subtlety,
nuance and
texture do all
the talking'



RIGHT: Linn's composite armboard is fitted with Krane (Clearaudio Satisfy) tonearm, the latter with fully adjustable headshell/pick-up platform and magnetic bias compensation. Rocker switch addresses single-speed AC motor



static-balanced Clearaudio design with an anodised alloy armtube. It has a polished tungsten and sapphire vertical bearing with a dual ceramic horizontal bearing assembly, and feels smooth enough in operation. VTA, azimuth and tracking force adjustments are provided, while the headshell allows for easy cartridge alignment. The Adikt MM cartridge is made by Armour Home Electronics to Linn's specification, and sports a rigid plastic body and Gyger II replaceable stylus.

LP12 buyers traditionally leave the installation of a new deck to their Linn dealer, but it is straightforward to get up and running if you don't want the retailer to enter your house. The deck is supplied to the customer with both the arm and cartridge pre-fitted. Then, it's simply a case of taking it out of the box, putting the inner platter on, then the drive belt, then the outer platter, setting the arm's counterweight and you're away.

Any subsequent tonearm upgrade is best entrusted to your Linn dealer, however, as this fiddly process ideally requires a special jig and recalibration of the three-point sprung suspension. Whatever you decide, this turntable works best on a light, rigid coffee table or better still, a custom support.

MODERN ROMANCE

Many analogue enthusiasts will have heard a Linn LP12 turntable, perhaps during the '80s when it was the height of fashion. Sonically, an awful lot has changed since then, though it's not wholly unrecognisable. Being generous, I'd say Linn has retained the design's high points, leaving what might now be acknowledged as its failings to the history books.

Nevertheless, the Majik LP12 package is no universal panacea, as the 'starter' tonearm and cartridge necessarily limit the full potential of the deck. For example,

ABOVE: Familiar stainless top-plate, two-piece platter with felt mat, rectangular armboard and iconic plinth shape – it can only be an LP12, available in a wide choice of colours

I fitted an Audio-Technica AT-33PTG/II moving-coil and was rewarded with an even more finessed and three-dimensional performance. Similarly, the Krane arm imparts a certain opaqueness to the sound, and a tendency to sit on loud dynamic crescendos, as I discovered after a spin of Supertramp's 'Bloody Well Right' [*Crime Of The Century*; A&M Records YAM 68258]. Here, the track's heavy musical introduction didn't quite have the weight or impact that it deserved.

Otherwise, at the core of the Sondek's sound is a certain quintessential, foot-tapping musicality. The deck still has an involving and almost romantic feel to the way it makes music, but this is largely a function of its rhythmic and dynamic prowess, rather than tonal coloration. The latter – which was once a major facet of LP12 ownership, particularly in the '70s and '80s – has now largely been banished. The Majik LP12 still has a subtly warm balance, but it is nowhere near as sepia-tinted as it once was.

FRESH 'N' EASY

The bass line on The Pet Shop Boys' 'Being Boring' [*Behaviour*; Parlophone PCSD 113] was tauter, more supple and more tuneful than I remember it through my old late '80s LP12. Indeed, the whole record sounded fresher, as if someone had wiped the lens so there was more to see, with less blurring of the details. Without the low frequency overhang of earlier Sondeks, bass seems a little lighter, but at the same time more propulsive. So the deck pushed the song along energetically, giving an ➔

LP12 LINEAGE

The Linn Sondek LP12 has been regularly updated, to the point where almost all its individual components have changed. This means decks of different vintages typically have different sounds. Early 1970s Sondeks were warm and euphonic until the Nirvana spring and motor mount kit tightened up its bass (1981, from serial number 32,826). Then the Valhalla crystal-driven power supply board took things further with more detail and insight (1982, 38,794). Improved plinth bracing (1984, 53,000) and better springs followed (1984, 54,101), then a superior main bearing (1988, 70,000) and a better armboard (1989, 79,160). The '90s were an important time; first came the optional Lingo offboard power supply (1990) and Trampolin baseboard (1991), then the Cirkus main bearing and subchassis package (1993, from serial number 90,582). These gave the deck a huge sonic boost with far better stereo imaging, as well as a grippier bass. The new millennium saw a fourth bolt added to the top plate, then the motor was finally upgraded (2001) for the first time since 1973. The rigid aluminium Keel subchassis option was a big leap forward for the LP12 (2008), as was the Radikal DC motor and power supply option (2009). Arguably largest improvement of all though is the current Karousel single-point bearing upgrade (2020, 150,3171).



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TURNTABLE PACKAGE



ABOVE: The new Krane arm has a snug-fitting alloy counterweight for setting downforce. Arm is terminated in captive Linn interconnects while the Majik motor PSU is fitted inside the chassis with flying AC mains power lead

involving presentation with less slurring of its synthesised sub-bass.

Alongside this is a surprising amount of detail, yet it isn't directed at the listener in the manner of some new direct-drives, for example. It may be more subtly delivered but it's still very much present – as Steve Hackett's 'Star Of Sirius' [*Voyage Of The Acolyte*; Charisma CAS 1111] illustrated. The Majik LP12's delivery really suited this great classic rock piece, proving adept at conveying the timbre of both Hackett's distinctive guitar work and also the grain of vocalist Phil Collins' voice.

Again, comparisons to an LP12 of a decade ago are very favourable, this version sounding better lit and less murky, with improved definition in practically every respect. Music sounds very vibrant and alive on this turntable/arm combo, so it succeeds in being tonally smooth, but less laid-back than this might imply.

MAJIKAL THINKING

Then there's the soundstaging. Even the most ardent LP12 fan would have to admit this has not been a strong point over the years, but the latest deck all but banishes this criticism. Put simply, it now sounds quite commanding in the way it recreates a recorded acoustic.

A classic groove in the shape of Isaac Hayes' 'Cafe Regio's' [*Shaft: Original Soundtrack*; Stax 2659-007] now sounded positively expansive. It's as if this new LP12 grabs the recording by the scruff of the neck, grips each instrument and doesn't let go. The music had a new-found solidity and confidence – the deck's accurate tonality, almost forensic detail retrieval and capacious soundstaging made this opulently-recorded track quite a thing to hear.

That old LP12 magic – if you pardon the pun – was very much in evidence with relatively simple programme material, such as Sade's 'When Am I Going to Make A Living' [*Diamond Life*; Epic EPC 26044]. On well recorded but not too complex tracks such as this, where subtlety, nuance and texture do the talking, the deck charmed me. It still seems able to knit the notes together better than most turntables I've heard, combining fine speed stability with a certain deftness when it comes to subtle music accents – or 'microdynamics', as the jargon goes.

I loved the expression in Sade's voice, the bass guitar groove and the rawness of the electric organ. This deck makes music sound natural, unforced, easy and yet expressive and emotional. Not many do. The Majik is a great package then, but Linn itself makes clear that it's effectively a 'taster' for what the LP12 is capable of, rather the sum total of all the deck can be. But even as a three-course meal, it's never less than supremely tasty! ☺

HI-FI NEWS VERDICT

Just when the LP12 was starting to look overpriced and under-developed, along comes Linn with a punchy new entry-level package that's a hard-hitting, value-for-money proposition. The bundled tonearm and cartridge aren't world beaters but are decent enough starter components that let the Sondek shine. The latter is better designed and built than ever, and still sings like a bird, but now louder.

Sound Quality: 87%

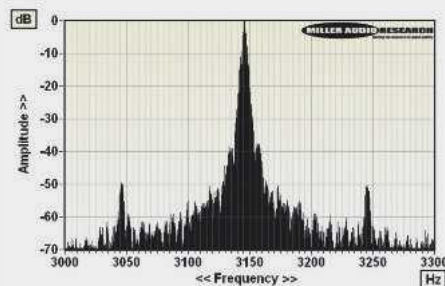


LAB REPORT

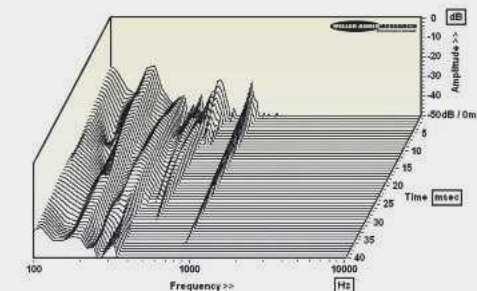
LINN MAJIK LP12/KRANE

Our sample was supplied with left and right channels reversed, so Linn either needs to look again at its end-of-line QC or, perhaps, this was just a dastardly plan to confirm whether reviewers are paying attention... Captive L/R tonearm leads swapped, the Majik LP12 offered up a reliably fine set of measurements. The single-point Karousel bearing was responsible for –68.5dB rumble (DIN-B wtd, re. 5cm/sec) which reduced to a good –70.1dB through-the-groove, proving the effectiveness of Linn's familiar two-part platter and lightweight felt mat. The 110V synchronous AC motor was running just –0.2% slow but was exceptionally pitch-stable, the platter rotating with just 0.02% peak wow at ±2Hz, albeit with sidebands at ±12Hz and ±50Hz contributing to a slightly higher 0.04% peak flutter [see Graph 1, below]. The latter 50Hz AC noise was also picked up in the –55dB residual noise measurement (unwtd. re. 5cm/sec) but this is a perfectly 'average' figure for a contemporary turntable.

The partnering Krane tonearm, built to Linn's specification by Clearaudio, is derived from the brand's popular 9.5in Satisfy Kardan arm, equipped with magnetic anti-skate compensation, alloy armtube and fully adjustable alloy headshell. The 10g effective mass makes it very compatible with Linn's Adikt MM pick-up while its resonant behaviour is impressively benign [see Graph 2, below]. The principal tube resonance occurs at 95Hz (lower than with the carbon-tubed variant, see *HFN* Jul '16] with a cluster of harmonic/torsional modes at 140Hz, 185Hz and 270Hz. All modes above ~200Hz are swiftly damped. The sapphire/ceramic bearings are suitably tensioned, offering very low <10mg friction with no perceptible play. PM



ABOVE: Wow and flutter re. 3150Hz tone at 5cm/sec (plotted ±150Hz, 5Hz per minor division)



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

HI-FI NEWS SPECIFICATIONS

| | |
|--------------------------------------|----------------------|
| Turntable speed error at 33.33rpm | 33.26rpm (–0.22%) |
| Time to audible stabilisation | 4sec |
| Peak Wow/Flutter (Peak wtd) | 0.02% / 0.04% |
| Rumble (silent groove, DIN B wtd) | –70.1dB |
| Rumble (through bearing, DIN B wtd) | –68.5dB |
| Hum & Noise (unwtd, rel. to 5cm/sec) | –55.0dB |
| Power Consumption | 4W (1W standby) |
| Dimensions (WHD) / Weight | 445x140x356mm / 10kg |

McIntosh MCD85

Well, one thing's for sure: the new SACD/CD player/DAC from McIntosh looks quite unlike any other machine of its kind. So, does the sound live up to the unique style?

Review: **James Parker** Lab: **Paul Miller**

Take a quick look at the £4995 McIntosh MCD85, and you'd probably think it was another in the seemingly endless line of amplifier variations emerging from the Binghamton factory in upstate New York. In fact, the first sign that this isn't actually a power amp is the weight. Thanks to their hefty transformers and solidity of build, the company's powerhouses tend to be back-achingly heavy, and arrive on pallets – the new MA1200 integrated amp, for example, weighs in at a shade under 49kg, and the MC901 monoblock is getting on for twice that. By contrast, the MCD85 is a manageable 12.5kg boxed, and a positively featherweight 9.3kg in the buff.

Yes, this may match other models in the company's range, in that characteristic 'modern retro' style, but what we have here is something different, if arguably just as 'old school'. This is a combination SACD/CD player, complete with a loading tray within the lower, slope-fronted part of the housing, combined with a digital section hosting inputs on a range of connections. There are two optical, two coaxial, and – probably of most interest – a USB-B computer connection that will accept files at up to 384kHz/32-bit and DSD256/11.2MHz.

TEAM PLAYER

So, while some will have you believe that a machine designed to play physical media – you know, discs – is a dinosaur in an age dominated by vinyl and streaming, the MCD85 responds to that charge on two levels. One is that many of us still play discs, be they standard CDs or the Super Audio variant, and the other concerns the 'duality' of a machine designed to do more than simply spin silver into music.

At just under 31cm wide and standing a shade under 20cm tall, the MCD85

doesn't really look like a CD player, does it? Well, while the company has rather more conventional – if not exactly slender – 'wider but shorter' SACD/CD players in the form of the MCD300 and MCD600, and a brace of SACD/CD transports, the styling of the MCD85 makes sense when you view it in the context of a complete McIntosh system. It matches the size and styling of the £4295 C8 valve preamplifier, while the £4995 MC830 solid-state monoblock power amp is similar, if a little taller.

And for all that 'classic' look, the components are able to talk to each other via control links, making 'one remote' operation perfectly possible. Along with its digital inputs and fixed-level RCA and balanced XLR line-outs, the MCD85 has 'data' sockets for system control, as well as RS232, external infrared sensor input and 12V trigger connections.

It also comes with a second USB-B port that is used for service functions.

DUAL LASER

Think of this player as a transport and DAC in one box, and you're not too far from the truth. The loader and its dual-laser

disc-reading mechanism – one lens, but separate lasers for CD and SACD operation – are in the lower section, with the control electronics, display and double-differential ESS ES9016S DAC in the upper part. And while the

digital section has wide-ranging file format capability, the same goes for the transport, for as well as standard CDs and SACDs, it can also read recordable media, including DVD data discs (to 48kHz/24-bit on CD±R/RW discs, and up to 192kHz/24-bit and DSD128 on home-burned DVDs).

'The track was all growling strings and taut skins'



RIGHT: Inside the MCD85 a switchmode PSU [centre] powers the CD/SACD drive [underneath] and digital board [bottom right]. Note Bravo SA9227 USB streamer, CS8416 coax/optical interface, CS8421 192k SRC and ES9016S DAC



LEFT: The design rather dictates the controls – basic functions are either side of the display, while left knob combines set-up and track skip, and the right one power and input selection

Of course, styling this player to match the company's amps does bring with it some control oddities...

In addition to relatively conventional buttons either side of the large display to open and close the loader, play/pause/stop disc replay, and select between layers on hybrid SACD/CD discs, the MCD85 also has two large control knobs straddling the disc tray.

The functions of these knobs require a little familiarisation because both have dual-labelling. The knob to the right turns the power on and off and scrolls through the digital inputs, while the one to the left performs track-skip and, with a push, takes the user into the set-up menu.

READY TO RACK

Once comfortable with the workings of the knobs most users won't find much to trouble them in the set-up menu. McIntosh offers an auto-off setting, powering down the player after 30 minutes of no use;

auto-muting to prevent noise when switching file formats; the front IR sensor can be switched off when using a remote one plugged into the rear; and unused inputs can be removed from the list shown when scrolling through them. Other settings in the menu relate to the various system and external control options.

The controls here aren't exactly intuitive but become more so after a period of use. Fortunately, the supplied remote control [see p73], while something of a buttonfest, duplicates them, as well as adding extras such as direct track access, programming and so on. It certainly makes the day-to-day operation of this unconventional-looking player considerably more conventional.

The styling here, and the fact the player is so tall, probably makes this a 'top of the rack' machine, a fact the company celebrates by emblazoning the model number in aluminium badging along the

flanks of the MCD85 in its usual rather gothic script. Mind you, combine it with the company's aforementioned preamp and power amplifiers, and you have a quartet of components each requiring significant headroom – not

for nothing does McIntosh's promotional photography show these products lined up side-by-side.

EASY DOES IT

So, positioned atop one of my racks, and connected both to my reference system and via USB to my M1 MacBook Air, the McIntosh player was good to go. I must admit to having 'short-shifted' some of my listening with home-brewed compilations burned onto DVD-R, but whether playing these (with their mixed formats), SACDs or good old CDs, the MCD85 delivered a consistently good sound.

It's rich, warm and lush, with excellent bass extension and definition, even if it's not the most open and airy sound. That's no drawback, especially if your musical tastes run to recordings not exactly the last word in detail and resolution. And what the MCD85 loses in the nuances of ambience and presence, it more than compensates with in its sheer ease of presentation.

Playing the slick production of The Police's *Reggatta De Blanc* from SACD [A&M Records 493 644-2], the MCD85 does a fine job with the Sting/Copeland rhythm section, all growling strings and taut skins, propelling the familiar tracks crisply and infectiously while giving plenty of space for the slightly hoarse vocals and the chopping guitar of Andy Summers. Yes, I've heard this set played with more attack, particularly with streamed DSD files, but the McIntosh MCD85 gets things right in a 'how it used to sound back in 1979' kind of way.

In those days I was spinning this album from two 10in albums, the title instrumental punching really hard before spinning into 'It's Alright For You' and then the phasey bass of 'Bring On The Night'. Before I knew it. I'd listened to the whole SACD, hit the button for the CD version, ➡

FUTUREPROOF MCINTOSH

While the McIntosh range may appear to ooze nostalgia, not least because it's been making products looking this way since the 1970s – before which its amps powered the famous Woodstock Festival – it would be a mistake to think that it's all about valves and that signature blue glow. As well as its stereo pre/power amps, the company is heavily invested in custom installation and home cinema products, from processors to multichannel amps. For example, its £19,995 MX170 processor has no fewer than 12 HDMI ports – has anyone got a dozen HDMI sources? – and delivers 15.1 audio channels. Just add a couple of its seven-channel MC257 power amps, at £12,995 apiece, and you're sorted. You can even add McIntosh speakers, plus an own-brand turntable, the MTI100, complete with onboard valve preamp, and a growing network music range. And that doesn't just mean component network players for use with its other separates: it also has wireless network speaker systems, complete with Alexa voice control, and even its own 'just add iPhone' AirPlay 2 speaker, the cleverly-named McAire. The latest arrival? The £649 MB20 Bluetooth transceiver, able both to accept audio from your phone and play it out to wireless earphones or speakers.



RXR AUDIO STAND

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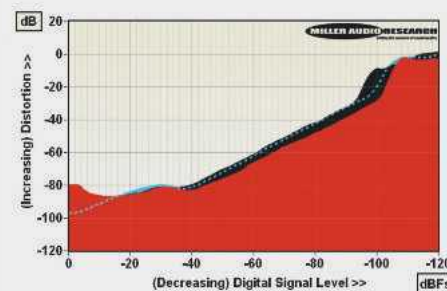
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LAB REPORT

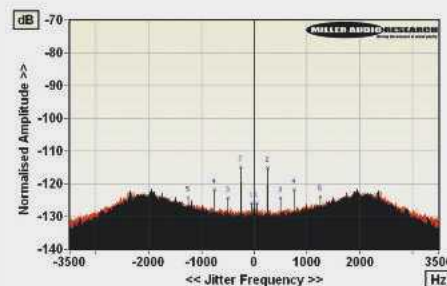
MCINTOSH MCD85

McIntosh Labs offers a surprisingly modest specification for its SACD-playing/USB DAC combination player which is at least partially inspired by the larger MCD600. The combination of Crystal's CS8421 sample-rate converter with tried-and-tested ESS9016S DAC from ESS Technology limits all LPCM streams to 192kHz although the frequency response peaks upwards to +0.3dB/20kHz with CD/48kHz inputs and +0.6dB/45kHz with 96kHz media. The higher-rate 192kHz files roll off to -8.1dB/90kHz while SACD/DSD64 media reach out to -0.4dB/40kHz, -7.2dB/60kHz, -19dB/80kHz and -31dB/100kHz. Incidentally, the digital filter for LPCM data is a steep roll-off linear phase type offering a superb >115dB stopband rejection with CD. The resolvable range, however, is limited to -96dBfs with CD data and -104dBfs with 24-bit LPCM feeds as inputs are truncated below these levels. The 'step' is clearly visible on the distortion versus digital signal level traces [Graph 1] which also illustrate the unexceptional – though acceptable and usefully uniform – circa-0.01% THD over the top 40dB of the player's dynamic range. Interestingly, SACD/DSD64 is not truncated and offers a far superior low-level resolution of ± 0.2 dB down to -120dBfs.

The top-line figures for the MCD85 are as expected – maximum (balanced) output is 4V from a 100ohm source impedance, increasing to 333ohm/20Hz via the capacitor-coupled analogue stage, while the A-wtd S/N ratio is a fine 114dB with 24-bit LPCM and 109dB with SACD/DSD64 sources. Correlated jitter is low at 115psec via USB and coaxial inputs and very low at 30psec with SACD, although a broad uncorrelated noise is also evident [see Graph 2, below]. PM



ABOVE: Distortion versus digital level – 1kHz at 24-bit/48kHz over USB (red), 1kHz at 16-bit/44.1kHz via CD (black) and 20kHz via CD (blue)



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

HI-FI NEWS SPECIFICATIONS

| | |
|---|--|
| Maximum output level / Impedance | 4.01Vrms / 99-349ohm (XLR) |
| A-wtd S/N ratio (LPCM / CD / SACD) | 113.5dB / 110.5dB / 108.8dB |
| Distortion (1kHz, 0dBfs/-30dBfs) | 0.011% / 0.010% |
| Distortion & Noise (20kHz, 0dBfs/-30dBfs) | 0.002% / 0.011% |
| Freq. resp. (20Hz-20kHz/45kHz/90kHz) | -0.0 to +0.3dB/+0.6dB/-8.1dB |
| Digital jitter (LPCM / CD / SACD) | 115psec / 265psec / 30psec |
| Resolution @ -100dB (LPCM / CD / SACD) | ± 0.3 dB / ± 0.8 dB / ± 0.2 dB |
| Power consumption | 15W (1W standby) |
| Dimensions (WHD) / Weight | 309x197x413mm / 9.3kg |



ABOVE: The MCD85 offers USB-B plus pairs of optical and coaxial S/PDIF ins together with fixed analogue outs on RCAs and balanced XLRs. Wired triggers facilitate automation while updates and diagnostics are managed via a USB service port

and then gone back to the single-bit layer again. I was having fun.

The same went for another hi-res favourite, the gloriously over-the-top *Rage Hard Frankie Goes To Hollywood* compilation [ZTT ZTT177SACD], where the bass weight and punch of the MCD85 more than made up for the slight lack of top-end space and ambience. Yes, a bit more openness and sparkle wouldn't go amiss, but the big, hefty sound here is never less than entirely entertaining, and the added slam of the SACD layer over the CD version was readily apparent.

BIG BONED

Change pace to a modern SACD/CD release, in the form of Ragnhild Hemsing and Tor Espen Aspaas's *Beethoven's Testaments Of 1802* [2L-160-SACD], and the big-boned McIntosh sound is at ease with the simple violin and piano performance on the 'Kreutzer' sonata. The ambience here – a 2L hallmark – is more hinted at rather than explicitly painted, even when playing the SACD layer (or even the source DXD via the MCD85's USB input), but both instruments are persuasively



LEFT: Sleek and very comprehensive full system remote caters for input select, direct track access, skip, scan and other transport controls while also providing access to the limited set-up menu

weighted and delivered with excellent timbral detail and speed.

On the subject of that USB-B port, as all inputs here are sample-converted to 192kHz/24-bit [see PM's Lab Report, opposite] it's hardly surprising that the digital inputs are on a par with the disc playback. Indeed, you could quite easily buy the MCD85 on the basis of its use as a big, rich-sounding DAC with benefits for a McIntosh-based system. But don't forget that adding the company's DA2 DAC module as a dealer-installed upgrade to one of the company's preamps is only going to cost you £1295, and will bring you not only USB, coaxial and optical inputs, but also HDMI (ARC) ready for the sound from your TV set.

That said, the MCD85 player/DAC, though probably best considered as a component for the McIntosh faithful, is a persuasive way of doing what it sets out to achieve – namely forming a good 'bridge' between an existing disc collection and a growing computer-stored library. ⏻

HI-FI NEWS VERDICT

As big and bold in its sound as it is in the metal, this player will certainly attract attention when placed atop a hi-fi rack, as its dimensions dictate. It's an exceptionally easy listen, thanks to its warmth and generosity of presentation, even though at times it can be a bit too lush. And while the ergonomics aren't the most intuitive, if you like the way it looks and sounds, you'll get used to them pretty quickly.

Sound Quality: 83%





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CrystalConnect van Gogh

This 'Art Series' is the first silver CrystalConnect offering curated by high-end specialists Crystal Cable. We hear the midrange interconnect. Review & Lab: **Paul Miller**

Spin-off or temporary re-branding, CrystalConnect is part of the same Crystal Cable company, led by Gabi Rynveld, that audiophiles have been familiar with for over 17 years. Synonymous with silver conductors, the brand's latest 'Art Series' employs a development of its monocrystal (or long-crystal) conductors dubbed 'Infinite Crystal Silver' (iCS). Strands of this high conductivity metal are deployed across a range that includes analogue RCA/XLR interconnects, power and speaker cables plus USB, S/PDIF and AES digital interconnects.

MASTERPIECES IN MAKING

Comprising – in order of scope and cost – the Monet, van Gogh and da Vinci variants, prices range from £8400, £14,200 and £23,000, respectively, for 1m sets of interconnects terminated in either RCAs or XLRs. These audio cables use a mix of two conductor geometries. There's a 'coax' for the signal leg that has a single iCS strand, insulated with Kapton and a layer of PTFE, that's screened by a multi-core weave of finer iCS strands and bound tightly by a transparent Teflon jacket. The 'Ground' or return leg uses three lower-gauge central iCS strands, again Kapton/PTFE insulated, and also with a multi-stranded iCS screen.

Both the RCA and XLR versions of the van Gogh interconnect employ four of these legs – one signal/three return for the single-ended RCA and two signal/two return for the balanced XLR configuration. Holding the twist in place are CC's entirely decorative, gold-anodised identification barrels.



The alternate XLR/RCA geometries confer different lumped parameters for each cable, the latter trading a very low 0.29µH/m series inductance for a proportionally higher 450pF/m parallel capacitance. Courtesy of all that silver, the 19.5mohm/m loop resistance is fabulously low...

SILVER-TONGUED

I was supplied a 2m length of the RCA-terminated van Gogh interconnect and while I would have preferred the balanced XLR equivalent – a more likely equipment companion at this price level – the single-ended connections between Classé's Audio Delta PRE (inc. network DAC) and MONO power amps [*HFN* Jun '21] are more than up to the job.

So let's first shoo the elephant from the listening room by making it clear that CC's van Gogh is not one of those archetypal 'bright sounding' silver cables. In practice I found it nearly as smooth as the best single-stranded/annealed/cryo-treated copper interconnects from cable luminaries including Townshend and Furutech. To this the van Gogh brought insight even to the shrillest of recordings, specifically the AIR Studios-mixed [*HFN*

ABOVE: The van Gogh cable comes with an NFC tag attached that allows you to check its authenticity using the CrystalConnect App

Mar '21] pomp-rock of Muse's *Drones* [Warner Bros, 96kHz/24-bit download]. A hard-hitting set that can readily sound brittle or harsh now exhibited rather more of the treble 'air', swagger and fulsome bass punch that I've come to expect from a finely-tuned high-end system.

It does 'artistic' too, with the close-recorded jazz standards sung by Natalie Dessay/PMO [*Pictures Of America*; Sony Class. 88985342842] sounding close, breathy but never claustrophobic.

HI-FI NEWS VERDICT

There's no avoiding the formidable price of these cables, but handle a pair and you may be surprised at their weight. Even discounting the alloy barrels, this reflects how much noble metal lies within that transparent Teflon dielectric. CrystalConnect has named this range after the virtuosi who set new standards of expression, their iconic artwork echoed by the precious silver conductors that are core to the performance 'painted' by these cables!

Sound Quality: 88%



LEFT: Sweeter than a box of chocolates... Here's the protective packaging for CrystalConnect's van Gogh interconnect cable



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BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

Brazilian Composers *Beyond Villa-Lobos*

You might want to think of the *Bachianas Brasileiras* like the mouth of the Amazon, says **Peter Quantrill**, because a flood of discoveries awaits the intrepid listener

European classical music arrived in the world's fifth largest country with the Jesuits, who brought with them the sacred polyphony of Palestrina and Victoria. Those young men who showed musical aptitude were trained not only as priests but as singers and composers.

Most of their work is now either lost or forgotten, but the Requiem by José Maurício Nunes Garcia (1767-1830) is a powerful exception, albeit evidently written in the shadow of Mozart's example. Sony's download-only version led by Paul Freeman in its 'Black Composer Series' from the 1970s is still the most polished of several recordings.

GOLD RUSH

The classical tradition became another badge of secular bourgeois status during the 19th century. Royal patronage and gold-rush money built opera houses in remote outposts such as the Teatro Amazonas in Manaus, thousands of miles up river from the cosmopolitan centres on the east coast of Brazil.

→ **Fabio Mechetti**, chief conductor of the Minas Gerais PO on the 'Music of Brazil' series from Naxos



The emperor of the day, Pedro II, even suggested to Wagner that Rio should host the premiere of the opera *Tristan und Isolde*.

However, even native audiences did not regard Portuguese as a fit language for art music, and almost half a century passed before Alberto Nepomuceno composed the first Brazilian opera worthy of the title, a one-acter (*Artemis*, from 1898) drenched in the heady perfume of Wagnerism.

A YouTube search should certainly turn up a couple of in-house performances, but Nepomuceno's importance as a pioneer of a distinctively Brazilian style takes shape on a recent Naxos album [see Essential Recordings], which is the first in a huge projected series of 'Music from Brazil'.

As the balance of cultural power shifted from Berlin to Paris in the early decades of the last century, so did the destination of study for young Brazilian composers. Back home they fell under the spell of Mário de Andrade (1893-1945), a symbolist poet, novelist, musicologist and art historian.

In 1922 he curated a Week of Modern Art in São Paulo that

became a watershed for Brazilian culture of all forms. He regarded the previous attempts to spice up European classical genres with native elements as just one step towards the flourishing of a musical culture that Brazil could be proud to call its own. With his encouragement, Camargo Guarnieri, Francisco Mignone and Cláudio Santoro and others emulated the examples of Nielsen, Sibelius, Bartók and Vaughan Williams in Europe.

STILL MAGIC

In this regard, the music of Heitor Villa-Lobos is an outlier. And yet for listeners above the age of 50, the sensuous world of Brazilian classical music was long defined by a single EMI album, of Villa-Lobos conducting his *Bachianas Brasileiras*, with Victoria de los Angeles floating the vocalise of the Fifth above an octet of swaying cellos: still magic in its latest Warner Classics reissue [2435669122].

The composer's French-made recordings deserve their definitive status despite the rocky ensemble and spotlit

engineering in both mono and stereo. EMI/Warner is still a first port of call for his music, even if you can't locate either of the deleted 'Villa-Lobos conducts Villa-Lobos' or 'Villa-Lobos par lui-même' boxes online, for the '80s digital recordings by the Mexican conductor Enrique Bátiz – there's a useful 3CD set [5008432].

Listeners to Guarnieri and Santoro in particular will find that Villa-Lobos was just one chapter of the novel. The Paris-trained Guarnieri also composed classical versions of native genres such as the *chôro* (a cry or lament, but often quick and upbeat in mood), less immediately catchy

↙ **Pianist Clélia Iruzun**, an indefatigable champion for the music of her native country



'City-life bustle meets keyboard bravura'

than his better-known contemporary but also more sinuously crafted. He is a Brazilian Prokofiev to the Shostakovich of Santoro, whose 14 symphonies (1940-89) experiment with form while being consistently charged with the tension and long-span satisfaction that we expect from any major symphonist.

The local Festa label issued collectable LPs of music by Santoro, Mignone, Radamès Gnattali (named after the male lead in *Aida*) and many others. In the CD and streaming era, Selo Sesc makes albums that are often stronger on musical appeal and rarity value than engineering finesse.

Anyone plugged into Spotify should stop reading now and head for the Selo Sesc playlist of 'Música de Concerto', kicking off with Gnattali as guitar soloist in the Suite Retratos by Chiquinha Gonzaga, which to these Anglo-Saxon ears pours the sharp, giddy scent of a strong caipirinha into an irresistibly



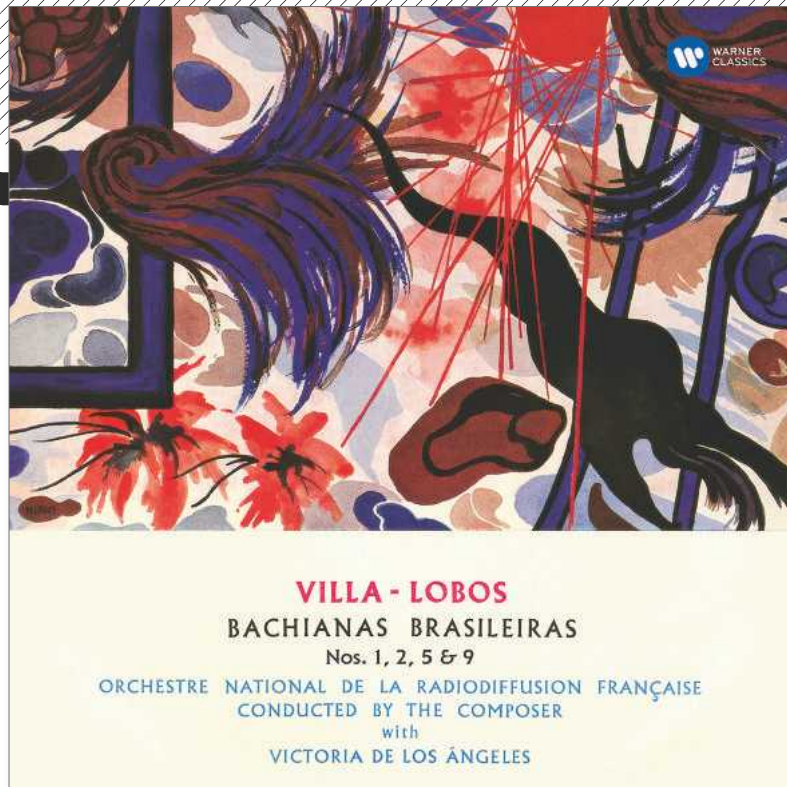
carefree sequence of native and European dances.

Most Brazilians think of classical music first and foremost in orchestral terms. The nature of the collective endeavour taps into a native feeling for mass-participation forms of culture such as drumming groups, volleyball and *futebol*. The string quartets of Nepomuceno, Villa-Lobos and others rarely extricate themselves from a Brahmsian grammar, though the recordings by the Brazilian String Quartet (on Albany Records) and the more up-to-date Quarteto Carlos Gomes (Selo Sesc, download only) are well worth investigating on their own, anachronistic terms.

Piano music and pianists have been better served by Brazil's relatively young conservatoire

➔ The sound of Brazil: the definitive composer-conducted album that defined a fusion of South American and classical styles for generations of listeners

➔ The father of modern Brazilian classical music – Alberto Nepomuceno. He was born in the city of Fortaleza in 1864



tradition; Nelson Freire and Cristina Ortiz are not the only soloists to enjoy international careers. Rio born, now based in London, Clélia Iruzun accompanies Anthony Flint on a sensitively engineered new Somm album [SOMMCD0632] of post-Romantic violin sonatas by Henrique Oswald and Leopoldo Miguez.

SIDEWAYS LOOK

The same label plays host to Iruzun's magnificently uninhibited performance of the Piano Concerto [SOMM265] which Mignone could have written as a missing link between Rachmaninov and Prokofiev, balancing big tunes with city-life bustle and fistfuls of keyboard bravura.

Postwar Brazilian classical composers took a sideways look at the techniques of European modernism, many of them taught by the Swiss émigré Ernest Widmer. A pupil of Guarnieri who died in 2010, José Antônio de Almeida Prado found a contemporary voice through the Romantic apparatus of the piano much as Messiaen did in France.

If the scale of his *Cartas Celestes* (4CDs on the Grand Piano label) proves intimidating, try the half-hour, nine-section span of his Piano Concerto No 1, which is another fine modern Naxos recording [8574225]. Phantasmagorical and efflorescent in its quieter sections, it is like a Bartók nocturne transplanted to the upper reaches of the Amazon. ☺

ESSENTIAL RECORDINGS

'Brazilian Adventures'

Hyperion CDA68114
Chamber-scale, period-aware recordings of masses and motets by late-Classical and early-Romantic pioneers.

Nepomuceno: Symphony in G minor

Naxos 8574067
Afro-Brazilian rhythms - in the 'Batuque' finale of the *Série Brasileira* - meet Schumannesque symphonic ambitions.

Gomes: Il Guarany

Sony 88985334982
Luxury casting and good live engineering for this 1870 example of Brazilian Verdi, premiered at La Scala, Milan.

Santoro: Symphonies 4 & 9

BIS BISCD1370
An upbeat choral finale crowns the peace-themed Fourth, while the Ninth trades on edgy neoclassicism.

Villa-Lobos: Forests of the Amazon

BIS BIS-1660 SACD
A film-score turned 'exotic' rhapsody, full of lush and violent orchestral drama as well as soaring soprano songs.

Gnattali: Alma brasileira, etc

BIS BISCD2086
A fluent, effortless-sounding blend of popular dance forms with classical salon music for guitar, piano and cello.

Vinyl Release

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

The Vaccines *What Did You Expect?*

Get your Vaccines here on 180g black vinyl (sorry, we couldn't resist), as **Steve Sutherland** sets out the background story to this UK indie/rock debut album

Remember Joe Lean & The Jing Jang Jong? Of course you don't. No reason why you should. They didn't amount to a hill of beans. To elucidate: they were one of those thousands of bands heaped on the steaming pile of what was rather cruelly described in the mid-'90s as Landfill Indie.

In other words, they were among the legion of non-original no-hopers looking to imitate their betters and often elders en route to a credible career. We're talking Cast, who, despite having John Power in their number, weren't remotely The La's. We're talking Seahorses who, despite having John Squire in their lineup, weren't remotely The Stone Roses.

IMPOSTERS EPIDEMIC

We're talking Northside who were runty patchwork impressions of Happy Mondays. We're talking Gene, who way-too-desperately wanted to be The Smiths and missed their target by a Manchester mile.

We're talking The Enemy, who ludicrously fancied themselves as The Jam reborn. We're talking The Kooks, who weren't Blur, and The View, who weren't even The Kooks. And Shed 7, who weren't even, well... *anything* really.

We're talking Razorlite and Miles Kane and Starsailor and Ordinary Boys and Bombay Bicycle Club and Paddingtons and Pigeon Detectives and Milburn and Two Door Cinema Club and Larrikin Love... Truth is, the list of 'not-a-patch-on's is endless and continues to grow.

'All these bands!' critic Simon Reynolds ranted in *The Guardian* in 2010. 'Where did they come from? Why did they bother? Couldn't they tell they were sh*t?' Not that trying to con the public your mediocrity amounted to anything but a lame tribute to a greater talent was a particularly new phenomenon. Back in

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...



1979, The Cure had released an accusatory standalone single called 'Jumping Someone Else's Train' – which actually wasn't that good and turned out to be a bit rich considering how they themselves glommed onto New Order for a while soon after.

And, of course, back in the 1960s there were tons of wannabe Beatles and Stones-alikes. But from the 1990s onwards, there seemed to be an epidemic of such imposters and they were roundly rebuked and ridiculed by the music press.

ALARM BELLS SOUNDING

Into this battle strode The Vaccines. From the moment they first popped up in 2010, alarm bells sounded long and loud and the litany of suspicions rang out. 'No vacancies! We already have The Strokes and, anyway, Kings Of Leon are gainfully employed as lead Strokes acolytes', was the prevalent critical tenor. Not to mention the rumoured whiff of record company collusion, an opportunist guitar act created to fill

the lucrative gaps between Arctic Monkeys releases. They were uncannily handsome too. In all, a little too good to be true?

For all that, there were fans. Zane Lowe on the radio and tons more of them. Much like the aforementioned Arctics, they'd built up a following by releasing their demos online – still a fairly novel concept back then – and there were those who backed them as champions of the cause, saviours of guitar-driven, indie-affected, under-siege old-school rock 'n' roll.

Their gigs began to sell out and celebs started turning up at their shows. Jools Holland had them on his *Later* TV show: the first time an act without even a single out had been invited to perform. They then put out that single, a double A side, 'Wreckin' Bar (Ra Ra Ra)' and 'Blow It Up', limited to 1000 copies, released on a brand spanking new indie label, Marshall Teller Records.



The Vaccines in 2017 (l-r): Yoann Intonti, Timothy Lanham, Justin Hayward-Young, Freddie Cowan, Árni Árnason and (inset) 'Wreckin' Bar (Ra Ra Ra)' from 2010

WHAT DID YOU EXPECT FROM THE VACCINES?

WHEEDON: BAD (2x 12 IN) • IF YOU WANNA • A LACK OF UNDERSTANDING
ELIZA DEEP • WETSUIT • NORGAARD • POST BREAK-UP SEX • ENTER YOUR THUMB
ALL IN WHITE • WOLF PACK • JAMMY FRIEND

Picture Disc Vinyl • 180g • 100% Recycled • 100% Virgin • 100% Pure • 100% Perfect

➔ Priced at £24.99, *What Did You Expect...?* [MOV label] may be ordered online via www.thesoundofvinyl.com

The single was encouragingly Ramonesy – brief, bright, good-time bouncy. They toured and Vice filmed it. So far so groovy.

NEAR TRIUMPH

They signed a big deal with Columbia and then, of course, the pressure was really on. By my calculation, at the time the call was 50/50 – half of those who cared hoping for a disaster, half fingers-crossed for something great to once more challenge the stranglehold hip-hop and R&B had on the charts. Hence, of course, perhaps the most knowing album title in the whole history of popular music. What *did* you expect from The Vaccines?

Notice it's 'did', not 'do'. The deed is done. The verdict, whatever it might be, delivered. Part shrug, part defiance. 'We am what we am', as Popeye nearly said. What we got, against all the odds, was pretty much a triumph, if not quite a classic. Both sides of the indie single were on it, and deservedly so. Then there was another rabble-rouser, the lighters-aloft anthem 'If You Wanna', and the *très* cool and ultra-modern 'Post Break-Up Sex'. 'Norgaard' was a cracker too, and the jittery 'Wolfpack'.

This was something of a rarity, like Blondie's *Parallel Lines*, an album that holds together thematically and atmospherically but is actually also a collection of smart, focused, self-contained singles.

Singer and lyricist Justin Young said at the time that his influences were Jonathan Richman's *I Jonathan*, The Beach Boys' *California Girls* and *Milo Goes To College* by Descendents, an album which had rammed 15 spry songs into 22 minutes back in 1982 – a mix nicely calculated between classic, hip and obscure. Of course, it would have been better to disown all influences and say it all came straight from the heart, but that discourse changed the day Oasis ruined it all and betrayed their

'They built up a following by releasing demos online'

and all future generations by prostrating themselves at the shrine of The Beatles.

Now that cat was out of the bag, there was nothing new under the sun. All new guitar-based pop was declared inferior to history, bent the knee in defeat to The

Small Faces and it was *de rigueur*, if not actually cool, to use your record collection as a signifier. Good taste had replaced originality as the route to indie hearts and minds, and Justin Young knew this full well. Which brings us to

'Wetsuit', the album's masterpiece.

It goes: 'For goodness sake let us be young/ Because time gets harder to outrun/ And I'm nobody, I'm not done... We all got old at breakneck speed/ Slow it down, go easy on me... Put a wetsuit on, come on, come on... Grow your hair out long, come on, come on/ Put a t-shirt on/ Do me wrong, do me wrong, do me wrong...'

It's a heck of a 'what the hell?' song. Just because it's all been done before doesn't mean we can't enjoy our version of the thing in our time, get totally, hopelessly lost in it and dream. Wonderful!

What Did You Expect From The Vaccines? wound up being the top-selling debut LP by a UK band in 2011. They've released three albums since, none anywhere as good. But for that one

moment victory was theirs: They weren't The Strokes, they were The Vaccines.

SPLIT ENDS

And what, you might very well ask, became of Joe Lean & The Jing Jang Jong? They released a single, 'Lucio Starts Fires', then had a self-titled debut album readied for release in 2008. Just before this auspicious event the release was scrapped as the band claimed the album, 'didn't represent their current sound'. Copies went to critics; *NME* gave it 8/10. The band split up. And that, as they say, was that. ☹

RE-RELEASE VERDICT

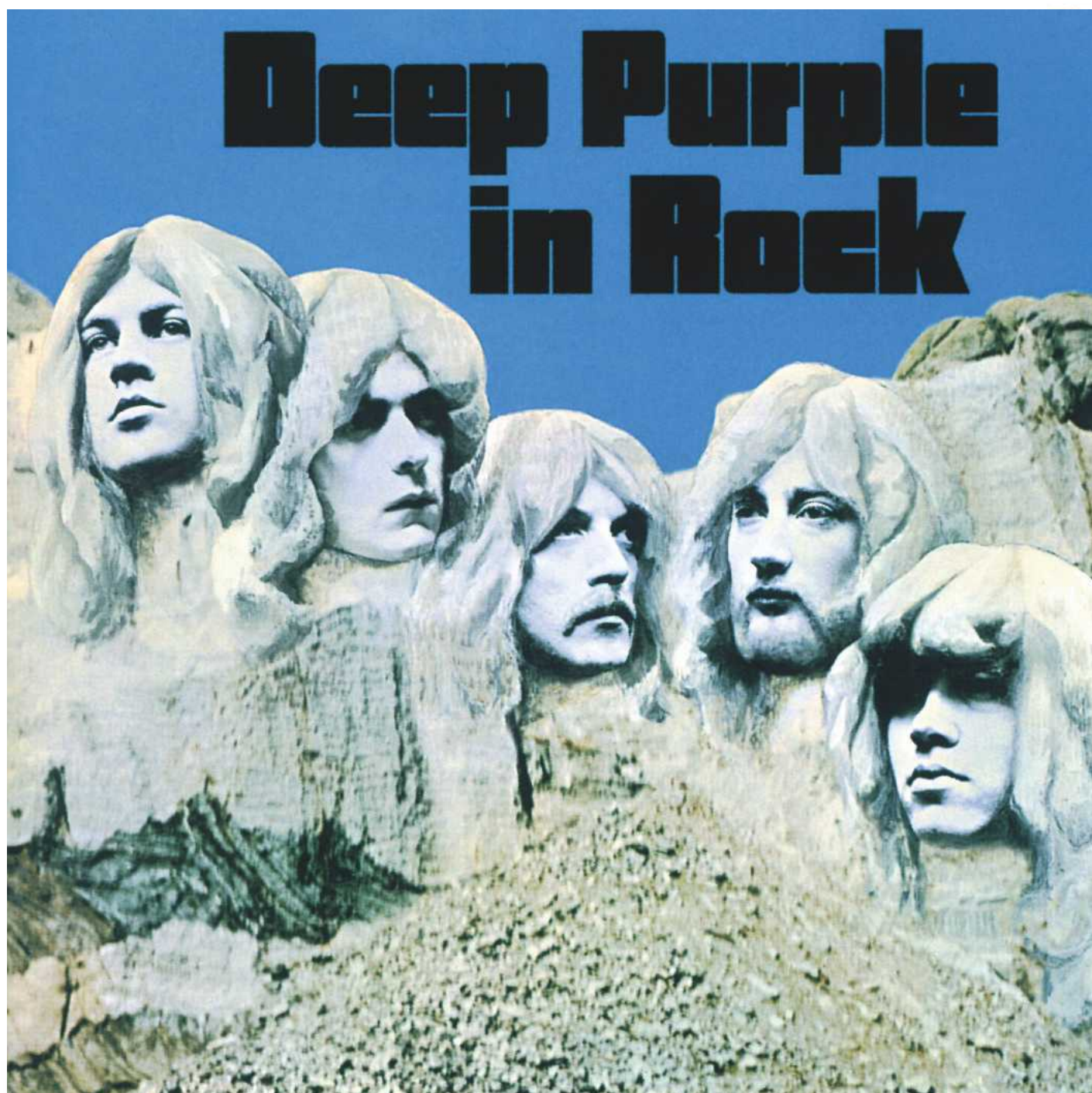
Produced and mixed by Dan Grech-Marguerat, this album was recorded in 2010 at the RAK and Miloco Square Studios in London and released the following March on the Columbia label [88697841451]. It shot to No 4 in the UK and became the biggest-selling debut album of the year. Here we have the 10th anniversary re-release on 180g black vinyl from Music On Vinyl [MOVLP2794]. It comes with a digital download coupon for unreleased *What Did You Expect...?* demos. *HFN*

Sound Quality: 85%

0 - - - - - 100

THE VACCINES





Deep Purple *In Rock*

After recruiting vocalist Ian Gillan and bassist Roger Glover, the second lineup of this one-time psychedelic band would produce one of the most pivotal albums in the history of hard rock, enabling them finally to break through in Europe after prior US success

Words: **Mike Barnes**

Initially named Roundabout, Deep Purple formed in 1968. Jon Lord had played keyboards in The Artwoods, who were an R&B group in the mould of The Animals, while guitarist Ritchie Blackmore had made his name as a hotshot session player with producer Joe Meek [HFN Aug '16], and thus had recorded and played live with 'Screaming' Lord Sutch.

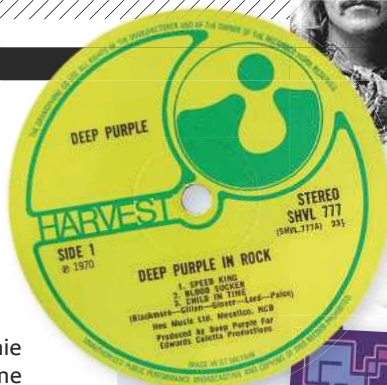
They scored an early hit in the US with a version of Joe South's 'Hush', although it only did modest business in the UK. Blackmore has admitted that they loved the US group Vanilla Fudge, who specialised in bombastic cover versions, and their debut album, *Shades Of Deep Purple*, released in July 1968, also featured flamboyant blues covers and a version of The Beatles' 'Help!'. But there were original compositions too, such as 'Mandrake Root' with its psychedelic instrumental section.

CLASSICAL VIBES

By 1968, The Nice's classically trained keyboard player Keith Emerson was weaving material by Bach and Sibelius into his compositions. Jon Lord had been taught piano from an early age and he also introduced classical elements into Deep Purple's music. *The Book Of Taliesyn* (also 1968) invited comparisons with both The Nice and Vanilla Fudge: 'Exposition/We Can Work it Out', began with a theme from Beethoven's Symphony No 7(ii), before going into The Beatles' 'We Can Work It Out'.

Despite pressure from their American record label Tetragrammaton to score another hit along the lines of 'Hush', they were attempting to establish their own identity. *Deep Purple* (1969) erred further towards what was becoming recognised as progressive rock, particularly the lengthy suite 'April', which included a choir and a string quartet. None of these albums charted in the UK, however.

Bass guitarist Nick Simper and singer Rod Evans both left in rather contentious circumstances and in June 1969, Ian Gillan from Episode



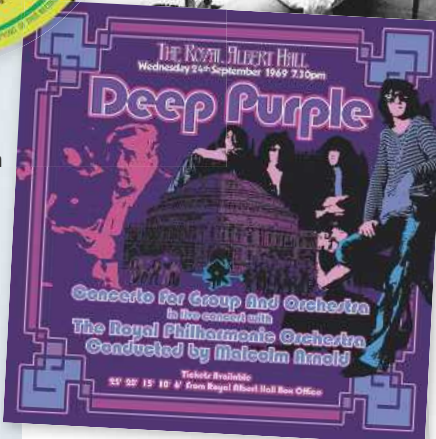
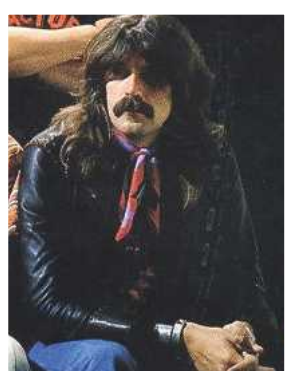
Side 1 of the original LP on Harvest, part of the EMI Group

Deep Purple pictured in 1969 (l-r) Jon Lord, Ian Paice, Ian Gillan, Ritchie Blackmore, Roger Glover

Original poster for Lord's *Concerto For Group And Orchestra*, premiered in 1969 at The Royal Albert Hall

EMI promo shot of the band originally issued in 1970

Jon Lord caught on camera in 1976



Six, who had also appeared in a stage version of *Jesus Christ Superstar*, and bass player Roger Glover were drafted in.

Gillan recalls that Lord and Blackmore were frustrated with their songwriting, but when he and Glover became involved it had a catalytic effect and new material began to flow in rehearsals. Gillan has noted the crucial importance of the group shaping these songs by playing them live. But first they had a significant and very different commitment to honour: the premiere in September '69 of Lord's *Concerto For Group And Orchestra* at the Royal Albert Hall.

BRIDGING A GAP

It was something that had been bound to happen. As well as rock groups helping themselves to classical themes, contemporary avant-garde composers such as Stockhausen and Penderecki had written for orchestra and pre-recorded tape. But Jon Lord's ambition was that his original composition would bridge the stylistic gap.

The *Concerto* was well received by the predominantly young audience, although some critics were sniffy. But for the group the experience

'The RPO experience was not a happy one'

was not a happy one. Rehearsal time had been tight and the attitude of the Royal Philharmonic players was at times childish, some of them greeting the entrance of the long-haired group with wolf-whistles.

Looking back in 1979, the guitarist told *Sounds*: 'The orchestra was very condescending towards us and I didn't like playing with

them, so it was one big calamity on stage.

'But Jon was happy with it and management was happy with it because we had a press angle, which I resented very much.' Deep Purple's

profile had been raised by a project that was the least representative thing they had done, though a live album of the event gave them their first entry into UK charts, at No 26.

Jon Lord went on to compose *The Gemini Suite* and other rock and classical crossovers, but publicly he felt obliged to separate the

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VINYL ICONS

PRODUCTION NOTES

Deep Purple In Rock was recorded at three different London studios. Sessions began at IBC from 14th-21st Oct '69 and continued sporadically until mid Jan '70. Here Deep Purple recorded 'Child In Time', 'Speed King', 'Into The Fire' and 'Living Wreck' on 8-track, with some overdubs added later. The group had persuaded their management Edwards Colletta and record label Harvest to allow them to produce the album themselves and the engineers employed here were Andy Knight and Kevin Barry.

As the material for *In Rock* was shaped by Deep Purple playing live, they were keen to avoid the sterile atmosphere associated with white-coated technicians tut-tutting if meters went into the red, and were determined to capture the excitement of a live show. The next sessions were in Jan '70 at De Lane Lea studios in Kingsway, London, where 'Flight Of The Rat' and 'Hard Lovin' Man' were recorded. For these sessions the group were paired with a young engineer, Martin Birch.

He was a hands-off producer, but a skilled engineer and sought to capture the excitement of the performance by utilising the actual



room sound, which at the time was anathema to some engineers.

This was particularly true regarding some engineers' desire to control the drum sound by eliminating any sort of ring or resonance. But Birch listened to the sound of Paice's kit and then tried to replicate it by finding the brightest part of the room and miking it up from there. 'This was revolutionary thinking, believe it or not', Gillan said. Sessions concluded at Abbey Road in April 1970 where they recorded just one song, 'Bloodsucker'.



Concerto from the group's music, as he explained to Richard Green of *NME* in 1969. 'People began saying we had no direction: that first we played one thing and then another, and this led to personal problems. There wasn't any argument within the group about doing the classical thing, but when the criticisms started, some weren't happy.'

Lord also told *Beat Instrumental* that 'The group now is trying to develop into being good at what we're best at – which is what we call rock 'n' roll...'

But it was that and more. Their next album, *Deep Purple In Rock* was a new type of music the style of which didn't have a name beyond tentative labels like 'heavy progressive'. Yet 'all of a sudden the music came together', Gillan told *Classic Rock*. 'It seemed as if [it] was coming from within the band instead of outside the band. It was a kind of joy. I have absolutely fond memories of that time.'

GUITAR HERO

Few albums open in such dramatic fashion as *In Rock*. The first half-minute or so of 'Speed King' is a high velocity freeform cacophony, an emphatic statement of intent, with Blackmore pulling out all his flash tricks like extreme note-bending with the tremolo arm and scraping the plectrum along the strings.

After a short, calming passage of ecclesiastical organ, the band lurch into a taut structure of adrenalised heavy riffing with Gillan's lyrics



paying homage to rock 'n' roll, principally Little Richard – on the sleeve the song is described as, 'Just a few roots, replanted'.

Organ and guitar phrases are traded in a jazzy instrumental section before a dramatic re-entry into the riff, with Blackmore demonstrating that he had now completed his transition from accomplished

ex-session player to guitar hero. The band had never sounded this exciting before. Like many drummers of the time, the 21-year-old Ian Paice had grown up with jazz and applied it to hard rock, and his imagination, speed and precision were astonishing.

'Child In Time' starts with a delicate organ line lifted from 'Bombay Calling' by American ↻



↑ Poster for the German leg of The Deep Purple European Tour that lasted from July 1969 until June 1970

↶ The band members as pictured on the inside of the LP's sleeve (clockwise l-r) Ritchie Blackmore, Ian Gillan, Roger Glover, John Lord and Ian Paice

↶ De Lane Lea studios in London was founded in 1947 to dub English films into French. Located at 129 Kingsway when *In Rock* was recorded, it has now moved to 75 Dean Street in Soho

↶ 'The Man In Black' – Ritchie Blackmore on stage in 2017 at the Stone Free Festival held at London's O2 Arena



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Alternate Format Discography



➔ In 2004 – Paice, Glover, Gillan, Don Airey and Steve Morse

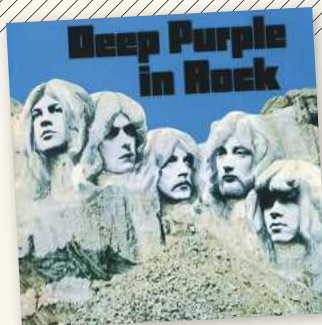
band It's A Beautiful Day – Purple repaid the compliment by letting them use 'Wring That Neck' as the basis for one of their own songs. The lyrics were inspired by the conflict in Vietnam, and Gillan locks into a wordless cooing refrain which peaks as a hair-raising scream and leads into a high velocity instrumental middle section. 'Into The Fire' is a tight, gnarly composition based on heavy unison figures, but crucially there was no stylistic template to adhere to – they were writing the rules as they went along.

MANIC EDGE

Their expansive ensemble playing included classically influenced arpeggios and at times gave a nod to their psychedelic past. Lord's snarling, spitting organ effects on 'Living Wreck' owe a debt to Brian Auger's 1967 composition 'Tiger'. The album then closes with the galloping, cartoonishly testosterone-fuelled 'Hard Lovin' Man'.

Lord had decided that his Hammond organ needed boosting to compete with Blackmore, and so fed it through a 200W Marshall amp, making it 'an almost uncontrollable animal, which I had to work like blazes to make controllable'. And his searing solo here has a thrilling manic edge. It spurs Blackmore on, whose own guitar solo ends the album as it had begun: in an exultant, abstract cacophony.

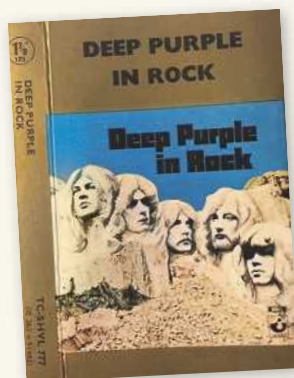
Deep Purple In Rock was the breakthrough that the group wanted – it charted at No 4 in the UK. And although the group, in this MkII lineup, went on to be massively successful they never quite recaptured the flash of inspiration that produced *In Rock*. ☺



ORIGINAL LP

The original LP was released on EMI subsidiary Harvest Records on June the 5th 1970 in a laminated gatefold sleeve with the Mount Rushmore group-shot on both the front and back covers. The black and white inside gatefold displayed the lyrics, credits and portraits of the group members while the record label bore the yellow and green Harvest logo [SHVL 777]. In the US the LP was released on Warner Brothers with green or beige labels [WS 1877].

The album was released in an unusually large number of territories worldwide. The standard sleeve format was used for most releases, but there were exceptions. The Malaysian version [Hero, Y 507012234 K] came in a single sleeve with the cover image in pale lilac monochrome. So did the German version on HÖR ZU/ Harvest, which included the HÖR ZU logo on the front cover and on the black and white Harvest labels [SHZE 288]. A mono version was released in Argentina in 1971 on Harvest with the titles translated into Spanish on the rear cover [SHVL 777/5175].



CASSETTE AND 8-TRACK

Deep Purple In Rock was released on 8-track format in the US in 1970 on Warner Bros [M 81877] and in the UK on Harvest [8X-SHVL 1877], both with different running orders. It was also released on

3½ips, 4-track stereo tape on Warner Bros [WST 1877-B] but in the United States only.

In the UK the first cassette came in 1970 with the insert setting the LP cover artwork on a gold background [see below, left]. The cassette itself was royal blue in colour with black and white labels [Harvest, TC-SHVL 777]. Its American counterpart had the cover image reversed and set on a black background. The cassette came with white embossed shells [Warner Bros M5 1877].

FIRST CD

The first CD release was in Japan in 1987 on Warner Brothers [32XD-898] and, like the first UK version in 1989 [EMI, CDP 7 46239 2], it had a fairly basic insert with just credits and tracklisting. But the 1989 Japanese reissue on the 'Forever Young' series from Warner Brothers had an eight-page colour booklet with credits, lyrics in English and notes in Japanese. [20P2-2603]. This was essentially the format of the first US CD release, in 1991 [Warner Bros 1877-2].

A 'Paper Sleeve' CD, remastered by Lee Herschberg, was released in Japan in 2006, with a facsimile card sleeve of the original LP [Warner Bros, WPCR 12253].

And a limited edition 24K+ Gold HDCD was released on Audio Fidelity in the US in 2009, remastered for this edition by Steve Hoffman [AFZ 051].

25TH ANNIVERSARY EDITIONS

A 25th anniversary CD remastered at Abbey Road studios appeared in the UK in 1995 with the group's signatures printed on the jewel case. The standard running order is augmented by the single 'Black Night', recorded at De Lane Lea the month after the *In Rock* sessions and originally released simultaneously with the LP in 1970.

Bonus tracks include the outtake 'Cry Free', an unreleased instrumental 'Jam Stew', an alternative 'Piano version' of 'Speed King', snippets of studio chat and remixes by Roger Glover of 'Flight



Of The Rat', 'Speed King and an unedited 'Black Night'. The disc came with a booklet containing text and rare photos [EMI, CD DEEP1, 7 2423 8 34019 2 5].

A purple vinyl 2LP set was also released for the 25th anniversary [pictured above] with a transparent 'signature' sticker on the cover and the same tracklisting as the CD with photos and notes on the inner bags [Harvest, DEEP1, 7 2423 8 34019 1 8].



PICTURE DISC

A special edition LP picture disc was released in the UK in 1996 with extra tracks. Side A ended with 'Cry Free' and 'Jam Stew', while side two included 'Black Night' [EMI SHVL 777 P].

AUDIOPHILE RELEASES

A limited edition 180g marbled vinyl LP – in grey and black, based on the rock colour of the sleeve – was released by Harvest/Parlophone in the Vinyl Collector series in 2016 [SHVL 777/0825646035083]. Meanwhile, Rhino Records released an 180g vinyl LP in the US the same year via Warner Brothers [R1 1877].

In 2018 the album was newly remastered by Andy Pearce and Mark Wortham and cut to vinyl at half speed [Harvest, Parlophone SHVL 777]. Lastly, Warner Records released a 180g German LP in 2020 [R1 1877/825646 035083].



Inside the Studio

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW



Hansa Berlin

Founded by two brothers in the 1960s, this German studio was where David Bowie, Depeche Mode and U2 made much of their best music. **Steve Sutherland** has the story



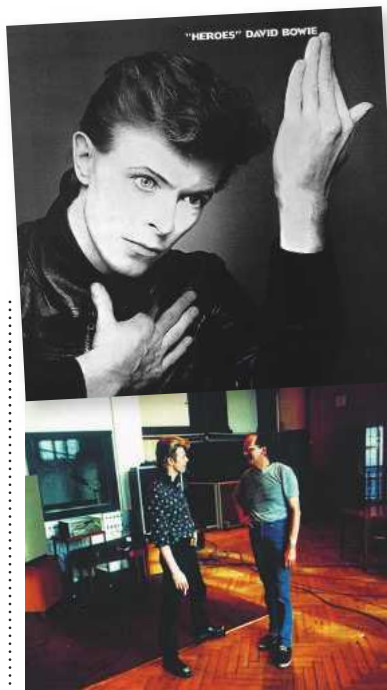
There were pieces of me laying all over the floor.' That's how David Bowie remembered 1976. Living – though that's hardly the word – on a diet of milk, red peppers and cocaine, every successive alias he ditched – Ziggy Stardust, Aladdin Sane, The Thin White Duke, The Man Who Fell To Earth – had been like shedding a layer of skin. And now, what's left of him is a skeletal ghost, a fading shadow of his former selves.

He knows full well that if this carries on, his next act will be his final curtain call, playing prey to the grim reaper, so he flees from temptation and slinks out of Los Angeles with his tail between his legs. He briefly holes up in Switzerland – certainly safe but way, way too boring – then seeks sanctuary in Berlin, ironically the

↑ The control room in Studio 1 and (inset) exterior of Hansa

→ The second album in Bowie's Berlin trio – *Heroes* from 1977

→ Bowie and engineer Eduard Meyer in the Meistersaal hall in 1976



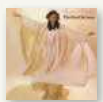
smack capital of the world, where he's soon joined by an old pal, Iggy Pop, who just happens to be battling his own chemical nemesis – yup, you guessed it – heroin.

GOING BROKE

'Life in LA had left me with an overwhelming sense of foreboding', Bowie recalled. 'I had approached the brink of drug-induced calamity and it was essential to take some kind of positive action. For many years Berlin had appealed to me... It was one of the few cities where I could move around in virtual anonymity. I was going broke; it was cheap to live. Berliners just didn't seem to care. Well, not about an English rock singer anyway.'

Welcome to Hansa. Founded by brothers Peter and Thomas Meisel in the 1960s, Hansa was a production company, a record label and a

KEY RECORDING TIMELINE



1976

'Cosmic disco' from Indian singer Asha Puthli who records her album *The Devil Is Loose* at Hansa



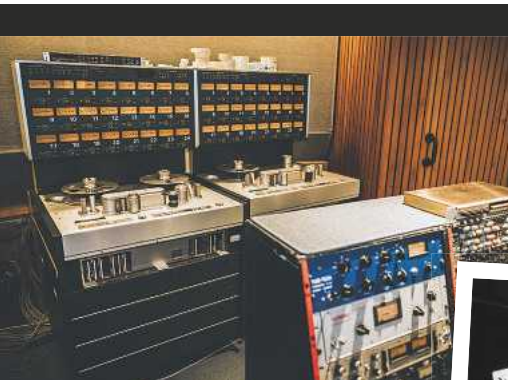
1979

Tangerine Dream embrace a more melodic sound as they take up residence to make *Force Majeure*



1984

David Sylvian drops into the Berlin studio to record his art-rock offering *Brilliant Trees*. It's a UK Top 5 hit



publishing house in need of a studio to facilitate the artists the company had signed. They found it in 1972, at Köthener Strasse 38, tucked away behind Potsdamer Platz on the West side near the Wall that was erected to divide the city in half.

It was a building that already had a long musical history: home to the famous Meistersaal, which had been opened up as a concert hall for chamber music in 1913. During the Nazi years, the infamous Reichsmusikkammer (Reich Music Chamber) arranged concerts there and the SS held dances. Large – 650sqm with 15m-high coffered ceilings and wooden patterned floorboards – it made for an impressive studio space.

HALL BY THE WALL

Partially destroyed by a bomb on the 22nd of November 1943 it had been subsequently restored piecemeal as a cabaret hall until the Wall was built right in the back, 150 metres away, in 1961. Local record company Ariola Eurodisc took to using the building as their Sonopress recording studio until the Meisel brothers came onto the scene.

They established and operated five studio rooms simultaneously, the Meistersaal itself becoming famous as the acoustically superior Hansa Studio 2, known as The Big Hall By The Wall under the aegis of Hansa Tonstudio GmbH.

Concurrently, the brothers ran Hansa Studio 1 out of Nestor Street in Berlin Halensee while they put together a mixing studio, known today as the Hansa Mixroom, on the fourth floor at Köthener Strasse. Eventually Studio 1 was also brought



club doing an off-the-cuff set of Sinatra numbers and being boo-ed.

All naughtiness aside, though, the pair did get down to

Studio 1 boasts this brace of Studer A800 MK III tape machines

David Bowie with Robert Fripp and Eno while recording *Heroes*

The Live Room in Studio 1

Bowie's *Low* was completed at Hansa in 1976

Iggy Pop pictured on the sleeve of his 1977 album *Lust For Life*

The former Studio 2 – the Meistersaal – as it is today

in-house, a training studio was built on the third floor and Studio 3 was built in a former cinema on the ground floor – making up the five working rooms in all.

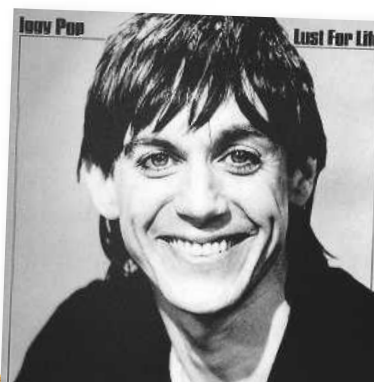
BERLIN TRILOGY

It was here, in this bustling hive of activity in a tense wasteland on the very outpost edge of Western civilisation, that Bowie and Iggy discovered their creative renaissance. At first there were returns to the old bad habits. One tale has the pair stealing their dealer's car, Bowie driving it at top speed around his hotel's underground car park hollering he's going to pile it into a wall and end it all, only for the motor to run out of gas before the intended fatal impact. Hence, of course, his 'Always Crashing In The Same Car'.

Another yarn has a worse-for-wear Bowie on stage in a cabaret

business. Bowie recorded three albums here – *Low* in 1976, *Heroes* in '77 and *Lodger* in '79; the trio now revered as the Berlin trilogy.

At the time, the studio complex was surrounded by overgrown fields and skeletal ruins with a view of cars, rubble and the site of the Führerbunker. It was this view from the control room window that inspired *Heroes*' title track. The lyrics, 'I can remember/Standing by



1986

English post-punk band Killing Joke record their sixth studio album, *Brighter Than A Thousand Suns*



1991

U2 begin recording *Achtung Baby* at Hansa in October 1990. It debuts at No 1 in the US on its release in 1991



2014

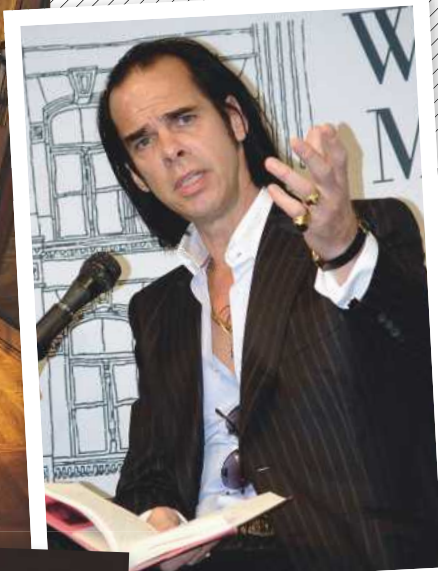
It's straight in at No 2 on the UK charts for Manic Street Preachers with their studio album *Futurology*



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The Wall/And the guns/ Shot above our heads/And we kissed/As though nothing could fall', were assumed to be about a pair of anonymous Cold War lovers in a secret tryst. But it was later revealed that Bowie's then-married co-producer, Tony Visconti, had sneaked off for a snog by the wall with German backup singer Antonia Maass – an assignation witnessed by the great man himself from a studio window.

DARKNESS AND DUST

On board to aid production was also that creative wizard Brian Eno and between Bowie, Visconti and Eno they cooked up a whole new genre of dark, decadent-sounding heavy Eurorock that was to inspire many an impressionable young dreamer, including Martin Gore of Depeche Mode. The latter, while recording *Some Great Reward* and *Black Celebrations* at Hansa during the early 1980s, was so enamoured of the studio's privacy – without an integrated control room, only a camera would connect the producer and sound techs sitting in the adjacent mixing room, invisibly watching and listening in – that he regularly took to doing his studio stuff in the nude.

As prep for his own trilogy, Bowie had recorded and produced Iggy's magnificent 1977 album *Lust For Life* at Hansa. The heavy-lifting on its predecessor, *The Idiot*, had taken place at Giorgio Moroder's Musicland Studio in Munich, but the pair

moved to Hansa's Studio 1 to mix it and, taken with their first experience of the facilities, this is where *Lust For Life* was birthed – an album which, in turn, pretty much created Joy Division, The Psychedelic Furs, Simple Minds, *et al.*

At a cost of about a twelfth of hiring, say, Abbey Road, Hansa's attractions were both vibey and pragmatic. Critics often eulogise the 'Hansa sound', a product of the attitude and

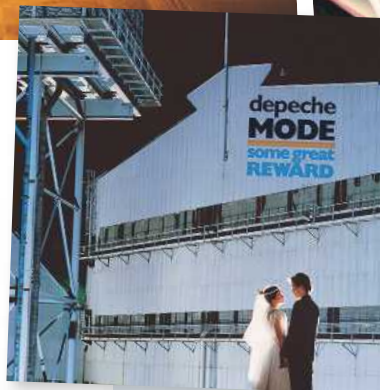
atmosphere of the place. When Bowie and Iggy got down to doing *Lust For Life* in Studio 3, the spirit of experimentation allowed them to play reverb off the building's walls, while

the vocals were recorded through an in-house guitar amplifier.

Depeche Mode sampled parts of the building itself on their *Some Great Reward* LP, right down to the sound of a pebble rolling across the studio's windowsill. Pretty much anything was permissible although the sound engineers did get a little worried that Einstürzende Neubauten might go through the floor with the power hammer they were using for percussion!

Barry Adamson, who played at Hansa

'He regularly took to doing his studio stuff in the nude'



in 1985 with Nick Cave And The Bad Seeds on the band's *The Firstborn Is Dead*, reckons it, 'has a darkness in the dust. Something you can use', while Cave himself says: 'Berlin gave us the freedom and encouragement to do whatever we wanted. We'd lived in London for three years and it seemed that if

you stuck your head out of the box, people were pretty quick to knock it back in. Particularly if you were Australian... [In] Berlin it was the opposite. People saw us as some kind of force rather than a kind of whacky novelty act.'

Others to enjoy the Hansa experience include U2, with *Achtung Baby* here in 1991, the Pixies who recorded 1990's *Bossanova* here, and Siouxsie & The Banshees, who put together their *Tinderbox* covers album here in 1986.

STUDIO TOUR

However, from the 1990s on, the demand for large studios began to diminish so the Meisels decided to dismantle Studio 2, restoring the Meistersaal to its original state as a concert hall. Studios 1 and 3 and the Mix Room are still run as a recording facilities for hire, and there is a shop and studio tour which can be booked at the Hansa website.

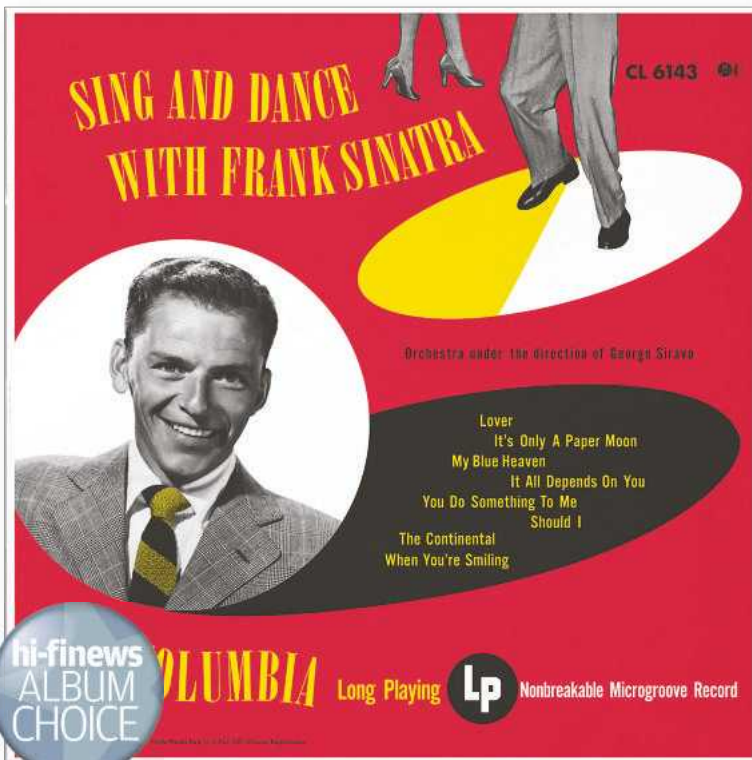
'Nothing else sounded like those albums', Bowie later recalled. 'Nothing else came close. If I never made another album it really wouldn't matter now, my complete being is within those three. They are my DNA... It was an irreplaceable, unmissable experience and probably the happiest time in my life up until that point... I just can't express the feeling of freedom I felt there.' ☺

← The Marble Room in Studio 1. Its reflective acoustics make it ideal for recording drums, says Hansa

↑ In 1984 UK band Depeche Mode used Hansa to record their fourth studio album, *Some Great Reward*

↗ Nick Cave caught on camera in New York City in 2009

↖ Siouxsie Sioux in 1980. Her band would record *Tinderbox* at Hansa in 1986



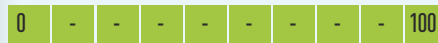
FRANK SINATRA

Sing And Dance With Frank Sinatra

Impex IMP6036 (180g vinyl; mono)

Reviewed on SACD in April, this so deserves to be heard on vinyl that it gains five more points and snags Album Choice: it may be mono, but wow, does it sing! To recap, this expands the 1950 album, initially on 10in 78s, which Impex remastered from the original 15ips tapes (and three tracks from 16in discs), and the rewards are two-fold. First, you hear Sinatra at a transitional period from bobby-soxer idol to suave crooner, and secondly – this is, after all, a hi-fi magazine – you'll be staggered by the sound of 70-year-old recordings. It's worth acquiring, too, for the booklet, a model of liner-note excellence. If you already have the SACD, it's a great way to play 'guess the format' with your friends. **KK**

Sound Quality: 95%



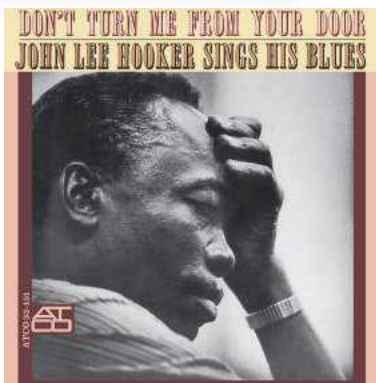
THE BLACK CROWES

Shake Your Money Maker

American 025308 80728

In the wake of that benighted, amusical, hate-filled 1970s atrocity called 'punk', backlash arose in the form of a return to blues- or boogie-based rock on both sides of the Atlantic. The mid/late '80s practitioners of what The Rolling Stones kicked off 20 years earlier included Dogs D'Amour, the Georgia Satellites and – one of the best of the lot – The Black Crowes, also via Georgia. This is their debut in remastered-from-the-original-tapes, 30th anniversary glory, a reminder of what The Animals, The Yardbirds and The Faces sired. While the high point is their hit take on Otis Redding's 'Hard To Handle', the whole LP is just as gritty and soul-restoring. **KK**

Sound Quality: 90%



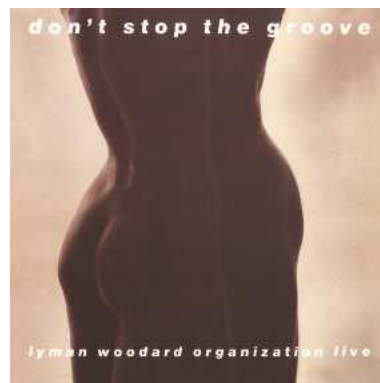
JOHN LEE HOOKER

Don't Turn Me From Your Door

Speakers Corner/ATCO 33-151 (mono)

While this contains a dozen unadulterated, lean-and-mean blues tracks, 11 of which are originals, the set is unusual in that it comprises two disparate sessions. I don't understand what motivated ATCO to combine them, as half the set was recorded in 1953 as a solo and in '61 with Earl Hooker and Eddie Kirkland on a few tracks. Oddly, the latter are also mono, but that doesn't detract from the experience as the music is so sparse. Anyone who knows Hooker can – with just a couple of musicians augmenting his guitar and raw vocals – conjure up more atmosphere than Alfred Hitchcock. Hear why he helped fuel the British Blues Boom. **KK**

Sound Quality: 85%



LYMAN WOODARD ORGANIZATION

Live – Don't Stop The Groove

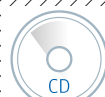
Pure Pleasure/Lyman LW-1353

While Vocalion specialises in 1970s quad mixes on SACD, Pure Pleasure is doing its part to satisfy your cravings for that era's smooth crossover jazz/funk on vinyl. This time it's a sleek live set from 1979 by the late Detroit jazz organist Lyman Woodard, whose impressive CV showed a penchant for Latin-inspired fusion, as well as backing many Motown acts. Here he's on point for that year with danceable numbers with self-explanatory names such as the LP's title track and 'Disco Tease', the shortest running to nearly 6min. Extensive liner notes reveal the pedigree of his band, so the musicianship lifts this above mere groovin'. Ideal for retro 'bachelor pads'. **KK**

Sound Quality: 85%



AUDIOPHILE: DIGITAL



COMPACT DISC



SUPRAAUDIO



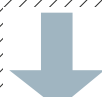
DVD



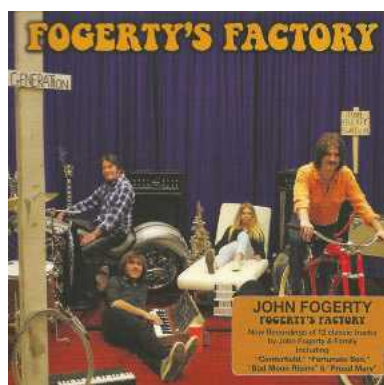
BLU-RAY



VINYL



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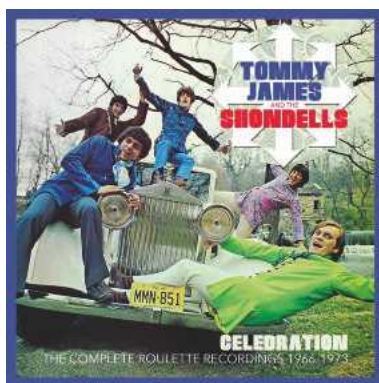
JOHN FOGERTY

Fogerty's Factory

BMG538633602

Like Yusuf (*aka* Cat Stevens) Islam's 2020 re-recording of *Tea For The Tillerman*, instead of marking an anniversary with a reissue, John Fogerty has re-imagined a bunch of his solo and Creedence Clearwater Revival hits, plus a couple of cover tunes. Performed by his family and adorned with a remake of the artwork for *Cosmo's Factory*, it is also Fogerty's observation of the 'Year of COVID-19', very much a comment on lockdown – but the result is joyous rather than grim. It swings along with 'Proud Mary', 'Bad Moon Rising' and ten others, and the feel is as intimate as an unplugged session. CCR fans certainly won't mind. (Also on LP: BMG538633611.) *KK*

Sound Quality: 85%



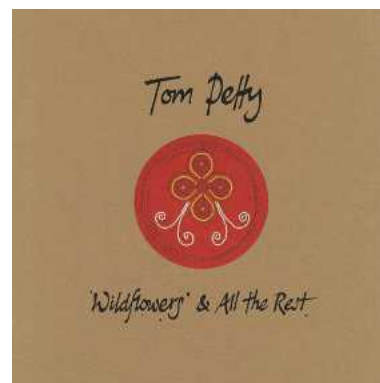
TOMMY JAMES AND THE SHONDELLS

Celebration: The Complete Roulette Recordings 1966-1973

Grapefruit USA QCRSEGB0X085 (six discs)

This will confuse the British because Tommy James & The Shondells, Paul Revere & The Raiders, were huge back in the USA, but meant relatively little here, with a lone UK chart hit with 'Mony Mony'. (Fine: Marc Bolan, Slade and Cliff couldn't get arrested Stateside.) Even so, Billy Idol did well with that track, while Yank Rock connoisseurs belatedly appreciate 'Crimson & Clover', 'I Think We're Alone Now', 'Hanky Panky' and others which turn up in ads, movies, and '60s 'rockumentaries'. Superior pop in a bargain-priced box containing 141 tracks. Incidentally, James' autobiography is one of the best-ever books about the rock biz. *KK*

Sound Quality: 90%



TOM PETTY

Wildflowers & All The Rest

Warner Records 093624899112 (four discs)

A fine example of artistic redress: the late, sorely-missed Petty's esteemed 1994 solo title was cut down to 15 songs from his original listing as a 25-track double LP, through an executive decision that deemed it too long. It was, like The Beatles' original *Get Back* concept, a return to the basics, and the set was pure Petty. Assisted by all but one of The Heartbreakers, Petty produced a gem of an album even in its truncated form, which his family and band members arranged to be restored and expanded. This superior example of guitar-led American rock is now available with all of the deleted numbers, plus demos, home recordings and live tracks. *KK*

Sound Quality: 90%



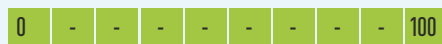
THE BAND

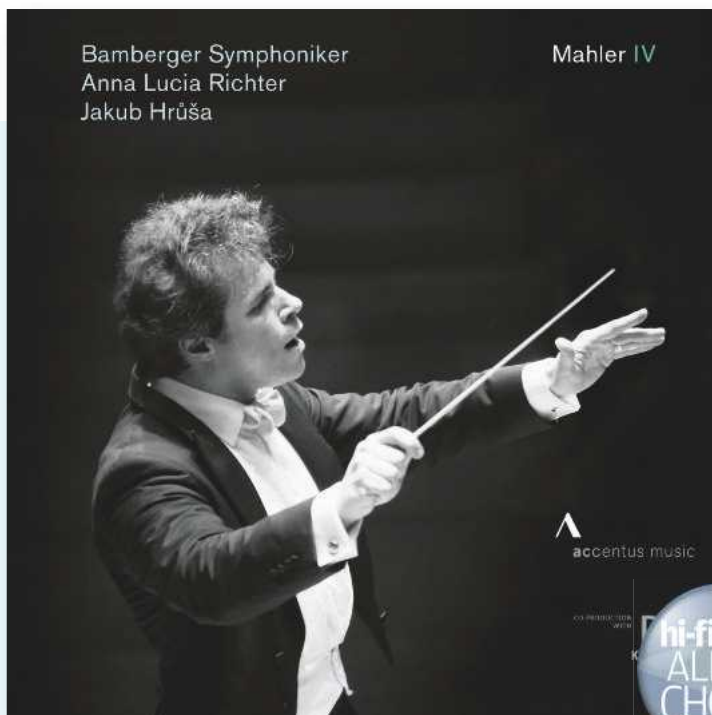
Stage Fright

Capitol 02507 35243 (two CDs + Blu-ray + LP + 7in single)

After their eponymous second LP, arguably their finest album, *Stage Fright* was an anti-climax, without one moment to match its predecessor. That said, so-so Band is ten times better than just about anyone else, so this is an opportunity to hear 'The Shape I'm In', 'All La Glory' and eight other exemplars of roots music, with bonus tracks and on three formats. Extras in this lavish 50th Anniversary box set also include a superb concert from the Royal Albert Hall in 1971 (available as the second disc if you'd rather opt for the bargain 2CD set 02507 35239), a Blu-ray with the album in stereo and 5.1 surround, and the Spanish 7in single of 'Time To Kill' and 'The Shape I'm In'. Essential for the Band hard-core. *KK*

Sound Quality: 95%





MANNA LUCIA RICHTER, BAMBERG SYMPHONIKER/JAKUB HRUŠA

Mahler: Symphony No 4 (96kHz/24-bit, FLAC)

www.hiresaudio.com; Accentus Music ACC30532

We had a highly individual Mahler 9 with the Bamberg Orchestra under veteran conductor Herbert Blomstedt [HFN Nov '19]. He was then almost 91, whereas their current chief conductor, Jakub Hrůša, is this year a mere 40. Trained in Prague he first came to the orchestra in 2015. As shown in the extensive PDF booklet, the players at the July 2020 sessions (producer Jan Smaczny) were spaced across the extended Konzerthall platform with a marginal reduction in string

forces. The orchestra is given a quite distant balance, the vocalist centred in the finale – where her pitch accuracy impresses, although expressively her singing becomes properly interesting in the final section. Hrůša's reading is remarkable: the scherzo has never sounded so charmingly rustic, the retuned fiddle gradually tempered, while the slow movement suggests both innocence and inwardness. **CB**

Sound Quality: 95%



DANIEL MURRAY, MARILYN MAZUR & MICHALA PETRI

Brazilian Landscapes (DSD64-512; DXD/24-bit)

www.nativesd.com; Our Recordings 6220618

Just how obscure do you want your recordings? A set of Brazilian music for recorder, percussion and guitar would seem to fit the bill. But forget any ideas of the wind instrument you heard in primary school, for in the hands of Michala Petri it takes on an almost ethereal sound on the opening 'Sonhos' before bursting into life with the captivating rhythms of 'Jongo', setting the pattern for the folksy, bouncy pace of the album as a whole. And while the engineering task would seem simple enough here – after all, it is just recorder, guitar and percussion – the team of Mikkel Nymand and Preben Iwan, recording not in Brazil but Copenhagen, has done a fine job balancing the delicate woodwind and guitar with the occasionally exuberant percussion, giving the whole enterprise a sense of intimacy and joy. **AE**

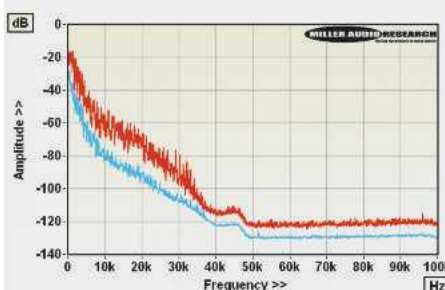
Sound Quality: 85%



OUR PROMISE

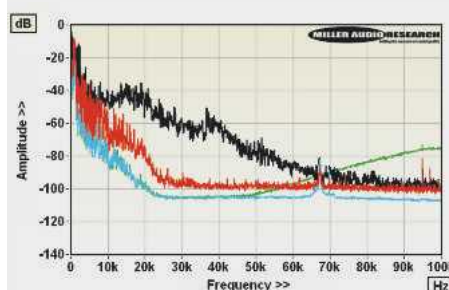
Following our Investigation feature [HFN Jun '11] where we examined the claimed quality of 'high-res' downloads, *Hi-Fi News & Record Review* continues to measure the true sample rate and bit-depth of HD music downloads. The Graphs show peak [red] and RMS [blue] spectra. These unique reviews will be a regular source of information for those seeking new and remastered recordings offered at high sample rates and with the promise of delivering the very best sound quality. (Note: an asterisk in the heading denotes a technical reservation – see Lab text). **PM**

LAB REPORT



This is a genuine 96kHz/24-bit rendering offering excellent dynamic range (a peak-to-mean of 23dB in 'III. Ruhevoll') and no hint of overload. Effective bandwidth is ~40kHz but ultrasonic noise is very low and spurious tones mercifully absent. **PM**

LAB REPORT



Recorded in DXD (352.8kHz/32-bit), analogue noise is quite high and while the recorder is 'clean' to ~22kHz [blue, RMS, red, peak] there's evidence of (ADC?) clipping on the percussion feed [black]. DSD128 file [green] has +5.8dB gain. **PM**



COMPACT DISC



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VINYL



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MARTIN STADTFELD

Piano Songbook – Arrangements And Miniatures (48kHz/24-bit, FLAC)

www.hifiresaudio.com; Sony Classical G010044465211

This is an out of the ordinary programme comprising 20 short pieces freely arranged from secular and sacred work extracts – Bach, Beethoven, Dvořák, Handel, Purcell, Schumann, *et al* – followed by ten ‘Piano Songs’ by the German pianist. These bear genre titles: chorale, canon, lullaby, march, *etc*, and are he says ‘simple’ and suited to the amateur pianist. Stadtfeldt has a substantial Sony discography and in this Aug ’20 SWR Studio production he plays a Steinway. I’d wager that the piece purchasers will be playing to friends is the ‘Nature Song’ – Beethoven’s ‘Pastoral’ theme with birds – an absolute charmer! The ‘Folk Song’ after Dvořák is another winner. The sequence is carefully composed with contrasts, *eg*, the Purcell ‘Lamento’, then a rumbustious ‘Eroica’ track, then Mozart’s stately *Zauberflöte* March. *CB*

Sound Quality: 85%



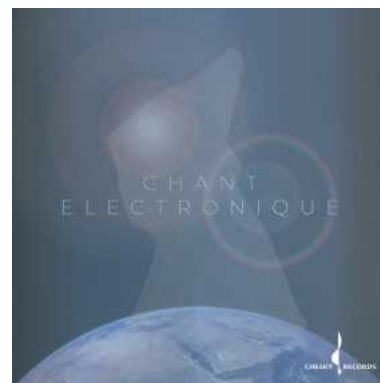
THE EYE OF TIME

Acoustic II (44.1kHz/16-bit, FLAC)

www.denovali.com; Denovali DEN347

Just occasionally when I’m playing music for these pages, a passing listener brings me up short with a pithy comment. In this case, just six words did the trick: ‘It’s a bit “Glassy”, isn’t it?’. She had a point – this album of music by French soloist Marc Euvrie, who plays piano and cello here, betrays a minimalism in its repeating motifs, which is hardly surprising as he quotes both Philip Glass and Michael Nyman as influences. The set is based on a tour he undertook a few years ago with just an upright piano and his cello, now recorded using a grand piano and his cello drones, created using loops and taps on the body of the instrument. This is a relaxed, contemplative set with the two instruments both well-recorded and given space to breathe, making it very easy to immerse yourself in the soundscape and just drift away in the flow of the performances. *AE*

Sound Quality: 85%



RYLAND ANGEL & DAVID MERRILL

Chant Electronique (48kHz/24-bit, WAV)

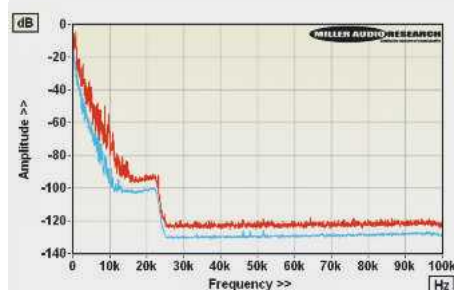
www.hdtracks.com; Chesky Records JD469

The sleeve notes for this set by British singer Ryland Angel and producer David Merrill begin a bit like the trailer for a disaster movie: ‘In a time where the world is in a unified state of unprecedented chaos’, they say, ‘2020 has plunged humanity to ponder some of life’s most important questions and triggered some of the most unpredictable of coping mechanisms’. Well, Angel’s response was to chant and record a psalm a day, here produced remotely by Merrill with the addition of washes of analogue synthesiser. Gone ‘Hmmm...’ yet? Well, no need to, as this is a remarkable-sounding album, with the voice of Ryland captured gloriously, and the lush textures of the electronics adding to the ambience of the whole project. Not sure I’d go so far as the sleeve notes’ assertion that Covid has no chance against collaborations like this, but it’s a very affecting project. *AE*

Sound Quality: 85%



LAB REPORT



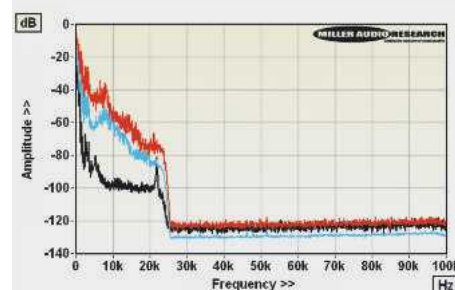
While the practical ~22kHz bandwidth offered by a 48kHz sample rate is sufficient to capture the harmonic range of a piano, it looks as if the native rate was higher (possibly even DSD) and the commercial offering a downsample. *PM*

LAB REPORT



CD/16-bit encoding? Yes, but this is more than sufficient when the dynamic range is set by analogue noise at -90dB. Piano occupies the first 10kHz of this file’s ~21kHz bandwidth [peak, red; RMS, blue] with cello boosting 10-20kHz [black]. *PM*

LAB REPORT

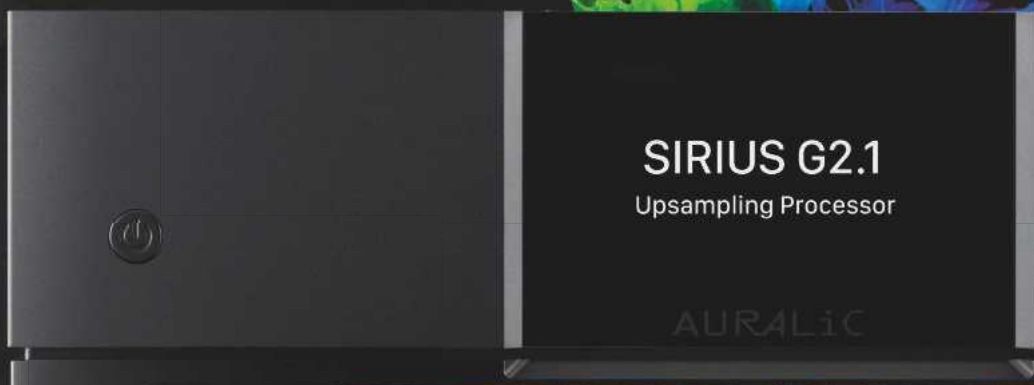


Recorded to within -0.2dBfs of peak this file has a moderate dynamic range, but while the synths have a sub-20kHz range the voices might have benefited from a higher sample rate. Note 22kHz alias on some tracks [black]. *PM*

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ALBUM
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LORD HURON

Long Lost

Republic LOHU050020; LP: LOHU050017

Lord Huron have enjoyed recent chart success in the States and the elements that make up *Long Lost* mainly come from that country's past: the soundworld of Elvis and Roy Orbison, the guitar twang of Duane Eddy and The Ventures, and the modern slant on Americana by Fleet Foxes and The National. But all this is refashioned into a timeless and remarkably fresh signature sound. Ben Schneider's voice finds space to soar on the single 'Mine Forever', and on the tale of dissolution, 'Not Dead Yet', his sardonic lyrics balance the sonic sweetness. String arrangements add eerie atmospherics to the nocturnal tryst of 'Meet Me In The City' and attain a cinematic sweep on 'Drops In The Lake', with its ghostly Theremin chorus. **MB**

Sound Quality: 90%



GARBAGE

No Gods No Masters

BMG 4050538662917; LP: 4050538662887

'The Men Who Rule The World' opens Garbage's first album in seven years with Shirley Manson's profane protestations about how the chaos of our times feels like it's stuck inside her head. But the song is charged with energy and Billy Bush's production gives us a brutal drum sound, and massive blocks of guitar crashing into each other. But thereafter the album reveals itself to be full of contrasts, with sequencer patterns on 'The Creeps', and the onrushing title track topped by layered synths and a yearning vocal melody. And although it starts off with anger and sorrow, ultimately it feels balanced out by positivity and the possibility of redemption. **MB**

Sound Quality: 85%



JOHN GRANT

Boy From Michigan

Bella Union BELLA1220CD; LP: BELLA1220V

John Grant has permanently relocated from America to Iceland, but this has not dulled his focus on events in his homeland, and these songs are steeped in his own memories. On the title track he warns ominously that the American Dream is not for 'weak soft-hearted fools'. These vivid, finely detailed narratives are set to some gorgeous tunes and Grant's rich, warm voice carries a feeling of melancholia and a sense of disquiet. His last album, 2018's *Love Is Magic*, which reached the UK top 20, was largely electronic, but this album, produced by his longtime collaborator and friend Cate Le Bon, is a beautifully arranged, multi-layered feast of synthesisers. **MB**

Sound Quality: 85%



MONSTER MAGNET

A Better Dystopia

Napalm NPR916DP; LP NPR916VINYL

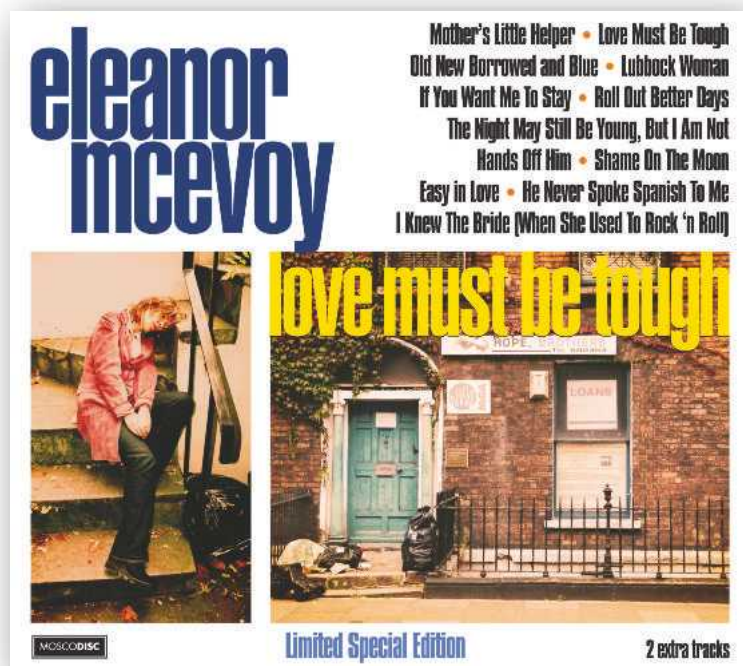
When Monster Magnet had to stop gigging last year, their songwriting effectively ground to a halt too. So to keep active, the American heavy psychedelic band recorded an album of cover versions. Alongside a rocket-fuelled take on Hawkwind's 'Born To Go' and a brooding reading of 'Death' by The Pretty Things, are obscurities from what guitarist and vocalist Dave Wyndorf calls 'rock's no-man's land' – like 'Be Forewarned' by '70s misfits Macabre and 'Mister Destroyer' by heavy rockers Poobah. One can hear how the latter's wah-wah guitars and flamboyant drumming fed into MM's signature sound and their version feels like a respectful 'thank you'. **MB**

Sound Quality: 80%



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.....

"This is a superb blend of covers & originals. Like a female Van Morrison, she swings from the Stones to Dave Edmunds and from country to jazz, the most booze-sodden balladry since the Pogues. McEvoy sounds like the sort of woman who might greet you with a bottle of red one night and a rolling pin the next".

— Truck & Driver ★★★★★ *Album of the Month*

"Eleanor is the most real-sounding woman you'll ever hear on disc. The album is a great mix of originals and well-chosen covers that she makes entirely her own."

— Classic American

AUDIO DESTINATION

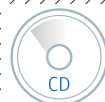
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KURT EDELHAGEN & HIS ORCHESTRA

The Unreleased WDR Jazz Recordings 1957-1974

Jazzline Classics D77091 (three discs; also 3LP)

German bandleader Kurt Edelhagen (1920-1982) had to do all kinds of music 'with discipline and precision', but as you'll hear on these 40 unreleased tracks from the Cologne broadcast studio archive, he and his superb orchestra loved to play big-band jazz. For much of the 1957-74 period the lineup included British jazz stars Jimmy Deuchar on trumpet and Derek Humble on alto sax, as well as the great Jamaican-born tenor player Wilton Gaynair, while a galaxy of visiting soloists appear here too. And it's fascinating to hear the orchestra responding to the changing scene from be-bop to jazz funk, even a wah-wah guitar creeping in by the end. A treasure trove. *SH*

Sound Quality: 85%



CHRIS POTTER CIRCUITS TRIO

Sunrise Reprise

Edition Records EDN1171; LP: EDNLP1171

Potter's 2019 *Circuits* marked a fusion-inspired change of direction for the celebrated saxophonist, who said he'd been 'itching to get back to grooveland'. Which is exactly what he did, in the company of top-of-the-tree drummer Eric Harland, outstanding young pianist James Francies and great electric bassist Linley Marthe. This time, given a brief chance to come together again between periods of lockdown restriction, Potter, Francies and Harland were more than itching to play and the result was a fantastic high-energy session. Building structures over wonderful keyboard bass lines that make up for the absence of Marthe, Francies astounds. *SH*

Sound Quality: 90%



SONS OF KEMET

Black To The Future

Impulse! 3562232 [CD], 3562166 [LP]

Shabaka Hutchings' last release, in March 2020, was *We Are Sent Here By History* with his South African group The Ancestors. But this new album from the saxophonist's UK project was mainly recorded before that, in May 2019. Drawing on contemporary black music rather than jazz influences, it adds many voices to the core group of sax, tuba and two drummers, including British rapper/spoken-word artist Kojey Radical and grime MC D Double E, and Americans Moor Mother and Angel Bat Dawid. From the opening 'Field Negus' to the final summation 'Black' (both with lyrics by poet and long-time SOK collaborator Joshua Idehen) it's a powerfully-themed journey. *SH*

Sound Quality: 85%



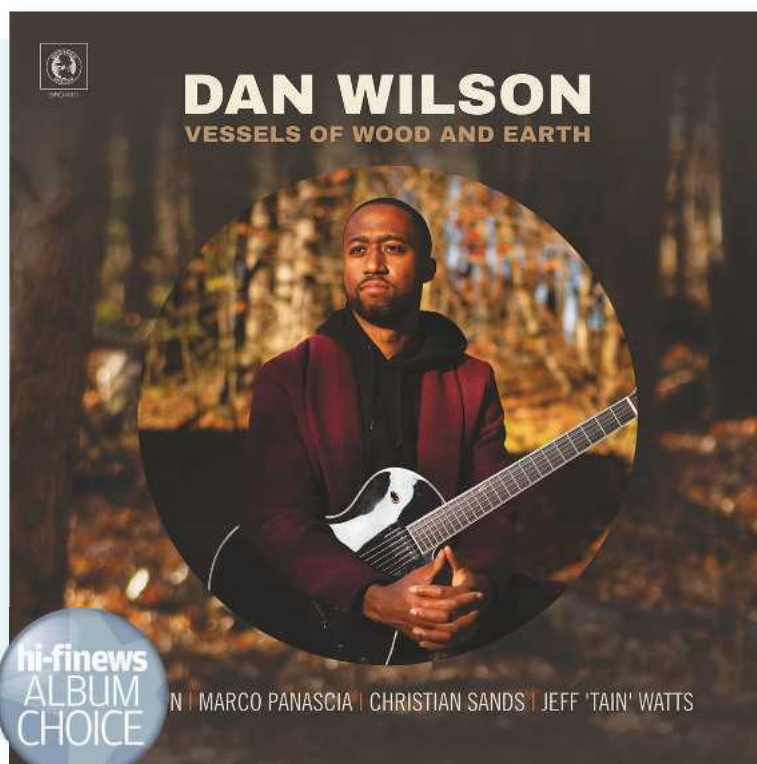
DAN WILSON

Vessels Of Wood And Earth

Brother Mister Productions BRO4001

From Akron, Ohio, guitarist Dan Wilson drew attention recently with his jaw-dropping technique on tour with Van Morrison and Joey DeFrancesco. He'd already self-published two albums, but now a varied, accessible new album marks his debut for Christian McBride's Brother Mister imprint. With pianist Christian Sands, bassist Marco Panascia and drummer Jeff 'Tain' Watts, he kicks off an opener called 'The Rhythm Section' at a furious pace. Things calm down as he caresses Stevie Wonder's 'Bird Of Beauty' before we get to some gutsy vocals from Joy Brown, and finally, Wilson displays all his versatility and charm in a pair of off-the-cuff duets with bassist/producer McBride. The jaunty 'Born To Lose' is a winner. *SH*

Sound Quality: 90%



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N | MARCO PANASCIA | CHRISTIAN SANDS | JEFF 'TAIN' WATTS



CD Players for Quality Digital Sound

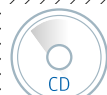
We still believe CD players to be the more musical way to listen to digital recordings for a more natural, less 'hifi' sound, compared to other digital media. Some smaller independent labels are producing very high quality digital recordings on this format which can rival the best of the golden age of analogue recordings. There are now more choices of high quality CD players at various price levels that will reproduce the finest musical experiences from the CD format.

There is a difference in the quality of sound from the physical format compared to the same music played from a music file. The major difference is one of resolving the details that give the aural clues to the 3-dimensional depth of sound stage, the air and space around instruments and vocalists, and the correct timbre and texture. These are especially important aspects of 2-channel stereo replay and one that make it the more convincing recreation of the concert experience, not just merely a "hi-fi" reproduction.

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- 2 Audio Analogue AAdrive and AAdac, £5250
- 3 AVM Evolution CD 5.2 with valve output stage, £4395
- 4 Luxman D-03X with dual DACs, £3500
- 5 Audiolab 8300 CDQ, £1100
- 6 Hegel Mohican, £3900





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DVD



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SANDRINE PIAU, IL GIARDINO ARMONICO/ GIOVANNI ANTONINI

Haydn: Symphonies Nos 15, 35 and 45, Scena di Berenice

Alpha ALPHA684 (downloads to 192kHz/24-bit resolution)

The 'Farewell' Symphony (No 45) is one of his most popular, not least because the players leave their stands and walk away during the *Adagio* finale. Three explanations are cited – and Hermann Scherchen's old recording had spoken 'adieu's and the sound of footsteps crossing the soundstage! Antonini's ends with a sharp decrescendo to silence. The rapid speed for (i) comes as an initial shock, but there's frequent lovely soft playing, Antonini always creating a sense of line. Yet the real star item here is the soprano Sandrine Piau's heroic account of the three-part, tragic cantata 'Berenice, che fai'. The elaborate booklet has essays and night-time coloured photos. **CB**

Sound Quality: 90%



BBC SCOTTISH SYMPHONY ORCH/ THOMAS DAUSGAARD

Bartók: The Miraculous Mandarin (cpte); Suite No 2; 8 Hungarian Peasant Dances

Onyx HMM902419 (downloads to 96kHz/24-bit resolution)

A first here, as the *Mandarin* ballet is not only played in full but recorded using a recently found score without the cuts imposed for the Budapest premiere in 1926. A great account – 'The Chase' must be one of the most exciting on records! Terrific sound too, from Simon Eadon. The *Suite* is an early work (1909). I found the old Doráti LP version a bore but this is something else: try the *Allegro scherzando*. Derived from his folksong researches, Bartók selected 18 pieces for a piano score, later orchestrating nine of them. Again, Dausgaard captures the idiom perfectly. **CB**

Sound Quality: 90%



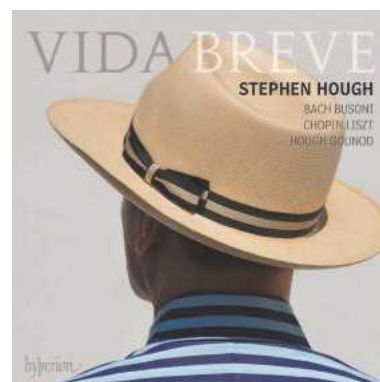
FREIBURG BAROQUE ORCH/GOTTFRIED VON DER GOLTZ

Beethoven: Symphony No 7; Prometheus

Harmonia Mundi HMM902419 (downloads to 96kHz/24-bit res)

With middle of the road tempi and plenty of sound from the kettledrums this is a very enjoyable if hardly ground-breaking Beethoven Seventh. But the disc is worth hearing for the complete ballet score (often cut in recordings) from 1801 – a time when the composer was less famous than its choreographer Salvatore Viganò. Two salient points missed in the booklet note are that the score includes harp (in vii) and basset horn, which was unusual for LVB; and in the finale we hear the music recycled in the *Eroica* and later piano variations. Also, (ii) has a tempest strikingly anticipating that in the *Pastoral*. **CB**

Sound Quality: 85%



STEPHEN HOUGH

Vida breve

Hyperion CDA68260 (downloads to 96kHz/24-bit resolution)

Produced at a reverberant Kentish Town church in Dec '18 this isn't one of the most comfortable-sounding of Hough's Hyperion recordings. And it's unusual for this label to be told by the booklet essayist what to think of the playing! The theme of the programme is the inevitability of death – with Liszt's 'Funérailles' and quirky Bagatelle 'sans tonalité', Chopin's Sonata No 2 with funeral march, Busoni's *Carmen Fantasy* – the audacity of this will make you smile – and a lofty Bach *Chaconne* transcription. *Vida breve* is also the title of Hough's own sparing Sonata here: well worth hearing. Impressive power and coupled restraint are among the most notable qualities. **CB**

Sound Quality: 85%



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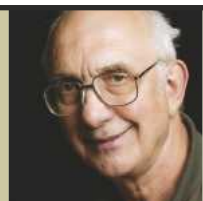
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Barry Fox Technology journalist

Barry Fox trained in electronics with the RAF and worked as a patent agent, but he gave that up to enter journalism. He is one of the world's top technology writers

Roberts' radio

Barry Fox gets together with a swing and big band music enthusiast who's digitising a massive historical music collection and broadcasting selections over his California Internet station

Thanks to Internet radio we no longer need to sail a boat in the North Sea, or play cat and mouse on tower blocks with government enforcers who confiscate broadcast equipment, and thereby encourage the use of cheap lo-fi gear. Although streamed music has to be compressed, usually with MP3, decent encoders can do a surprisingly good job. I listened for years to Big Band Internet radio streamed from KCEA, a college FM station in California.

After some confusion over whether the college would stop backing the station (so far it hasn't) KCEA manager Craig Roberts started his own Internet-only station, Swing Street Radio [www.swingstreetradio.org] – with the slogan 'where all the great songs have gone'.

BEDROOM VENTURE

Roberts is a serious record collector who is also serious about audio. So SSR makes a good example of how Internet radio can be done well on a tight budget, with no commercial advertisements.

In 2016 Craig created the Swing & Big Band Preservation Society to safeguard his collection of over 15,000 78rpm shellacs and radio transcriptions. He's now around half-way through the huge task of digitising them. 'We use 16-bit coding. Some early dubs were at 44.1kHz while more recent ones have been at 48k', he told me. 'I use a combination of Waves Audio software and a program called ClickRepair.

'Everything is mastered in WAV, correction is done non-destructively until we are satisfied with the results, and then saved. Masters are then converted to MP3 and a gentle normalisation is applied with a foobar2000 program that writes to the header code, again, non-destructively, before it is transferred into the master

RIGHT: Internet radio station Swing Street's website at www.swingstreetradio.org carries images from its past public appearances at local music events. Pictured here are vocalist Carla Norman (left) and The Century Sisters



music library database for airplay. The entire operation originates, in Craig's words, 'out of a spare bedroom', which functions as a studio and office.

'Aside from royalty payments – around \$100 a month – one of our largest expenditures is promotion. We actively engage in SEO [Search Engine Optimisation] and Facebook advertising. Pre-Covid we made public appearances at local music events where I serve as

Master of Ceremonies and we distribute postcards and bumper stickers promoting SSR. We also buy advertising in publications that target potential listeners.

'I use a pair of custom-built computers running M-Audio Audiophile 192

soundcards with 4TB of drives. Stream encoding is done via a Telos Z/IPStream R/1. One computer is "On Air", and the other configured as a hot "Standby".

Both KCEA and SSR are streamed in 44.1/128 Joint Stereo, with KCEA also doubling up with a 64kbp/s stream. Why would anyone want to listen at 64k instead of 128k? 'I suspect they are in areas where their broadband may not be robust', says Roberts. As to set-up, Roberts uses 'an Orban Optimod FM

8200 emulator that gives me all the DSP necessary to maintain consistent levels across material that spans over 100 years. I think the oldest tune is a Bill Murray recording from 1918'.

ALL ABOVE BOARD

'I use a Rek-O-Cut 16in transcription turntable with Audiophile Archival Audio Preamp MkII, and vintage QRK 16 transcription turntable with GE passive signal processing – just like the old days! A vintage Stanton preamp handles all the record transfers. I typically use a Shure M78S cartridge for 78s and Stanton N890s for the occasional LP.

'It was important that everything be done above-board. I have watched other stream providers run into problems because they failed to recognise the need to partner with the various Performance Rights Organisations. Everything we use on the air and on our website we either own, or have paid for the rights to use.'

Some budget Internet stations 'cap' the number of people who can listen at the same time (eg, at 1000) so listeners' receivers may sometimes mysteriously fail to connect. 'Swing Street has no cap', says Roberts, 'as we intentionally sought out a provider that could accommodate future growth. If the goal is to be the biggest and best, well...' ☺

'Why would anyone listen at 64k instead of 128k?'

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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

Voodoo engineering

Audiophiles can all too often find themselves bewitched by system add-ons promoted as life – or at least system – enhancing. **Barry Willis** has no patience with the snake-oil merchants out there

Back when audio was still a force at the Consumer Electronics Show – a time that now seems very far away – an American company was generating media buzz with an electrically powered platform about the size of an amplifier stand. The marketing hype claimed that when it was switched on, it would flood the listening room with beneficial energy, putting listeners at ease by making reproduced music more pleasant and realistic-sounding.

This device had cheerleaders among the audio press, but did not enjoy majority endorsement. Some detractors were brave enough to dismiss it as bunk, possibly influenced by the manufacturer's long history of promoting what I call 'ceremonial listening aids', such as decorative tea cups to be placed throughout the room to reduce unpleasant resonances, speaker cables with 'DC biasing', and other gimmicks outside the realm of traditional engineering – also outside traditional methods of measurement and evaluation.

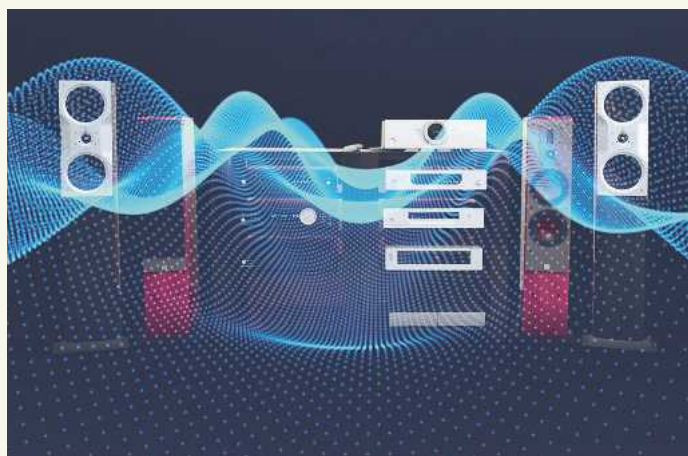
DECEPTIVE AURA

The designer of this device was in the midst of an effusive presentation about its beneficial effects when I went into the demo suite. When he stopped to catch his breath, I asked 'Can you explain in simple terms what this thing does?'. He must have already had a harrowing morning because, miffed, he shot back: 'You'll have to read the patent application for that'. My reply: 'I've got a lot to cover in the next few days. I was hoping you could give me the elevator pitch for my show notes'.

This he ignored and continued his demonstration, turning his device on so that attendees could bask in its healing aura, then turning it off to see their reactions as it collapsed. I noticed

'Attendees could bask in the device's healing aura'

RIGHT: Do you feel the force? A 'powered platform' at a past CES event was just one of the mysterious 'sound enhancing' devices to have crossed the author's path over the years [picture, right, for illustration only]



nothing at all. My deep scepticism may have blocked the good vibes...

SINGING IN UNISON

This all came back to me when a friend recently received a shipment of products claimed to synchronise resonances throughout an entire audio system. The marketing hype for this stuff is that audio systems are hampered by micro-resonances among their myriad internal components (resistors, capacitors,

transistors, etc), each singing its own little tune. Imagine the cacophony of a thousand-member choir, each voice off-beat and off-pitch. It's enough to drive you mad, but how glorious its sound might be under the baton of a no-nonsense conductor who can get

them all to work together.

Rather like the energised platform, the synchroniser is said by its maker to flood the listening area with an energy field that brings all these disparate voices into harmony, the result being a lower noise-floor, reduced listening stress, improved realism, and so forth: the usual litany of veils lifted, soundstages revealed, hidden details brought out of the fog, blurry

pictures snapping into focus... (add your stock metaphor here).

My BS meter begins twitching immediately with stuff like this. The controversial Tice Magic Clock from long ago with its 'programmed electrons' claimed to do something similar. So have a slew of other products from the Land of Make-Believe: little candy-coloured dots to be affixed to everything in sight, stick-'ems for every component, small discs of endangered hardwoods for placement on the tops of loudspeakers (a few degrees' rotation makes a huge difference!), 'room tuning' devices like menorahs made from Ibex horns, electrical outlet strips clad in marble or granite, power cords having five-figure price tags, it goes on...

MISSING THE POINT


All these and hundreds more like them are part of the reason that high-end audio has such limited market penetration. They are also part of the reason why the larger engineering community thinks the audio industry is a laughing stock much of the time. It's absolutely baffling why we go down these rabbit holes when there are still so many fundamental problems to solve. For example: we're this far into the digital age and there's still no standard audio level. Fix that first. ☹

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Andrew Everard Reviewer/writer

Andrew Everard has reviewed consumer electronics for over 30 years and is still effortlessly enthusiastic about new developments, discovering new kit – and music

Time to get personal?

Long a believer that there's no beating a good pair of loudspeakers, is **Andrew Everard** about to succumb to the charms of listening to music via headphones? He's tempted, but...

Surprisingly, given that much of my listening in my formative years involved headphones, I've never been a big fan of the 'personal audio' experience. Indeed, I have to say much of the whole 'head-fi' thing had passed me by until recently.

I started out with a pair of jumble sale 'phones of dubious provenance when I was first experimenting with hi-fi in my bedroom at my parents' house. Yes, I had speakers, but after a while my penchant for prog rock elicited too many angry thumps on the door and demands to 'turn that row down'.

GATHERING DUST

My university years were transformed by the gift of an early Walkman WM-2 player. This came complete with belt-clip, skinny headphones, and an external add-on battery pack, meaning I could stuff a handful of cassettes in my pocket, and listen wherever, and for as long, as I liked. I recall that the rooms in which I was living were in a building with a roof terrace, and more than a few late nights of final-year essay angst were made tolerable by an hour or two sitting in the chill air buried in a favourite tape, exploring my growing interest in classical music.

However, that early interest in headphones didn't last. After getting a place of my own, speakers were the way to go, and starting to drive meant even commuting saw the Walkman – by now long replaced after being declared unrepairable – consigned to the dusty cupboard. Even the rise of the MP3 player, then the iPod and finally the iPhone didn't tempt me.

My first Apple player was a 'distress purchase' when I realised I needed one to test various products, bought in the branch of Currys just round the corner from the Naim factory after picking up a

review sample of one of the original Uniti models.

There was little joy in the purchase process, but rather a sense of 'biting the bullet', and the little player's 'earbuds' stayed in the box for a very long time. Yes, eventually I tried using it as intended back in the days I was travelling a lot more for work, but it never really did much for me. Most of the time it played audiobooks or radio recordings, not music.

Of late, things have changed somewhat, but while I now listen to headphones more, and have built up a small collection for testing out products designed to drive them, I am still some way from the turn-off on to the road to Emmaus. In my book, listening via headphones is still undertaken out of necessity, rather than as a pleasure – but it's getting better...

Looking around my desk right now, I have the headphone output of my original Naim Uniti, a Chord Mojo [HFN Jan '16] and Poly I've been playing with to check out the latest firmware update, a little iFi Audio hip-dac portable DAC/headphone amp, and an elderly Onkyo pocket digital player. Meanwhile, on a table to my side sits

the Naim Uniti Atom Headphone Edition [see p50], the latest of a number of upmarket DAC/amp units to pass through my hands of late, and a complete change from the fiendishly complex SPL Phonitor xe model [HFN Jul '21].

This German-made unit belied its pro-audio roots with a huge amount of adjustability, challenging the distraction potential of another previous review 'victim', iFi Audio's flagship Pro iDSD [HFN Sep '18], which sounded superb but had



ABOVE: Premium private listening – Naim's Uniti Atom Headphone Edition networked music system costs £2399

me baffled with its multiple listening options. The new headphone-dedicated Naim unit, for all its capabilities, offers a much more 'plug and play' appeal.

With all this exposure to headphone listening, including a range of 'phones including the likes of the B&W P9 Signatures [HFN Mar '17], various Focal models all the way from the still-excellent original Spirit Pro [HFN Dec '15] model, Oppo's long-discontinued PM-1 [HFN Jul '14] planar magnetic design, and some recent arrivals from the Austrian Audio brand with its roots in the old AKG, I'm beginning to 'get it', I think.

DUCKING THE DEMOS

At least I am finding headphone listening less of a chore, only to be endured when circumstances require, either to keep my music in or others' noise out. But I'm not sure you'll find me swerving the big demo rooms and lurking in the 'head-fi' section as and when hi-fi shows come back.

Yes, there's much to be said for the intimacy and detail available from good headphones driven properly, as they are by some of the best DAC/amp combinations. But for that sense of the true scale, weight and space of a recording, give me a big pair of speakers and some serious air-shifting any time. 🎧

'I am still
some way off
from the road
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Jim Lesurf Science Journalist

Jim Lesurf has spent a lifetime in audio, both as an engineer at UK hi-fi company Armstrong and reader in Physics and Electronics at St Andrew's University

Feel the width

Do we really need all those high-res options for listening to music, asks **Jim Lesurf**, who wonders how much of the appeal is a bit of one-upmanship for people who like to show off their systems

We seem to be in an era where the LPCM audio sample rates being offered and catered for by audio DACs, etc, are steadily escalating upward. For some years, 192kHz was the highest useful LPCM rate generally used for high-resolution audio, but more recently this has been growing to 384kHz and above!

This development set me wondering: just how 'hi' does 'hi-res' actually need to be when it comes to real-world home stereo systems? Are some people simply looking at the numbers and being impressed by them, rather than listening to the actual music being produced?

OVERKILL SPECS

Having worked as an engineer I certainly welcome such high sample rates, and can think of uses for them when it comes to measurements for assessing equipment performance. But when it comes to music, I decided some time ago that, in practice, well-done 192kHz/24-bit should be fine for recording purposes.

It should give plenty of what I call 'Shannon Space' – named after the first real guru of information engineering – for capturing live acoustic sounds. And in terms of the audible sound output from a hi-fi system I suspect that noise-shaped 96kHz/16-bit would be a perfectly fine fit to human hearing.

After all, this can deliver an audible dynamic range of over 120dB and covers the frequency spectrum up to above 45kHz. Plus it gives a bit of 'elbow room' to keep clear of the transition region of less-than-perfect ADCs and DACs, etc.

So are recordings/files/kit that go further really overkill – examples of the old saying: 'Never mind the quality, feel the width'? Are they more a matter of one-upmanship by recording studios, equipment makers, and proud owners?

RIGHT: When tested by the author, some CDs have been found to be low-pass filtered to a bandwidth lower than 22kHz, though you might not hear this when listening to the music



SHUTTERSTOCK.COM / CARLOS ANDRE SANTOS

OK, I'm deliberately being provocative here: this is an 'opinion' column after all, and these thoughts do come to mind as possibilities to ponder. So I wonder what other people's opinions on this may be? I can't see – or, more to the point, hear – any advantages gained by going beyond carefully made and noise-shaped 96kHz/16-bit LPCM for what finally gets delivered to the listener.

One factor here that influences my reaction is that due to my advanced years my hearing isn't what it was decades ago. Even so, do we really need 384kHz/24-bit and above? Or is the main advantage of its availability that your DAC will be 'cruising effortlessly' when you play 96kHz or even 48kHz and ensuring that it sounds

'Do we really need 384kHz/24-bit and above?'

excellent? Is the 'width' worthwhile here so that you don't have to worry about 'bumping your elbows against the walls'?

One of the perhaps surprising aspects of audio CD is that more often than most listeners may realise, their content is actually low-pass filtered to a bandwidth lower than 22kHz. This point came home to me a while ago when checking the content on some discs.

The time-averaged spectra for some of them showed that the content has been filtered to limit the bandwidth to around 20kHz – that's to say, about 10% less than the nominal range available.

I'm not sure why the manufacturers do this, so can only guess at the reasons. But the implication is that the producers of the audio CD think the result still sounds fine. And in many cases, the levels of what was probably removed do look to have been very low, so may have been irrelevant when it came to the music.

FM LIMITS

That said, many audio CDs over the years have been made and sold with their content degraded by issues such as gross clipping. It can therefore be hard at times to accept that every release is processed with the care it deserves.

Similarly, many still regard FM radio – particularly for Radio 3 programmes – as an excellent way to access enjoyable and convincing stereo audio. Yet FM has a bandwidth of only around 15kHz. So although some music might well benefit from having a much wider bandwidth, in practice extending it might not be better for every recording. But as I've written before, you can't miss something that you never knew existed! ☺

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Adam Smith Hi-fi reviewer

Electronics engineer, music lover and former loudspeaker designer, Adam Smith is known to dabble with all audio formats, but is a committed vinyl fan at heart

Ditch the DIP

Adam Smith has a particular dislike of a feature that we've all seen, especially on affordable phono stages: the little row of DIP switches for set-up. Time they joined the dodo, he says

Regular readers will know that I am not a fan of one particular feature found on some products reviewed in the pages of *HFN*. I'm talking about DIP switches, and I thought I ought to take the opportunity to clarify my personal position here, a little.

For those not familiar with them, I am talking about the tiny little arrays of switches that are most often found fitted to phono stages, and which are used for setting cartridge gain and loading. They mount directly to PCBs – and the name is an abbreviation of Dual Inline Package.

SET AND SEALED

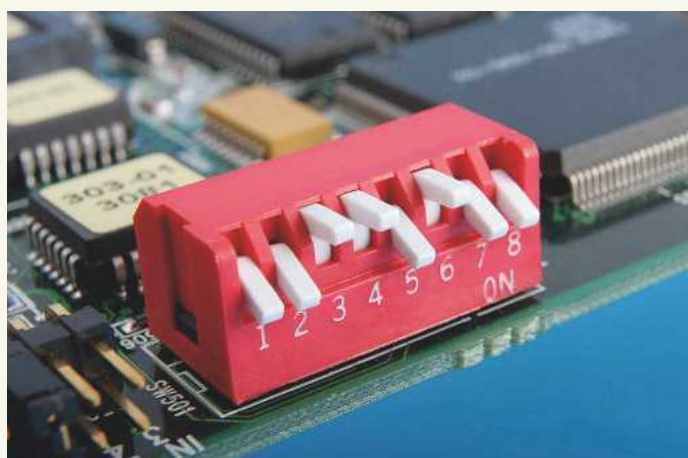
DIP switches have been around for many years and they do have the advantages of being cheap and taking up little room on PCBs. In my day job I am an electronics engineer at a company which makes off-shore marine electronic systems, and we use DIP switches on quite a number of our boards. So I am very familiar with them. You might reasonably wonder, therefore, why it is that I have a problem with them? Well, I'm glad you asked...

At work they are only to be found on our legacy products, many of which were designed over 30 years ago. Nowadays, any configuration selection is usually made by either electronic switches or high quality sub-miniature relays under software control.

In my 14 years at the company we have only ever designed one new PCB that used DIP switches. This was a replacement for an old board that contained an obsolete component, and the new item had to be 100% reverse-compatible with its predecessor.

In addition, they are only used to configure basic parts of the system. We set them, and then they are sealed up inside a pressure-tolerant container in a subsea environment. In short, they might

RIGHT: A row of those fiddly little DIP switches where it's all too easy to miss the settings you really want, say, in setting up your phono stage



not see the light of day for another five to ten years. We never use them to set regularly-tweaked parameters as they are simply not robust enough.

SUCH A PAIN

In technical terms, the average DIP switch has a specified contact resistance of around 30-50mohm initially, rising to 100mohm after a specified number of uses, along with a rated lifespan of around 2000 operations. Compare that with a nice chunky, easy to use panel-mount rotary switch, turning in figures of 'less than 20mohm' and a with lifespan of over 15,000 operations. Consequently, there

would seem to be very little *technical* advantage in using them.

Most importantly, though, my main bugbear with DIP switches on hi-fi is simply that they are such a pain to use. They are invariably hidden away on the rear panel or underneath equipment which means you have to pull it out of your rack to make any adjustments.

The settings are sometimes not labelled, necessitating a hunt for the instruction manual to alter them. Even

when they *are* labelled, companies occasionally get this spectacularly wrong. And I recall a recent item that I reviewed on which the manufacturer had very kindly printed the switch legends on the black case in a dark grey ink!

NAILING IT

If you don't have a decent set of fingernails then a small screwdriver is invariably required to operate the switches, and even then it's all too easy to move the wrong switch or two adjacent switches by accident. This is 2021: we don't have to fiddle with a bank of tiny switches sitting under a streamer in order to configure it, or on the back of a DAC in order to select its sampling frequency.

I therefore feel that it's time the DIP switch went the way of the dodo for any external user-adjustable configuration requirement that might be tweaked on more than a one-time set-up basis.

To phono stage manufacturers, may I respectfully suggest that, if your unit is intended to be highly affordable and the size of a matchbox, then DIP switches are bearable. For anything that aspires to a greater degree of flexibility and quality and – especially if it is bearing a four-figure price tag – it is my firm opinion that DIP switches have no place inside it. ☹

'Legends were printed in dark grey on a black case!'

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Steve Harris Contributor

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

Shadow cabinets

The original BBC-specified LS3/5A monitor has prompted many variations on the small speaker theme. **Steve Harris** sequesters into a new E J Jordan/Marlow design with 'extended bass'

Why has no other tiny speaker come along to match the huge stature of the BBC LS3/5A? Ultimately, it's because, in the 1960s and '70s, the BBC could indulge in an extended R&D process that would have been impossible for any commercial speaker maker.

As with other BBC loudspeakers such as the LS6 (and the related Spondor BC1), the LS3/5A benefits from its costlier and harder-to-build thin-wall 'lossy' cabinet, which uses (in this case) 9mm birch ply, rather than greater thicknesses of cheaper engineered wood.

Recently, the full-range metal-cone drive unit specialist E J Jordan announced a foray into complete speakers with its new Marlow model, inspired by setting Jordan units in LS3/5A cabinets.

BEEB COST BARRIER

There's a good explanation of the thin-wall principle on the Graham Audio website, www.grahamaudio.co.uk, and you'll find the complete LS3/5A cabinet specification at www.ls35a.com.

It seems that the BBC's thin-wall construction was originally devised for practical rather than sonic reasons, to provide lighter cabinets for safe handling in broadcast use. But there was also a performance benefit. This was because panel resonances were now at lower frequencies and of lower 'Q', and so could be kept away from the midband. With damping material added, the unwanted output of the panels could be much reduced.

In 1975, Rogers became the first licensee to offer the LS3/5A to the public, but the cabinet posed a problem. As Michael O'Brien, who became the owner of Rogers, explained, 'They went to all the effort and then found that they couldn't make it at the price. It was the cost of

RIGHT: The E J Jordan/Marlow loudspeaker stands 330mm tall as compared with the LS3/5A's 305mm and comes with the option of a rosewood finish. See www.ejjordan.co.uk/ls35a/



producing a front- and rear-entry cabinet, and getting it to the BBC's standards.

'Jim Rogers went up to the BBC and they agreed, having listened to the sealed-back version, that the differences were not significant and they allowed Rogers to then present the LS3/5A, with its sealed back, approved for BBC use.'

So fans of the Jordan drivers will be intrigued by the Marlow, which does have screwed-in front and rear baffles.

The seed was sown a few years ago, when Colin Shelbourn of E J Jordan Designs was listening with the late 'Ted' Jordan to his last driver design, the Eikona 2, tried in different cabinets.

Colin Shelbourn explains, 'I happened to

have a pair of BBC cabinets, so I installed the Eikonas and we ran a comparison to see. And Ted was quite impressed.

'When I finally got to compare them against genuine Rogers speakers at a customer's house', Colin continues, 'again you could hear that the Eikonas were doing some wonderful things, but they did sound a little lightweight compared to the BBC ones. That was partly down to the famous BBC "hump".'

So the final Marlow cabinet keeps the elements of the BBC concept, but it's larger, and it's a ported rather than a sealed box, tuned to the Eikona 2 and adding almost an octave to the bass.

The standard Marlow costs £1960/pair while the enhanced Marlow CE is £2280 (a rosewood finish £160 extra), direct from www.ejjordan.co.uk. The CE version has Kimber 4TC wiring and Tom Evans' pure copper binding posts.

MEANT TO LAST

If you want to buy an LS3/5A today, you have quite a choice. Falcon Acoustics [*HFN* Jan '19] offers authentic drive units created by Malcom Jones, who designed the B110 and T27 at KEF. Stirling Broadcast's LS3/5A V2 and V3 have drivers specified by Derek Hughes to emulate the KEF originals, as does the Chartwell LS3/5A by Graham Audio. Then there's the new version from Rogers [*HFN* Jul '19].

Meanwhile, enthusiast designers all over the world have been building Jordan drivers into cabinets large and small, the latter notably including Susan Parker's 8in marble spheres – 'Life expectancy, 1000 years plus'. Wooden speaker cabinets can't last a millennium, but the LS3/5A, soon to reach its 50th anniversary, will surely be with us for a very long time. ☺

'The Marlow keeps the elements of the BBC concept'

YOUR VIEWS

Sound Off!

Correspondents express their own opinions, not those of *Hi-Fi News*. We reserve the right to edit letters for publication. Correspondents using e-mail are asked to give their full postal address (which won't be published). Letters seeking advice will be answered in print on our Sound Off pages, but due to time constraints we regret we're unable to answer questions on buying items of hi-fi or any other hi-fi queries by telephone, post or via e-mail.

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BACK IN FASHION IS RETRO A WAY FORWARD FOR SPEAKERS?

I suspect Steve Harris is ahead of the curve when he writes about the return of retro loudspeakers [*HFN* Jun '21]. Paper cones, big bass drivers, wide baffles, simple driver configuration and minimal crossovers... He'll be familiar with Peter Qvortrup's polemic on the Audio Note website [www.audionote.co.uk/articles]. Over the years I have owned Malcolm Jones's Tabor speakers (the plans were published in *HFN* Sep '77), Snell Type Ks (now available in Peter Qvortrup's version) and Snell Type CIIIs. All pretty retro.

When narrow fronts came into fashion, I built a second pair of Tabors, but with the drive units in the narrow side. The Tabors worked, and the sideways Tabors didn't. Measurement showed that the diffraction effect of the narrow fronts took a dip out of the tweeter response at 2.5kHz and messed up the phase response at the same point. Not much on paper, but it was the difference between a loudspeaker that let the music through and one that didn't.

The other great retro speaker was the aperiodic Dynaco A-25. SEAS does an 'A26 kit', which is effectively a reincarnation of the A-25. Ten-inch, paper cone bass, with just a capacitor to protect the tweeter from low frequencies, and a resistor to equalise the driver outputs. But a few years ago, Peter Comeau published a design he called the WD25A – close to the Dynaco A-25, using the SEAS A26 bass driver. He then took the principle of the Dynaco A-50 – an aperiodic design with a resistive vent into a second cavity – and offered the WD25T, a floorstander, to which he subsequently added the SEAS Millennium tweeter to create the WD25T EX.



ABOVE: The Dynaco A-25 from 1969 boasted aperiodic woofer loading

This is what I now have, built with birch ply, beech battens and crossbracing (all glued and screwed) and a skin of 6mm MDF laminated to the outside. These speakers take you to the place where the music is being played. It would be wonderful if the WD25 approach to presenting music came back into fashion. If it does, Steve can claim to have started it.

On a final note, Steve also mentioned Austin HiFi in the US. Austin has also been the distributor for Brian Powell's Crimson amplifiers. I built one of Brian's original Crimson Elektrik kits in the late 1970s. Over the years Brian has continued to refine his designs. Against today's Class Ds and other variants, the principles used are also quite retro.

Charlie Haswell, via email

Steve Harris replies: Just goes to show that old-style 1970s speakers, whether paper-cone or Bextrene like the Tabor, never went away. Having designed the T27 and B110 Malcolm Jones left KEF in 1974 to start Falcon Acoustics, which today makes units identical to the old KEFs for 'The only genuine LS3/5A'. Meanwhile, Peter Qvortrup, who in his early days was himself a Voigt proponent, has like Voxativ in Germany revived the field-coil driver...

Pre-used discs

DON'T FORGET THE MARKET FOR SECONDHAND CDS

Ken Kessler needs to be reminded of another part of the CD-buying demographic [*HFN* Dec '20] – those people like myself who look for secondhand CDs. Perhaps I am an example of 'Under Five Quid Man' in that I still buy CDs but most of them are secondhand. There's a lot of good stuff easily available from specialist dealers and charity shops who sell on Amazon.

Often a used CD of a decent recording in good condition is cheaper (including postage) than a poor quality MP3 download of the same title. The same applies to many secondhand paperback fiction books I have purchased on the AbeBooks and Amazon websites, when the book and postage together can cost less than the same book downloaded for reading on a Kindle.

Chester Willey, via email

Ken Kessler replies: It nearly goes without saying that the secondhand market is a godsend for music lovers, and I'm a prime example of one who exploits it. I depend on the used-item sector for vintage hi-fi, pre-recorded tapes, watches, books and anything else that I either cannot find because it's out of production, or cannot afford as new. Indeed, if it wasn't for eBay, I wouldn't have a vast open-reel tape library, as none of the tapes I covet are available new.

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Table torque

IS IT POSSIBLE TO MEASURE THE TORQUE OF TURNTABLES?

As a convert to the wonderful world of vinyl, it is always interesting to read reviews of turntables and the different ways these are engineered. My personal journey has led me over the years from a Rega Planar 6 package to a TechDAS Air Force III. One of the parameters often mentioned in the pages of *HFN* is torque. For example, in the Lab Report that accompanied the review of the AVID Volvere SP [*HFN* Sep '20] turntable, Paul Miller describes how the 6.7kg mass of the alloy platter is 'brought very swiftly up to speed thanks to the combination of its high-torque AC synchronous motor and dual belt drive'.

However, while many different measurements of turntables (and other equipment) are carried out, I wonder why torque, which is often referred to by manufacturers and reviewers alike and often described as 'high' ('low' never seems to be mentioned!) is never measured. I myself was surprised to hear during an audition of the very fine Technics SL-1000R [*HFN* Jun '18] turntable, which has adjustable torque settings, that, to my ears, the best sound was achieved with the 'medium' setting. This suggested to me that too much torque is not beneficial.

Is it possible or feasible to measure the torque of turntables and to encourage manufacturers to state these figures in their specifications?

If this is indeed the case, would the measurement of belt-drive turntables differ in order to take into account belt characteristics? Apart from providing an objective number with which to compare different models of turntables, it would give curious audiophiles yet another specification to dwell on when considering how different characteristics of design impact sound quality.

Raj Lucas, Belgium

Paul Miller replies: There's a murmur of debate among some turntable designers concerning, in popular parlance, 'the amount of grunt a motor serves up to spin the platter'. Measuring torque (nM) – a function of input power, motor efficiency and the rotational speed of the shaft – is arguably less relevant than its impact on platter speed stability and, with direct-drive motors in particular, rumble.

Advocates of low-torque motors will typically require their platters to be hand-spun up to beyond 33.3/45rpm, achieving sufficient inertia for the motor to hold the speed at the desired rate. Transmitted motor noise is minimised, but wow and flutter is arguably no better than with other belt-driven solutions. High-torque/fast start-up is a requirement in professional/DJ decks and while cogging noise was certainly an issue with earlier direct-drive decks, the latest motors – and especially those developed by Matsushita/Technics – are super-quiet.



ABOVE: AVID's Volvere SP uses twin belts to deliver the motor torque to the platter

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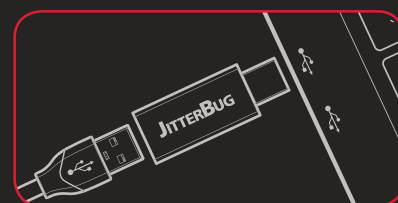
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Fantasy hi-fi

IDEAL ROOMS AND A DIGITAL WIZARD

Idling my time away during the lockdown period I turned my mind to the construction of the ideal listening room. Though a total fantasy, far beyond my bank balance would allow and a project to which the district planner would have quite a few objections, I had a go.

I found a site on the web that enabled the user to calculate wavelengths in air. Based on a 25Hz note the wavelength is 13.6m. Assuming this to be the ideal length of a room in which that note would be reproduced exactly, I set about some calculations based on one of the recommended room ratios of 1:1.4:1.9 where 1 is the room height, 1.4 is the room width and 1.9 the room length. I came up with a height of 7.16m and a width of 10.02m. In reality, a barn.

Taking my fantasy a step further, I then calculated the position of the speakers based on the Golden Ratio seen in art and architecture. The tweeters would be 4.48m apart, 2.76m from the side walls, and coincidentally, the distance from the tweeters to the front wall would also be 4.48. Wilson Audio springs to mind!

David Bond, via email

During lockdown, I have greatly enjoyed *HFN* readers' reminiscences about the hi-fi they have owned over the years. I thought to offer my own



ABOVE: Launched in 1972, the Linn LP12 turntable is still in production today



ABOVE: The Chord Mojo headphone amp/DAC handles DSD up to DSD256/11.2MHz

experiences, but I find old age has robbed me of the details! I remember starting with a Connoisseur BD1 with a Keith Monks unipivot arm, a home-built amp and self-designed transmission-line speakers. Later I progressed to a Linn LP12 with a Mission 774 arm. These days I listen to CD and music from my hard disk collection, using a PC running foobar2000 and a Chord Mojo headphone amp/DAC [*HFN* Jan '16].

I would like to ask a question, should fellow readers feel inclined to answer it. What is your hi-fi fantasy, whether it is in your budget or not? I'll start: I'd like to see Chord's digital wizard Rob Watts working with PMC to produce an active transmission-line speaker. Not just an electronic crossover, of course, but something that approaches the promise of an 'ideal' active speaker. Drive-unit compensation, room placement compensation, maybe frequency response compensation too? And maybe a few special features that none of us have even dreamed of.

Steve Merrick, via email

Ken Kessler replies: Mr Bond describes perfectly a dream room, but it isn't available to most of us. Fortunately, I'm a hi-fi atheist who ignores accepted cant, ie, my room, though it adheres to the Golden Ratio, is only 12x18ft, I pay little attention to cables, yet the sound – so visitors tell me – is transcendent, defying all logic. Instead, believe this: if you have good ears, patience and a modicum of knowledge, you can optimise your system so it, too, defeats seemingly obvious constraints. As for my fantasy system? Empire Troubadour 598, Crown 800, Apogee Scintillas, London Reference...

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We hear you

READERS SHARE EXPERIENCES OF HEARING LOSS

I'm by no means a hi-fi expert and I don't have the resources to indulge in the more esoteric systems featured in *HFN*, but I enjoy the mix of the technical and aesthetic that makes the magazine so different from other journals.

My interest and enthusiasm is not only tempered by my bank balance. At my age (73), my hearing is not as it was when I attended rock concerts as a callow youth, and my slight high frequency hearing loss is managed by the use of discrete, but essential, hearing aids. While this is generally not a huge problem, I guess that it affects my ability to hear the full range of frequencies and presents a particular problem when using headphones.

There are some 'sound shaping' hearing aids on the market, but I have yet to see serious reviews. With the technical expertise and knowledge residing in the collective wisdom of your team is there any mileage in a serious article about how those of us who still value high quality sound might be able to maintain our enjoyment despite the restrictions imposed by an ageing and inefficient auditory system?

Peter Harvey, via email

The topic of hearing rarely seems to feature in hi-fi magazines, but when you think about it, it's the most relevant subject of all. A recent audiogram revealed I have a loss of high-frequency sensitivity. As I write this, I have the dubious honour of joining the OAP club and I understand that my compromised hearing status is, broadly speaking, commensurate with my age.

This being the case, it occurred to me that it would seem appropriate for professional reviewers of a certain vintage to have their ears tested on an annual basis in much the same way that pilots have to pass a regular medical test to maintain their aviation license.

Not being technically minded, it may be that the higher frequencies my audiogram shows I have lost are not generally to be found in recorded music and are thus irrelevant. But I doubt it.

Clive Kerr, via email

I am now in my early 60s and began noticing that when my wife spoke to me there were times I couldn't make out



what she was saying (some of you may consider that a blessing!). And it's all to do with wax in your ears! Apparently my wife tells me (and she is usually well up on medical matters) that as you get older there tends to be a build up of wax in the ear. So I decided to do something about it. I contacted my local opticians and they offered me a wax removal service for £55.

I have now had both of my ears done and the result has been a major improvement in my enjoyment of music. It sounds more transparent, I can hear more detail and the overall presentation is more '3D'. And this is while listening through headphones! I would recommend any music-loving audiophiles in my age bracket or older to investigate this service. It may not be for all, but it has enabled me to enjoy my valve-based system so much more.

Ray, via email

Who'd have thought, after many years of having music in my life, listening via many formats, some of which have now long disappeared, that one day you would be able to think of a piece of music and, hey presto, it would be yours. I am talking about streaming, of course. Still, for all its convenience, it's not as satisfying as the hours I used to spend trawling through the thousands of albums in Tower Records or Mole Jazz, two stores now both gone...

Then with life, time and hi-fi, you reach the stage at which you have a little more cash to indulge your pleasures. Some upgrades maybe? Life is good. Until, for some, your hearing starts to fail. Forty per cent down on one side in my case, and there is little you can do about it. High-fidelity loses its attraction. Still, there have been some very good

Audio Exposed

HEARING EXPLAINED

It loves crackle, boasts an in-built D-to-A converter and boasts sound quality on-the-fly. Dr Doug Mahar and Barry Willis examine a crucial component in the hi-fi chain...



Hear and now...

Dr Doug Mahar and Barry Willis revisit the subject of hearing loss

For many audiophiles, the hearing aid is the most crucial component in the hi-fi chain. It's the link between the music and the listener's ears. And it's a link that can be broken. Hearing loss is a common condition, especially in older people. It can be caused by a variety of factors, including age, noise, and certain medications. But it can also be prevented or treated. Hearing aids can help to improve hearing and make listening more enjoyable. They can also help to protect your hearing by amplifying sounds and reducing the risk of damage to your ears.



ABOVE: Past features have looked at hearing aids [*HFN* Mar '14], how our hearing functions [*HFN* Jan '08], and hearing loss [*HFN* Apr '18]

years. So, what is the reason for my writing? I want to simply suggest that for those for whom music is a major reason for their existence, do not hesitate to indulge while you are able.

Ash Trafford, via email

Barry Willis replies: We have run a number of features over the years focusing on hearing loss [see above]. Reduced hearing sensitivity and high-frequency perception are common symptoms associated with ageing, but are increasingly prevalent in younger people, due to self-damage with earbuds. Prolonged noise can cause irreparable harm to delicate hair cells in the inner ear – the reason for deafness among career rock musicians. Significant hearing loss means not only reduced musical enjoyment but also reduced conversational intelligibility, especially with a sibilant-rich language such as English.

Other causes of hearing loss include infections, ototoxic reactions to prescription drugs, arthritis in the ossicles (tiny bones in the middle ear), damage to the eardrum, and blockage of the ear canals by wax, a condition easily treated by any general practitioner. Most pharmacies sell do-it-yourself ear wax removal kits. Cleaning ear canals with cotton swabs isn't recommended for most people due to the danger of puncturing the eardrum or further impacting the wax. Dissolving and flushing it out is the best method. Ray alludes to selective hearing loss, a comical survival adaptation familiar to many married people, but not one that's permanently debilitating.

A matter of Class

SHINING A LIGHT ON SINGLE-ENDED AMP MISCONCEPTIONS

Kudos to editor Paul Miller for his description of the Class A operation of the single-ended Jadis JPL MkII/SE300B [HFN Apr '21] amps. I don't know how many times, in almost every single-ended amp review I've read, descriptions of single-ended amps as single-ended *and* Class A, as if the reviewer regards them as separate characteristics when they are not. Paul's review is the first I can recall where it's pointed out that single-ended amps are inherently Class A due to their topology. With a single output bank, the outputs must be biased-on all the time (Class A) or the amplifier would be intermittent (and certainly not high-fidelity).

Perhaps this is a good time to add a comment on push/pull Class A amps. Most of these are really richly biased Class AB amps, meaning they often go out of Class A at the high outputs they are capable of but not rated at. This is especially true at the power ratings into lower impedances, where these amplifiers have a lower Class A rating, despite the fact that most loudspeakers which are made today have an impedance that is nominally lower than 8ohm.

It's always been common to give the wattage into 8ohm, although perhaps it's time for a change. These manufacturers are honest and only give the Class A output in their specs, even though the amplifier is capable

of higher output in Class AB than quoted. Fortunately, in almost all cases only massive peaks are large enough to cause these amps to go out of the rich class portion of their output so they are probably operating in Class A well over 90% of the time. As an aside, but on a similar note, the 450W Parasound JC1+ amp by John Curl, for example, could be described as a 25W Class A design.

Allen Edelstein, via email

Paul Miller replies: Thanks for noticing, Allen! Yes – in a single-ended amp the tube(s) are conducting throughout the full 360° cycle of the audio waveform right up to clipping, so they are necessarily operating in 'Class A'. This lack of clarity in some reviews of SET amps ranks alongside the conflation of Class D with 'digital' and kHz written as KHz (MHz as mHz, etc) and, once seen, are indications in my book not to bother reading further...

I have offered a little more detail on Class A and AB operation in recent tube amp reviews [HFN Jul '21] while, regards output, it's not uncommon for contemporary push-pull valve amps to offer a fairly consistent output into 8 and 4ohm loads, particularly if they have separate 8/4ohm transformer taps. On a more positive note, some brands, tube or solid-state, are very conservative – the 25W 'Class A' INT-25 from Pass Labs [HFN Dec '20] goes all the way up to 68W/8ohm in Class AB.



ABOVE: Jadis SE300B amp – single-ended and thus necessarily operating in 'pure Class A'

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HFN2021

Philips RH 551 preamplifier

An outlier in its day, this preamp was marketed as a match for products from rival brands yet its real purpose was to drive the company's MFB speakers. We fire it up...
Review: **Tim Jarman** Lab: **Paul Miller**

The Philips Motional Feedback loudspeaker was one of the great advances in audio technology. Launched in 1975, the series would eventually encompass four distinct generations and remain in production for over a decade, its key technologies jealously guarded by Philips patents [HFN Jul '13]. However, the partnering equipment designed to help these speakers perform at their best is less well known, arguably due to Philips endorsing the use of third-party sources and amplifiers.

PURPOSE DRIVEN

Nevertheless, an attempt was made to market a top-flight suite of complementary components, and at its heart lay a product not regularly seen in the catalogue of a household brand at the time: a separate preamplifier. This was the RH 551, which was introduced in 1976.

Compact transistorised circuitry had made standalone preamps relatively unusual come the mid 1970s because it was easy to construct integrated amps that offered excellent performance in compact packages. However, the MFB loudspeaker already housed its own power amps and so for optimum sound quality a purpose-designed preamp was deemed necessary.



ABOVE: 'Pre-Amplifier' script identifies an unusual product from a '70s household name

The design of the RH 551 was based around the drive requirements of the RH 532 MFB speaker, the first and only model in production at the time. This offered three levels of sensitivity, two of which were intended for direct connection to the loudspeaker outputs of a conventional amp. The highest sensitivity setting was reserved for preamp outputs, but the input sensitivity was quoted as 1V into 3kohms.

The choice of input impedance is always a compromise with active loudspeakers, since long cable runs are usually involved. Without resorting to the complications of balanced operation, one either has to choose a low impedance which gives good noise immunity but requires care in the design of the driving amplifier, or a high impedance which is easy to drive but prone to pick up hum, spikes and other forms of interference. Philips chose the former option, thus making the RH 532 difficult to match with the few other specialist preamps available at the time.

MODULAR THINKING

The output stages of the RH 551 were akin to those of a small headphone amplifier, so much so that a headphone socket was provided which was driven directly from this point. These circuits were assembled onto a small plug-in module, the same as could be found doubled-up in the company's RH 832 quadraphonic music centre. The rest of the design closely followed that of the equivalent Philips



LEFT: 'Fish-eye' meters were a distinctive feature of many mid '70s Philips audio products. The 'Hi-Fi' logo indicates the design meets the requirements of the DIN 45 500 standard



integrated amplifiers of the day. In fact the cabinet, chassis and much of the low-level signal path was shared with the RH 521.

TAKING CONTROL

The RH 521 was a conventional 2x30W design, which was not very powerful even by the standards of the mid-'70s. The message from Philips was therefore clear – if you want top performance and bags of power then the only way to go is MFB.

To delineate the RH 551 from the rest of the range it was finished in a new livery: matt black replaced oiled teak for the top cover and this also adorned the lower part of the fascia, which had previously been silver in colour. A matching tuner, the RH 651, was also produced in black.

There are two philosophies that the designer of a preamp can follow. One is the pursuit of maximum simplicity – after all, one can easily obtain sufficient gain from a power amplifier to drive it directly from

a line-level source such as a CD player and active circuits are only required if a phono stage is to be included. The resulting unit therefore emerges lean and stripped of all but the most basic facilities.

The other is to follow the layout of the old 'control unit' preamps of the valve days. As well as signal routing and volume regulation, sound-shaping devices such as

filters and tone controls were also included, along with a good range of inputs of varying sensitivities to suit a host of different sources. This approach was favoured in the UK by Quad, as well as in Japan by all the

big makers who liked to include as many knobs and buttons as possible on their top models. It was the layout chosen by Philips for the RH 551 too, making it a complex but highly versatile design.

Inputs were provided for a turntable equipped with an MM-type cartridge, a tuner, a dynamic stereo microphone

'If you wanted bags of power the only way to go was MFB'

ABOVE: A matt black top, sides and fascia separate the RH 551 from the integrated amps in the same range. Styling is neat and efficient

and two tape recorders. All inputs were constructed to strict DIN standards which do not allow for a 'tape loop' type connection for off-tape monitoring. Since the Philips range included a number of three-head open-reel machines it was necessary to remedy this shortcoming by adding a 'monitor' input via an extra DIN socket, so enabling source/tape switching.

Bass, presence and treble controls were also present, as were switchable scratch and rumble filters and three choices of loudness contour. The RH 521's distinctive 'fish-eye' meters were retained, though now they showed overall system headroom rather than measured power output. Finally, a DIN-type headphone socket could be found hidden behind a small metal flap located to the left of the fascia.

QUALITY OPTION

The RH 551's key selling point disappeared when the RH 532 loudspeakers were replaced by the new RH 541, RH 544 [HFN Nov '16] and RH 545 models. These all had a more conventional input impedance and could be driven from a normal preamp, but Philips continued to offer the RH 551 as the quality option until around 1980. No further dedicated MFB preamps were designed although a pair of attractive MFB-only receivers were offered – the RH 743 and AH 762. Both were aimed at the 'lifestyle' end of the market, unlike the audiophile-oriented RH 551.

For those used to the later, typically more 'plastic' creations that came out of the Philips factories in the '80s, the RH 551 comes across as surprisingly solid and well made. Fit and finish are well up to Japanese standards while the controls feel precise ➔



LEFT: A full system with the RH 551 preamp, RH 651 tuner and RH 544 MFB loudspeakers, plus a Philips turntable and open-reel deck



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and sturdy. The styling still has touches of Philips quirkiness (those meters...) but the way the unit operates is largely conventional.

Some features, such as the combined scratch/rumble filter switch, seem almost deliberately designed to confuse, but overall it feels like a sensible, considered product. DIN connections are used throughout, which means there isn't a high-level recording output (only DIN standard recorders can be accommodated), but the 'monitor' input proved to be a useful bonus.

If not in use for its intended purpose, this forms an ideal input for a CD player as it bypasses the first active gain stage and routes the signal directly to the top of the volume control. Noise performance is improved still further, and so this was the input I chose for my listening tests.

TIM LISTENS

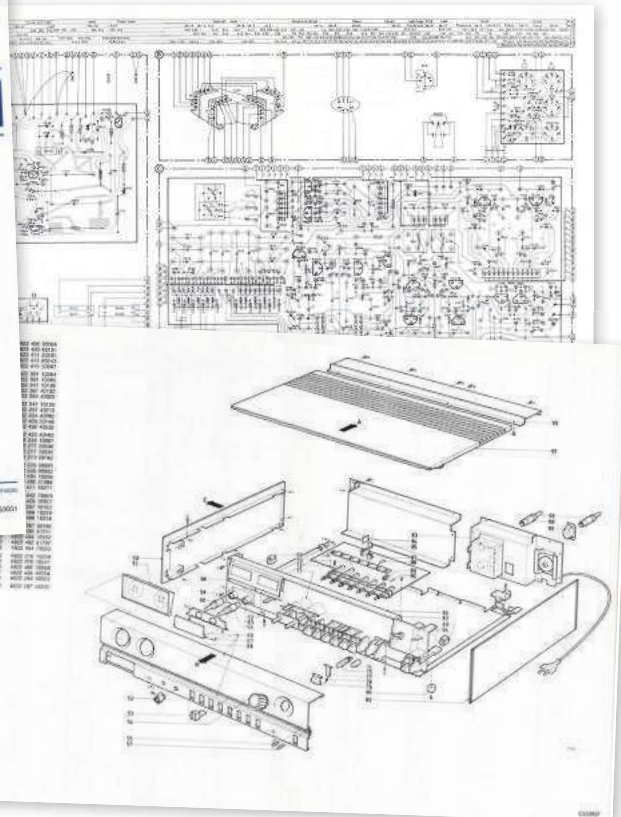
While the output of the RH 551 is intended for MFB loudspeakers, it can also drive a conventional power amplifier provided a reasonably sensitive model is chosen. However, I chose to partner it with a pair of RH 532 MFB enclosures (grilles removed) since this is the way most of the surviving examples are likely to be used.

This set-up does raise the question of why so many sound-shaping devices were fitted to the amp as the goal of MFB was to provide a flat and extended frequency response without such measures. On the other hand, one could argue that since the loudspeakers employ intricate electronic signal processing to deliver a subjectively accurate sound there is no harm in adding a little more further up the chain. Whatever



one's point of view on this matter, the various filters fitted to the RH 551 certainly work well and are intelligently scaled, the bass and treble controls having a wide range and the 'presence' (midband) one being rather more subtle [see PM's Lab Report, p127].

I felt the loudness contours to be superfluous in my set-up, most notably the deepest one which made the sound unbearably thick and bass heavy. The high- and low-cut filters also seemed of little value since (like every *HFN* reader, I'm sure) I don't own any dirty or warped LPs. Without the RH 551, one way of running RH 532 speakers is from the headphone socket of a quality CD player such as the Technics SL-P1200 [*HFN* Aug '13]. I was surprised that when using the preamplifier



ABOVE: Preamps can be designed to be simple, but the service sheet for the RH 551 reveals it to be a complex and intricately configured product

in the chain a tighter, more focused sound resulted. To my ear there was a little less bass, but this seemed to give the MFB system a bit more headroom to work with.

POWER SHOTS

The net result was to transform the RH 532s from being a clever party trick into a top-flight loudspeaker whose performance in certain areas would be a tough act to follow. 'Calling Elvis' by Dire Straits [*On Every Street*; Vertigo 510160-2] at first seemed to lack some of its familiar warmth, but the characteristic staccato rim-shots that punctuate the track were rendered in the powerful and fast way only Philips' MFB loudspeakers seem able to deliver.

Playing the disc directly from the CD player did result in a touch more drama at times, but with the RH 551 in the system the sound opened up and inhabited a larger space, both in terms of width and depth. The ability to project vocal texture also appeared optimised with the RH 551 bridging the gap between the source and

LEFT: Mostly Philips-made components are used in the RH 551. The space [top left] would have accommodated the power amplifier section of the related RH 521 integrated model



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VINTAGE HI-FI



ABOVE: DIN connectors and outputs for use with MFB speakers are on the left while the sunshine logo on the far right indicates the design is suitable for use in all climates

the speakers. I've found vocals to be a strong suit of well designed truly active (as opposed to merely amplified) speakers, but as one of the few preamps purpose-designed to suit the RH 532, the RH 551 seemed to raise the bar here another notch or two.

I'll confess here to finding the mixture of singing styles in 'Suspended In Gaffa' from Kate Bush's *The Dreaming* [EMI CDP 7463612] at best a distraction, at worst an irritation, but here it became a source of fascination, with the piece as a whole now making a little more sense.

Of course, when this preamp made its way onto the market the phono stage would have been the main input used by listeners and I found it still to be effective today. The DIN connector contains both chassis and signal grounds and, adapter in hand, I found the RH 551's RIAA input proved to be both lively and detailed-sounding. Particularly, I might add, with modern pick-ups like the Ortofon 2M Black [HFN Mar '11] employed for the majority of the listening.

Being critical, one could describe the presentation as a tad hard and brittle when compared to the unit's performance with line-level sources. But this wasn't to an extent that would rule it out of consideration for use in a vinyl-based system.

BUYING SECONDHAND

The RH 551 was available in the UK but only a few were sold here. Most found homes on the continent, making this the best place to go looking today. These were well-made units constructed mainly from parts produced within the Philips organisation so reliability is good. However, there are a lot of switch

contacts through which the signal has to pass and most faults are caused by dirt and tarnish on these.

STICKY NOTES

Another common issue is that the fusible resistors used to protect the power supply section can change value or go open-circuit, often without obvious symptoms. Performance does suffer though, albeit in a subtle way. Any overhaul should therefore include a check

that all the supply voltages are at the correct level and free from excessive hum and noise.

As for those fish-eye meters, unfortunately those can jam up or stop

working when the glue inside that holds their delicate bearings in place loses its integrity over the passing years. In spite of their appearance, the meters themselves are conventional rectangular types, so a pair salvaged from a scrap cassette deck can often be used to save the day. Internal adjustments are provided to calibrate the scales if this has to be done. ☺

HI-FI NEWS VERDICT

This was the best purpose-built product Philips made to drive its MFB speakers, so if you have a pair and are serious about achieving the best performance from them, then the RH 551 is worth seeking out. It is also worth considering as a versatile preamp for use with other active speakers or in a conventional system, the DIN-only connectors and slightly quirky appearance being the only real drawbacks.

Sound Quality: 83%

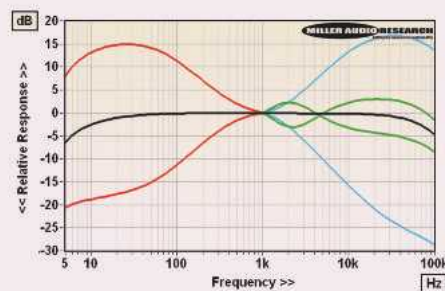
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LAB REPORT

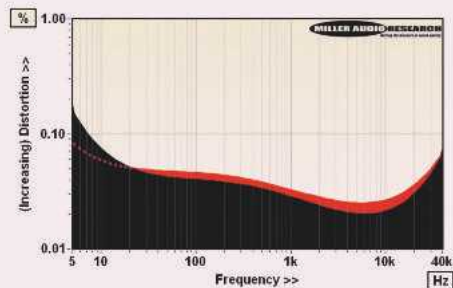
PHILIPS RH 551

Launched in 1976 to partner Philips' MFB (Motional Feedback) loudspeakers [HFN Jul '13], the RH 551 preamplifier could also be pressed into service alongside a conventional power amplifier from the same or, indeed, current era. Maximum output is just shy of 3V from a respectable 50ohm source impedance while the +21.4dB overall gain is very generous. Neither did this compromise the A-wtd S/N ratio which is equally generous at 90dB (re. 0dBV) even though the residual noise shows some hum at -75dBV (178µV). Distortion is impressively consistent with frequency at 0.05%/20kHz, falling gently to 0.02%/10kHz and 0.03%/20kHz [see Graph 2, below], and increasing equally gently with output level from 0.009%/200mV to 0.02%/1V and 0.05%/2V (all re. 1kHz). Nevertheless, the 'story' of the RH 551 arguably resides in its comprehensive response-shaping features.

At its 'flattest' the RH 551's frequency response reaches out from 8Hz-76kHz [-3dB; black trace, Graph 1 below] with the bass control offering a max/min adjustment at 20Hz of +14.8dB/-17.6dB [red traces, Graph 1] and the treble control matching this at 20kHz with +16dB/-21dB [blue traces]. Philips' additional 'presence' control was subtler in operation, offering a +2dB lift at 2kHz with a roll-off to -4.4dB/20kHz, and a -2.8dB cut at 2kHz with a boost thereafter to +3dB/20kHz [green traces, Graph 1]. In addition to this tone-shaping, Philips also included a four-position 'Contour' facility – a loudness control by another name – with position '0' representing the flattest response. Contour 1 delivered a 'shelf' climbing to +1.3dB/20Hz and +0.95dB/20kHz, Contour 2 at +1.4dB/20Hz and +1.2dB/20kHz while Contour 3 offered a wilder +5.5dB/20Hz and +2.8kHz/20kHz. PM



ABOVE: Freq. resp. (Contour 0, black; max/min Bass, red; max/min Presence, green; max/min Treble, blue)



ABOVE: Distortion versus extended frequency at 0dBV output (left channel, black; right channel; red)

HI-FI NEWS SPECIFICATIONS

| | |
|-------------------------------------|-----------------------------|
| Maximum output/input (<1% THD) | 2900mV / 6900mV |
| Output imp. (20Hz-20kHz/100kHz) | 56-47ohm / 46ohm |
| Input sensitivity (re. 0dBV) | 85mV |
| Frequency resp. (20Hz-20kHz/100kHz) | -1.10dB to -0.35dB / -4.7dB |
| Stereo separation (re. 0dBV) | 71dB to 32dB |
| A-wtd S/N ratio (re. 0dBV) | 89.8dB |
| Distortion (20Hz-20kHz, 0dBV) | 0.020-0.050% |
| Power consumption | 10W |
| Dimensions (WHD) / Weight | 470x117x280mm / 5kg |

Made in Maidstone

Martin Colloms hears KEF's no-holds-barred flagship speaker, the R109

*Hi-Fi
News
May 1999*

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In late 1995 an idea began to take shape at KEF Audio. The company had already produced some fair-sized 'reference' models, culminating in the well-regarded Reference Four. But even this powerful and accomplished design lacked the necessary weight and presence to make a major impact at the highest quality level of world loudspeaker sales. So research began to define the key elements of what was intended to be a much larger speaker system, a definitive engineering expression of the company's knowledge.

The intention was for this model to have an essentially unlimited dynamic range, as well as the capability for truly high sound levels, fully capable of driving large listening rooms. Such reference-grade loudness also had to be accompanied by very low distortion, a wide uniform frequency range and ample reserve in the critical low bass frequencies. Using sufficiently



powerful amplification, the aim was to recreate realistic, full loudness replay of a large symphony orchestra or a stadium rock concert.

EYE DAZZLER

In identifying the performance targets, the engineers decided new drive units were essential, as well as a radical re-examination of best design practice, relative to this project. In my view, this has involved abandoning several engineering principles which have almost become a KEF signature.

The design team, headed by Ric Ciccone (team leader and bass driver designer) and Andrew 'Doc' Watson (system designer) will

ABOVE: The KEF R109 Maidstone looks imposing with its multi-cabinet array

argue the point, but I feel that the R109 Maidstone represents a new departure for KEF in several respects. Some might view it as a return from certain 'high-tech' approaches to more traditional engineering values.

Without labelling the point too much, we've come to expect certain things from KEF's more expensive designs: polymer cones, bandpass bass systems with concealed drivers, unitary enclosure construction, decoupled driver mountings, fixed factory-defined response alignments, and a minimum of ostentation. In addition, the electrical loading



which the speaker applies to a matching amplifier has generally been compensated to some uniformly low value, typically 4ohm. So imagine my surprise to find that almost all these features had been abandoned in the Maidstone.

To begin with, the R109 is a very large speaker, with a strong physical presence. The build and design are clearly dominated by the vertical driver lineup, and the rosewood-veneered cabinets, together with a bright gold-plated finish for the feet and mechanical coupling elements give a feeling of luxury. There's even more gold round the back, acres of it in fact. The large connector plate is all polished gold plate – likewise the array of solid-metal binding posts, which number no fewer than 20 per system, a real eye-dazzler!

STACK MACHINE

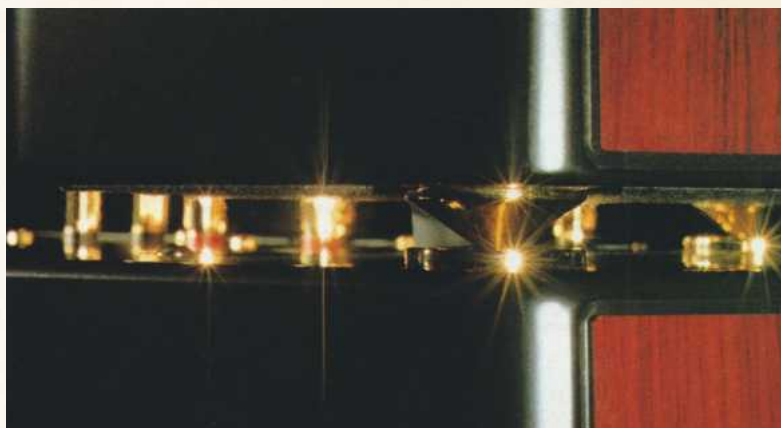
But enough of that. Just what do you get for your £12,000? Checking the spec, the R109 stands 1.19m tall, is 0.6m wide by 0.67m deep and weighs in at approximately 200lb per speaker. Built as three stacking enclosures per channel, this is a big, broad, curve-fronted system, floorstanding, and a two-man lift even when disassembled.

Starting from the bottom, the bass bin, set lowest, begins with two huge bass reflex ports followed closely by a 380mm bass driver with a resin-bonded fibre-pulp cone. Similar cone material is used in the 250mm lower-mid unit, which occupies the next section above. This is assembled as a pair with the top cabinet, and the resultant upper section of the enclosure, partially decoupled from the bass bin by a three-point (yes, you've guessed it, gold-plated) cone-and-cup array.

The whole is topped out by what seems at first glance to be a superfluous metal plate (gold again). But this is in fact the site for retrofitting a supertweeter, to extend the range to well beyond audibility, perhaps 40 to 50kHz. This is to cater for growing tastes for wider bandwidth in Japan, perhaps driven by the incipient availability of wider-bandwidth programme.

Correction of the electrical load/impedance is the minimum considered necessary for good amplifier drive, while a 'tone control' is also provided for the treble, to

RIGHT: Close-up shot shows the gold cup-and-cone supports between the bass and mid/treble sections of the KEF R109 Maidstone. These big speakers could certainly deliver a generous sound, powerful in the bass, broad in tonal balance, and neither especially bright nor forward



account for variations in room damping at high frequencies.

In this four-way (potentially five-way) system, the mid and treble is handled by a top of the line Uni-Q driver, the one with the almost hidden dome tweeter central to the mid cone. A high 91dB/W (8ohm) sensitivity is quoted for the system, though with a 4ohm rated impedance. In truth, this defines an 88dB 'real watt' sensitivity, in other words, about average.

RAW POWER

Whether you get that extra 3dB from the paper specification will, of course, depend on the current reserve of your amplifier. A genuinely high maximum sound pressure level of 118dB is specified, together with a big 400W power capacity (as usual, peak programme, speech

and music drive). The manufacturer's tolerance for frequency response is 35Hz to 20kHz ± 3 dB, while the bass has been designed for a tailored, 'slow' rolloff to lower frequencies, for example, -6dB down at 30Hz. Good in-room bass levels down to 27Hz can be expected provided these claims are verified.

There are several ways to connect the Maidstones. With the jumper bars in place they may be single wired, which is what I mainly did, using Transparent XL cable. With the jumpers out, the speaker splits between the two lower and two upper drivers, allowing for bi-amping or passive bi-wiring if desired.

With access to four Meridian 605 monoblocks, I found by experiment that the bi-amping route provided significant gains in clarity over

straight stereo throughout the range. But do choose sufficiently good and powerful amplification.

Furthermore, it is possible to arrange the entire terminal array on the input panel to lift the drivers respectively away from their internal crossover networks. In this mode, an auxiliary multi-way active crossover may be installed. To reconfigure, small threaded studs present in the terminal panels are unscrewed and reversed so altering the internal connections. This is operative for the bass driver, while the upper-bass, mid and treble sections can be directly accessed via their umbilical

connection systems, which are normally accessible on the back of the speaker.

Use of an active crossover presupposes that a stereo four-way amplification system

is available and that crossover frequencies, equalisation and slopes may be configured to match or improve upon the original passive networks. In this situation, the R109 becomes a set of raw, cabinet-fitted drivers on which an enthusiast may impose his version of tonal balance, bandwidth and presentation.



SOUND QUALITY

Working initially with a modest amplifier and no special system alignment, first impressions were a little disconcerting. The Maidstone sounded rather low-key and distant, noticeably rich in tonal balance. I persevered and experimented with equipment combinations and placements, ultimately finding that I couldn't short-change this speaker and get away with it. Thus ☺

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FROM THE VAULT

a Krell FPB650/Conrad-Johnson ART/Krell KPS25s lineup predominated – some £60,000+ worth of drive electronics! Meanwhile, a Linn LP12 Lingo/Naim Aro/Koetsu Rosewood Signature II deck provided analogue material via XTC and Conrad-Johnson Premier 15 phono equalisers.

NICE TOUCH

These big speakers could certainly deliver a big sound, powerful in the bass, broad in tonal balance, neither bright nor forward. At anything up to generous sound levels, the KEF R109 Maidstone sounded both smooth and big-hearted. Higher levels were generated without complaint from the drivers, though the sound itself could become increasingly aggressive, with the midrange dominating the proceedings. This meant that while high sound levels were possible in my room, they were certainly less comfortable than expected from the large scale and execution of this design.

Taking key areas in order of frequency, the bass was full, quite extended but softer in the lowest range and more forced, almost 'bumpy' in the mid-bass. As an entity in itself, despite the sure knowledge that much of the character of the bass sound is defined by the midrange, even low treble, the R109's bass was not very fast.

The result was that it tripped over fast drumming lines, lacked percussive impact and failed to deliver the kind of thrilling slam shown by some of the competition.

In addition, the bass tune-playing ability – in other words the note-by-note evenness – I was only able to rate as 'average plus'.

The wisdom of using this particular bass driver combination was clear, for example in the case of the lower mid and its convincing integration with the bass. But this upper bass range also had a degree of coloration, showing hints of a 'boxy' or 'papery' effect which seemed to detract from the clarity,

punch and focus of vocal lines. These had a thickened, almost plummy, emphasis.

The sound was cleaner in the upper midrange although some hard-to-qualify emphasis was also

present making orchestral strings sound more 'wiry' and 'steely' than they should. A smooth, 'Uni Q' transition was present through to the treble and in no sense were you aware that a separate tweeter was working, a nice touch that.

BROAD BALANCE

The in-room sound was noticeably dull through to the upper treble, even more than my past experience indicated with previous designs using this technology. Experiments with added treble lift were not really successful. In the upper reaches the treble had a kind of added 'texture', not quite grain or distortion but sufficient in combination with the duller sounding ambience to alter the nature of treble sounds.

Stereo images were frankly disappointing. I didn't find the curved panel geometry to be

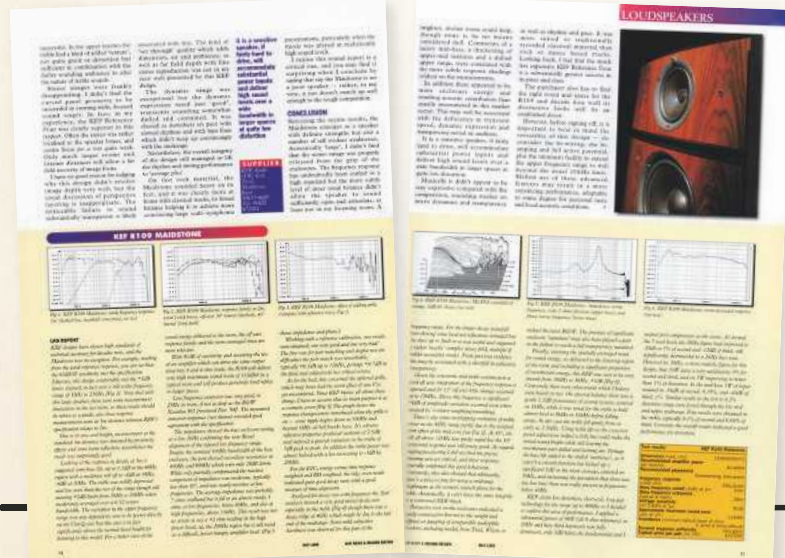


ABOVE: The speaker with its optional grille in place, the circular gold top plate offers a mounting point for a future supertweeter. The rosewood veneer and bright gold-plated finish for the feet and mechanical coupling elements lend this flagship design a feeling of luxury

successful in creating wide, focused soundstages. In fact, in my experience, the KEF Reference Four was clearly superior in this respect. Often the stereo was rather localised at the speaker boxes, and centre focus *per se* was quite weak. Only much larger rooms and listener distances will allow a far field recovery of image focus.

I have no good reason for judging why this design didn't resolve image depth very well, but the usual discussion of perspective layering is inappropriate. The noticeable failure to sound substantially transparent is likely associated with this. The kind of 'see through' quality which adds dimension, air and ambience, as well as far field depth with fine stereo reproduction was not in my view well presented by this KEF design.

The dynamic range on offer was exceptional but the dynamic expression rated just 'good', transients sounding somewhat dulled and contained. It was classed as downbeat on pace with slowed



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FROM THE VAULT

rhythms and with bass lines which didn't keep up convincingly with the midrange. Nevertheless, the overall integrity of the design still managed to lift the rhythm and timing performance to 'average plus'.

On fast rock material, the R109 Maidstone sounded heavy on its feet, and it was clearly more at home with classical tracks,

its broad balance helping it to achieve more convincing large scale symphonic presentations. This was particularly true when the music was played at realistically high sound levels. I realise

this sound report is a critical one, and you may find it surprising when I conclude by saying that say this is not a poor speaker. Rather, in my view, it just doesn't match up well enough to the tough competition.

CONCLUSION

Surveying the review results, the R109 Maidstone emerges as a speaker with definite strengths but also a number of self-evident weaknesses. Acoustically 'large', I didn't find that the stereo image was properly released from the grip of the enclosures. The frequency response has undoubtedly been crafted to a high standard but the more subtle level of inner tonal balance didn't allow the speaker to sound sufficiently open and articulate, at least not in my listening room. A brighter, livelier room could help, though mine is by no means considered dull. Comments of a heavy mid-bass, a thickening of upper-mid textures and a dulled upper range, were correlated with the more subtle response shadings evident in my measurements.

In addition there appeared to be more enclosure energy and resulting acoustic contribution than usually encountered in this market sector. This may well be associated with the deficiency in

transient speed, dynamic expression and transparency noted on audition.

It is a sensitive speaker, if fairly hard to drive, will accommodate substantial power inputs and deliver high sound levels over a wide bandwidth in larger spaces at quite low distortion. Musically it didn't appear to be very expressive compared with the competition,

sounding weaker on micro dynamics and transparency as well as rhythm and pace. It was more suited to traditionally recorded classical material than rock or dance-based tracks. Looking back,

I feel that the much less expensive KEF Reference Four is a substantially greater success in its price and class.

The purchaser also has to find the right room and space for the R109 and decide how well its distinctive looks will fit an established decor.

However, before signing off, it is important to bear in mind the versatility of this design. Do consider the bi-wiring, the bi-amping and full active potential, not forgetting the imminent facility to extend the speaker's upper frequency range to well beyond the usual 20kHz limit. Skilled use of these advanced features may well result in a more convincing performance, adaptable to some degree for personal taste and local acoustic conditions. ☺

'Clearly the R109 is more at home with classical'



LEFT: View of the 1.19m-tall speaker's Uni-Q section, which features a dome tweeter central to the mid cone (top). Below this section can be seen the 250mm lower mid unit. These two sections of the R109 Maidstone are treated as a pair when assembling the loudspeaker



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LAST WORD

OFF THE LEASH!

KEN KESSLER TELLS IT LIKE IT IS...

Wonder why imported hi-fi costs so much here? Ken Kessler finds a ray or two of hope in his story



As much as we'd all like to think the world has (metaphorically) shrunk thanks to the Internet and next-day couriers, chasms between the hi-fi-producing territories of the UK, Japan, the USA and even our neighbours across the Channel remain, even if they're not as bad as they were 40 years ago.

To refresh the memories of those of us suffering senior moments, and for others too young to have known life before the World Wide Web, many hi-fi brands were once so regional, isolationist and, well, provincial that 1980 could have been 1880. And this was mainly down to the lag in comms.

PENALTY SHOT

One of the worst cases of a disconnect between markets was cost, since there was no means of instant price checking as there is now. Foreign brands regarded the UK as 'Treasure Island' because its audiophiles were seen as easy targets by makers and importers. Price differentials were egregious – now they've been reduced to somewhere between 'acceptable' and 'explicable'. As an example, one product, which cost £25,000 in its home market, sold here at £120,000. Yes, a *six figure penalty*. Who knew?

This was allowed to happen for a number of reasons, not least due to the failure of 99% of Westerners to read or speak foreign languages, unbridled avarice, *ad nauseam*.

It was not uncommon – only the degree of the cupidity. What prevented hi-fi villagers with pitchforks from storming the retailers was the perpetual repetition in the press of the formula which explained why, say, US gear cost here in pounds what it did in dollars Stateside, eg, \$1000 became £1000, even with a £1/\$2 exchange rate.

LET'S BE BLUNT

Shipping, duty, VAT, the added margin of a distributor – these justifications were explicable, inarguable and ultimately proof that extra costs unique to imported gear soon added up. Also calming-down some of the rioting, rampaging villagers was the realisation of the reverse scenario, *ie*, American hi-fi enthusiasts wondered why British kit cost so much more in the USA.

'A 60kg amp doesn't cross the Atlantic for free'

At the risk of offending both the country of my birth and my adopted home, let's be blunt: some people are just plain daft. (Indeed, I just read that A&W Rootbeer, a fast-food concern in the USA, tried to battle the McDonald's Quarter Pounder with its

One-third Pounder, but too many Americans thought that was *smaller* so it failed!)

What seemed to elude the *kvetchers* in hi-fi was failing to appreciate that a 60kg amp doesn't magically float across the Atlantic – in either direction – for free; or that to stay in business, retailers and importers need to *make a profit*.

It's just the size of the profit that's contentious, but that has been addressed in the main. I recently discovered, for example, how one distributor has changed its policy such that the hugely expensive models – say, £250,000-ish – are priced like lobster served in restaurants: at market value. So, if it's Japanese, European or American, the consumer is charged the rate applying on the day of the purchase.

ON THE MARGIN

Do the maths, and you can see how the variance on the price to the importer is huge: sterling to dollars ranged during 2020 from £1/\$1.11 to £1/\$1.38. Why, then, didn't importers adjust their prices continuously, according to what they paid on the day? Again, it's about practicality, feasibility and another obscure but important reality: importers have to build in a '±' margin to allow for daily fluctuations.

Cost differentials are unavoidable with *all* imports, not just audio gear, unless the maker can employ global price parity. This, however, only occurs if the manufacturer is prepared to do so at the expense of penalising the home market. This is because prices at home would then have to go up to match the export markets. It doesn't work the other way, where prices abroad are lowered to match the home price.

Another source of envy is the availability of gear in other territories not sold here, as I recently learned with a current US product. I kept hearing about an entry-level valve amp for which the acclaim was thunderous. So I bought one – it's indeed fabulous, but you can't get it here, so I'll remain *shrum*. The company sells all it can make at home because it's sold direct, there's no CE tube cage, *etc*. If imported here, its price would have to include VAT, duty and shipping, and the bargain aspect would vanish. You want one, you gotta import it yourself.

It's not as bad as it once was. Long gone are the days when our copies of *Stereophile* landed two months after US readers saw them, and they received *Hi-Fi News* after a similar delay. Long-distance telephone calls no longer cost as much as a 20g tin of Beluga caviar. Indeed, even I have to admit: on the whole, life does not suck. ☺

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