

THE HOME OF REAL HI-FI

hi-fi news

& Record Review

MAMMA MIA!

Franco Serblin's legacy Ktêma – ten years on...

22
PAGES
of Music
Reviews &
Features

The musical bridge



Aqua's 'LinQ' between network storage and DAC

AVID Volvere SP UK-built skeletal deck sets the sub-£6k standard



EXCLUSIVE
B&W's Statement
702 speaker makeover

MOON 780D v2
Flagship streaming DAC

Emotiva XPA HC-1
Compact amps... huge sound

INVESTIGATION
The reel deal
Our guide to new and cherished open-reel tapes

• **OPINION** 12 pages of letters & commentary • **VINYL RE-RELEASE** Paul Butterfield's debut on 180g
• **FROM THE VAULT** The iconic Carver Cube amplifier • **VINTAGE REVIEW** Leak Stereo 30 Plus amp
• **HI-FI@HOME** We revisit HFN readers' systems • **READERS' CLASSIFIEDS** Hi-Fi bargains galore

UK £5.25 US \$13.00 Aus \$13.50



MODEL 12A

A Lifetime of Music Discovery Begins Here...



Available Finishes:



Based on the award winning Synergy, the Model 12A has been designed for those who prefer to select their own special combination of phono stage and cartridge for a unique listening experience. It comes equipped with the legendary SME 309 tonearm and high-end Crystal Cable wiring. Precision engineered and handcrafted perfection with the close attention to detail that SME is famous for.

Transparency, detail and sound purity that will simply take your breath away.



"This is a no-nonsense, compact, user-friendly package that will cut to the heart of the musical mix to reward with a sound that's taut, precise and highly detailed."

Hi-Fi News, September 2019

For dealers in the UK please call Padood on **01223 653199** or visit www.padood.com

For international sales please call SME on **+44 1903 814321** or visit www.sme.co.uk

SME

CONTENTS

SEPTEMBER 20

VINYL & RECORD REVIEWS

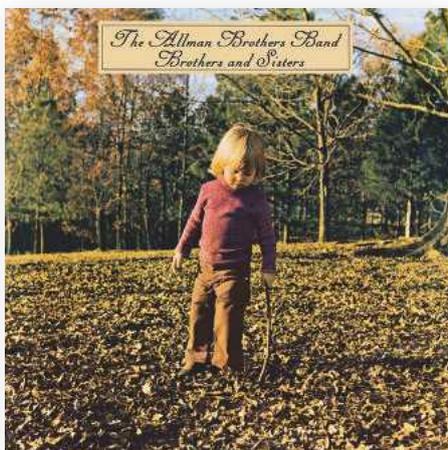
- 72 Classical Companion**
This month Christopher Breunig turns his attention to the work of conductor Eugene Ormandy
- 74 Vinyl Release**
Steve Sutherland brings you a bittersweet tale of the blues as he hears Paul Butterfield's debut LP, recently reissued on 180g vinyl
- 76 Vinyl Icon**
The Allman Brothers soared to success with *Brothers And Sisters*. Mike Barnes looks at the recording of this Southern blues/rock classic
- 82 Meet The Producers**
From Bowie to collaborations with Elton John... it was orchestral pop that put Gus Dudgeon on music's map, as Steve Sutherland explains
- 86 Music Reviews**
Our selection of audiophile LP and hi-res downloads reviewed by our specialists alongside the latest rock, jazz and classical albums

DEFINITIVE PRODUCT REVIEWS

- 34 Franco Serblin Ktêma**
Flagship floorstander and swansong of Sonus faber's one-time leading light, the Ktêma belies its age with a sound that's truly timeless



ABOVE: 'Crafted, honed and perfected'... B&W's 702 Signature loudspeaker, p48



- 40 Simaudio MOON 780D v2**
Why this network-attached DAC packed with proprietary tech might just be one of the best around
- 44 AVID Volvere SP**
Latest iteration of belt-drive turntable with sprung-suspension gains a PSU boasting fine speed control. We listen
- 48 B&W 702 Signature**
Superior cabinet, reworked crossover design... is it signed, sealed, delivered for company's new 'Signature' sound?
- 52 Aqua LinQ**
It's digital-in and digital-out for this bespoke network bridge that marries NAS drives and streamers to DACs
- 56 Ayre AX-5 Twenty**
We catch up with a fully-balanced, 'zero-feedback' integrated amp to see if its distinctive tech can still cut it
- 60 Emotiva XPA HC-1**
Monoblock with company's XPA Gen3 amp module takes the fight to the sub £1k market sector. A knockout?
- 64 Lehmannaudio Linear USB II**
It's compact and keenly priced, yet this no-nonsense DAC/headphone amp proves a world-class performer
- 69 Chord Epic USB**
Bridging the gap between Chord's Shawline and Signature USB cables does the Epic USB hit the sweet spot?

VINTAGE

- 114 Vintage Review**
How do yesterday's classics shape up today? We test Leak's Stereo 30 Plus amplifier, built using silicon transistors
- 120 From The Vault**
We rewind to *HFN* Jan '82 where we find Martin Colloms unravelling the mysteries behind a tiny yet powerful amp from Carver known as the 'Cube'

NEWS AND OPINION

- 15 Welcome**
A message from the editor
- 16 News**
Magico's M Series gains new flagship speaker, anniversary turntable from Kalista, Audiolab adds streaming to integrated, Elipson unveils Chroma decks, enhanced amp from Hegel
- 18 Hi-Fi @ Home revisited**
We talk to a reader whose system first appeared in our pages back in 2009 to find out what changes he's made to it over the past ten years
- 26 Investigation**
Ken Kessler looks at what's on offer when it comes to both new and used pre-recorded open-reel tapes and offers advice on what to buy
- 96 Opinion**
Comment and analysis on today's hot audio topics from Barry Fox, Barry Willis, Christopher Breunig, Mark Craven and Steve Harris
- 106 Sound Off**
Finding an amp to drive a Scintilla speaker, the lowdown on Mullard valves, dispatches from the DIY scene, plus your classical disc picks
- 130 Off The Leash**
Perhaps unsurprisingly there has been an increase in the sale of new headphones. So why has Ken Kessler reached for a design decades old?



ABOVE: We catch up with readers whose systems once appeared in our Hi-Fi @ Home feature. Where are they now? See p18

SUBSCRIBE!
hi-finews
Save 75% on digital with a print subscription See p12

Hi-Res.grade Network Audio Components

fidata

Network Audio Server

The ultimate in audio quality, from a brand that lives up to the meaning of its name : “reliability”

Today’s high-resolution audio files deliver quality that approaches that of master recordings by incorporating an enormous amount of data. With the debut of network audio, consumers quickly have become familiar with the immersive experience made possible by that level of quality. Introducing fidata, a family of network audio components that lives up to the meaning of its name: “reliability.”

Welcome to the world of ultimate sound.



HFAS1-XS20U



HFAS1-S10U

MADE IN JAPAN

www.selectaudio.co.uk Tel +44 (0)1900 601954

selectaudio[®]
exquisite audio products



Ultra-pure monocrystal silver
conductor in its largest diameter.
Revolutionary construction and connectors
for an ultimate performance.

**Absolute clarity,
Extraordinary musicality.**



Balanced, solid and powerful.

www.siltechcables.com



ELEGANT, FLEXIBLE AND BEAUTIFUL.



THE ULTIMATE DREAM SERIES

Six all-monocrystal silver conductors and a
center silver-gold core, terminated with the
highest grade of Oyaide connectors. A perfect
combination of engineering and design.

Exceptional neutrality,
Unforgettable transparency.

What many dream, only you experience.

www.crystalcable.com



Distributed in the UK and Ireland by Padood
www.padood.com | info@padood.com
+44 (0)1223 653199 | 20 Station Road, Cambridge CB1 2JD

THE VERY BEST CONSUMER TECHNOLOGY... COMING SOON



EISA AWARDS 2020-21

Celebrating the year's best products

The Expert Imaging and Sound Association is the growing community of 56 technology magazines and websites from 29 countries, specialising in hi-fi, home theatre, in-car electronics, mobile electronics, photo and video. Every year the EISA jury of experts rewards the best products in each class with a coveted EISA Award.

The 2020-21 EISA Awards will be announced on August 15th 2020



Bowers & Wilkins



The 700 Series Signature. Crafted. Honed. Perfected.

The new 702 Signature combines state-of-the-art engineering with the highest possible standards of design, finish and quality. Every speaker is crafted with care, honed by experience and perfected with passion. Listen, and you'll see.

bowerswilkins.com



Line Magnetic

**NOW AVAILABLE
IN THE UK**

From valve amplifiers to high-efficiency speakers, the full range of award-winning Line Magnetic Audio products are now available exclusively from Hi-Fi Specialists VAL HiFi.



WEBSITE
www.valhifi.co.uk

TELEPHONE
0333 577 2005
EMAIL
info@valhifi.co.uk

EXCLUSIVE UK DISTRIBUTORS FOR



PROUD TO REPRESENT



NAD

MASTERS



INTRODUCING THE NAD MASTERS M33

It's simply a matter of time.

The NAD Masters M33 is a combination of visionary ideas and decades of audio research, featuring the innovative Eigentakt™ amplification technology, which virtually eliminates audio distortion by correcting imprecise oscillation timings to deliver over 200 watts of rich, studio-quality sound. Add BluOS™ for pioneering hi-res multi-room functionality, a powerful NXP 1 GHz ARM Processor for bit-perfect audio processing, and a 32-bit ESS Sabre Hyperstream™ DAC for the highest accuracy reproduction possible, and it is clear that the NAD M33 is an uncompromising and defyingly simple “just add speakers” approach to high fidelity audio.

Discover more at: nadelectronics.com/m33





FIND YOUR ZEN

The ZEN Series from iFi makes high-performance sound accessible to everyone



ZEN Blue is a uniquely specified Bluetooth receiver that enables wireless streaming from a smartphone, tablet or computer to any existing audio system. It supports all the current 24-bit Bluetooth codecs, from aptX HD and aptX Adaptive to LDAC and HWA – whatever your source device, the ZEN Blue delivers the best possible sound quality over Bluetooth.

ZEN DAC is a transportable hi-res USB DAC/headphone amp that can be powered by mains or via the connected source device. Bit-perfect hi-res audio support includes PCM to 384kHz, native DSD and MQA, with fully balanced circuit design and adjustable gain to drive any headphones – nothing anywhere near the price comes close.



ZEN Blue



ZEN DAC

The sound and vision of Scandinavia



Is this the ultimate Primare modular series system?





Or maybe this?



The answer? The one that suits your needs.

We offer a carefully considered array of award-winning models in our 25 and 35 series range of modular components that allow for the creation of your ultimate system.

Choose from two integrated amps, a preamp, and CD player – all of which can include our Prisma network player technology – as well as a phono stage and power amplifier.

It could be a completely new Primare system of multiple components or a single, perfectly chosen component configured to improve an existing system.

Or perhaps a CD35 Prisma CD and network player, wired to a pair of powered speakers for a compact system offering complete disc, stored, and streamed digital media playback.

Or connect all your analog and digital sources to our WiSA-enabled PRE35 Prisma balanced preamplifier and network player, for high-resolution wireless connection to a pair of the growing number of WiSA-enabled powered loudspeakers.

Whatever your system needs, our modular series provides.

► For more information go to primare.net



* Roon Ready with future update

A-S3200

INTEGRATED AMPLIFIER



“A textbook example of a large, full-featured amplifier from the land of the rising sun”

Contact sales-support-uk@music.yamaha.com

RIGHT: High power monoblocks that don't weigh heavy on your bank balance – it's Class H, Emotiva style. See p60



ABOVE: This flagship reference DAC from Canada is also a complete network music solution. We land on the MOON 780D v2, p40



MUSIC: The Allman Brothers' bittersweet *Brothers And Sisters* is our Vinyl Icon (p76) while Steve Sutherland uncovers the backstory to Paul Butterfield's debut album, now re-released on 180g LP (p74)

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

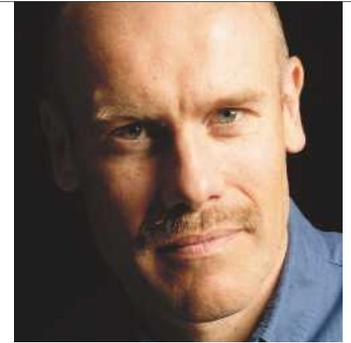


Enthusiasts of every stripe – be it automotive, photographic or audiophile – are typically super-keen to hear about the next 'best thing'. That's why our readers turn to *Hi-Fi News* not just for our uniquely in-depth reporting but also to discover our independent thinking on the latest amplifiers, loudspeakers, network-attached DACs, etc, offered up by the world's premier high-end brands.

Nevertheless there are still many state-of-the-art hi-fi products on the market today that were launched a decade ago. Age has not dimmed the brightness of their performance or their competitiveness against separates announced only last week. What has eluded some of these unsung heroes, however, is the searchlight of a fully-fledged review in your favourite hi-fi magazine.

I was reminded of this last month when reporting on Franco Serblin's upcoming *Accordo Essence* floorstanders. It seems this iconic Italian brand's flagship speaker – the *Ktêma* – has been at the head of the family for ten years and remains current for the foreseeable future. And yet, in all that time, they've never received a 'serious' *HFN*-style review.

We put that right in this issue as the *Ktêmas* star on our front cover and are joined within by



other stalwart products that are absolutely worthy of our focus and recommendation. So Ayre's 'Twenty' iteration of its AX-5 integrated amplifier sings as sweetly today as it did upon its launch to celebrate the company's platinum anniversary. Both products should remain on every audiophile's 'high-end

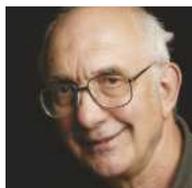
'Age has not dimmed the brightness of their performance'

wishlist' alongside bang-up-to-the-minute launches including Bowers & Wilkins' 702 Signature floorstanders and the Aqua LinQ network bridge that are exclusively premiered in this month's issue of *Hi-Fi News*.

Peering further into the mists of time we've a thorough re-test of the very first silicon transistor amplifier from Leak, a cherished brand from the heyday of UK hi-fi. This 51-year-old amp puts in a sterling performance [p114] but won't give Ayre sleepless nights!

PAUL MILLER GROUP EDITOR

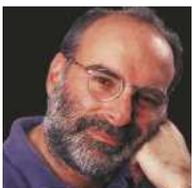
HI-FI NEWS' EXPERT LINE UP: THE FINEST MINDS IN AUDIO JOURNALISM BRING THEIR EXPERIENCE TO BEAR ON ALL AREAS OF HI-FI & MUSIC



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



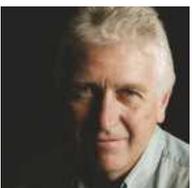
DAVID PRICE
An avid collector of audio treasures, and life-long hi-fi addict, DP lends his ears and experience from analogue to digital



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



MARK CRAVEN
Editor of our sister title *Home Cinema Choice*, Mark's passion for music extends from stereo to multichannel and Dolby Atmos



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



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



STEVE SUTHERLAND
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



Magico magic

NEW TOP-OF-THE-RANGE M9 FLOORSTANDER IS 'A REVELATION'

An imposing 454kg, 2m-tall floorstander, the M9 is the new flagship in Magico's M Series, and the latest evolution of technologies that designer/founder Alon Wolf first introduced in the 2014 M Project. Chief among these is the 'carbon fibre' cabinet, which has been further refined, now using inner and outer sleeves sandwiching an aluminium honeycomb core, resulting in improved structural rigidity and reduced weight. Familiar brand traits, including front-to-back tensioning rods and aircraft-grade aluminium baffle boards, also feature in an enclosure that Magico claims 'completely vanishes' to the listener.

For its two 380mm woofers, two 280mm bass/mid units, and single 125mm midrange driver, the M9 uses the latest generation of Magico's Nano-Tec cone technology – now also with an aluminium honeycomb core – while the 28mm

tweeter is made from diamond-coated beryllium. The crossover at 120Hz between the woofers and bass/mid drivers is achieved actively, the M9 shipping with a fully-balanced (and fully analogue) outboard solution dubbed the 'MXO'. The remaining three-way passive crossover employs Magico's 'Elliptical Symmetry' design, the four-way/six-driver ensemble achieving a claimed 94dB sensitivity for a nominal 4ohm impedance.

Arriving via UK distributor Absolute Sounds with a suitably bold price tag of around £840,000 per pair in Q4, bold claims are made by Magico for a loudspeaker that's 'a revelation... presenting intense crescendos with unconstrained power... and delicate musical passages with transparency and stunning microdynamic detail'.

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

Hegel's starter

SLIMLINE H95 AMP WITH ENHANCED DAC



Rated at 60W/8ohm, Hegel's network-ready H95 amplifier starts shipping in September and replaces its H90, whose streaming capabilities were more limited. While only minor improvements have been made to the amp's analogue stage – including to the power supply and 6.35mm headphone output – the H95 acquires Spotify Connect integration, future Apple AirPlay 2 support and the advanced UPnP connection of Hegel's H190 and H210 models, plus their improved DAC. 'It is a completely different animal when it comes to digital', says Hegel's Anders Ertzeid. Digital connections include optical and coaxial S/PDIF, USB-B and LAN. Suggested pricing is €1700.

Hegel Music System AS, Oslo, Norway,
+47 22 605660; www.hegel.com



HI-FI NEWS' NUGGETS

CHORD CLEARWAYX

The Chord Company has added Cross-Linked Polyethylene (XLPE) insulation – first featured on its SignatureXL in 2018 – to its long-established midrange Clearway speaker cable. The new ClearwayX, available now priced £15 per metre (unterminated), retains the 14-gauge twisted-pair OFC conductors and PVC jacket of its predecessor and is described as 'both an affordable and highly effective upgrade'.

www.chord.co.uk

ENTER THE DRAGON

Chinese brand QDC's Blue Dragon earphone (priced £12,199) is now available to order in the UK through distributor Audio Concierge. Each ergonomically shaped titanium enclosure is embellished with sapphires for a 'dragon scale' effect and houses ten balanced armature drivers, with adjustable sound tuning. Cabling employs a 2.5mm balanced connection with gold-plated sterling-silver conductors.

www.audioconcierge.co.uk

20-20 vision

FRENCH 'DIGITAL' BRAND GOES ANALOGUE

Seen in early form at Munich's High End show in 2019, Kalista's first turntable – since the Gaia 15 years ago – signals a move by brand owner and designer Jean Marie Clauzel to 'translate' its digital CD turntable products into something more 'analogue'. Now complete, the aesthetic of the DreamPlay Twenty-Twenty turntable is instantly identifiable as 'Kalista', from the trio of towers, with fluid-suspension feet, and touch-sensitive screen. Aluminium, acrylic, brass (the magnetically-supported platter weighs 16kg) and stainless steel feature in a design that involves 'European partners'. The outboard motor is electronically controlled and the tonearm fully adjustable. Price is €44,700.

Métronome Technologie, France,
0208 971 3909; www.kalista.audio,
www.absolutesounds.com



Fink gets funky

FINKTEAM'S BORG FLAGSHIP HAS A 'LITTLE BROTHER' – KIM

FinkTeam says it consulted distributors and dealers about a follow-up to its Borg floorstander, 'but there was no clear trend' so acted on its own instincts. The result, named KIM, is a two-way speaker (£8900 per pair) with a cabinet shape and size designed to better fit into typical living spaces. It's supplied with a tilted stand to optimise time alignment between the drivers and 'improve soundstaging'. The drivers are a 200mm paper coned woofer and 110mm AMT tweeter,



married via a 4th-order crossover at 2.2kHz. Adjustments for woofer damping and tweeter level are found on the rear, adjacent to FinkTeam's 'ClearPort' aperture. The KIM cabinet, available in a choice of finishes including Olive [pictured], uses a braced and damped two-layer construction with resonators placed at intervals to limit standing waves, but 'without killing the fun out of the box'.
FinkTeam, Germany, +49 201 236412; www.finkteam.com



Elipson LP spinners

ELIPSON CHROMA REPLACES ALPHA AND OMEGA TURNTABLES

French manufacturer Elipson has launched its Chroma turntable series, which it says upgrades the 'aesthetic appeal, ease of use and audio quality' of its previous Alpha and Omega models. There are eight decks in total across three ranges – 200, 400 and Carbon – all featuring a new two-part platter, a motor with improved electronic speed control, and tonearm(s) with enhanced levels of adjustment.

The entry-level Chroma 200 is sold in three versions, all fitted with an Ortofon OM10 cartridge. These are the 'standard', 'RIAA preamp' and 'RIAA BT' – the latter

version featuring Bluetooth and a digital USB output. The same variants are available on the Chroma 400, which upgrades the chassis finish from matt black PVC to lacquered PMMA (in red, black or white), and replaces the standard aluminium tonearms with a carbon fibre design.

Elipson's Carbon and Carbon RIAA BT flagship models feature a 'carbon' chassis and Ortofon 2M Red cartridge. Pricing for the decks, which are all designed and built in France, ranges from £279 to £699.

Elipson, France, 01628 857958; www.elipson.com; www.avoke.co.uk

Better connected

AUDIOLAB 6000A PLAY INTEGRATED STREAMING AMPLIFIER



Chinese brand IAG is enhancing its amp/DAC products with the DTS Play-Fi streaming platform. Following the success of the Quad Vena II Play [HFN May '20] next in line is Audiolab's 6000A amplifier, now boosted by the streaming architecture of the 6000N Play. The new £799 6000A Play adds Wi-Fi and Ethernet connections for

a modern 'just add speakers' proposition while the DTS Play-Fi app grants access to Tidal, Deezer and Qobuz, plus file playback (up to 192kHz/24-bit) from NAS devices and media servers. Audiolab's original 6000A remains at £599.
International Audio Group, China, 01480 447700; www.audiolab.co.uk

HI-FI NEWS? JUST ASK...

If you can't always find a copy of this magazine, help is at hand! Complete this form, hand it in at your local store and they'll arrange for a copy of each issue to be reserved for you. Some stores may even be able to arrange for it to be delivered to your home.

Subject to availability

Please reserve/deliver my copy of **Hi-Fi News**

on a regular basis, starting with issue.....

Title.....First name.....

Surname.....

Address.....

.....

.....

Postcode.....

Telephone number.....



IF YOU DON'T WANT TO MISS AN ISSUE...

Just ask!

HI-FI @ HOME – WHERE ARE THEY NOW?



ABOVE: Behind the Alto Utopia Be speakers are the Audionet Amp II Max monoblocks and an Isotek Titan power conditioner. A Master Reference rack by Finite Elemente houses the dCS stack and Audionet preamp

BELOW: *HFN* reader Stefan, pictured in 2009 as he listens with his Stax SR-007 headphones



Hi-Fi @ Home revisited

Steve Harris talks to a reader whose system we featured back in 2009. Before we find out what changes he's made, here's how things were...

When you've been spoilt by living with a fantastic two-channel system, you naturally want your home cinema to sound just as amazing. But there was a longer journey before that, of course, because Stefan's youthful enthusiasm started him on the hi-fi road more than 30 years ago.

'I was around 16 years old when I started to build amplifiers and loudspeakers from kits. They were quite good for the money, but when

finances permitted I bought some factory-made things. I became a JBL fan. I had the JBL Lancer 101, the ones with the gold top and the wooden grille, together with a Harman Kardon Citation 11 preamp and Citation 16 power amp.'

LET THERE BE ROCK...

'And then kids came along! I didn't have the opportunity to listen to music so much, so the system just stood and looked unhappy. After a while, I got some Rogers LS3/5A

speakers, together with a subwoofer, and Quad amplification, the 405. The subwoofer was a Swedish one called Ace-Bass [by Audio Pro].

'So that was a nice combination. Voices were very nice, but it wasn't for the real hard rocker!'

After the JBLs...!

'Yes! I had them actually in parallel. Listening to big rock band music was very good on the JBL, it had a lot of punch. But voices were not that good. It depended what state of mood you were in.



'After that, I wanted a little bit more power and so I bought a Bladelius integrated amplifier, and then unfortunately everything went up in smoke! After that, I had a locally-made loudspeaker called Wejkt. It was a floorstander, but with a boomy bass, and I thought, no, that couldn't stay.

'I actually started the cinema system then, by trying the cheapest JMLab [now Focal] speakers down in my basement, and finding it was the kind of sound I liked. So then I changed the Wejkt for the JMLab Electra. This was a floorstander, but of course it was a little bit smaller than the things I have today.

'Then I bought my first Audionet product, which was an integrated amplifier, then I went to separate pre- and power amps. After a while I upgraded the loudspeakers to the Focal Mezzo Utopia and finally to the Alto Utopia, which is the one I have now in the living room.'

UNEXPECTED MATCH

The Mezzo Utopias are driven by an Audionet Pre I G3 preamplifier and the 400W Audionet II Max monoblock power amps.

'I heard Audionet amplifiers first at a shop, and I didn't like the design. Later on I listened more, and I thought they were very neutral. But the combination of the old JMLab speakers and the Audionet could be a little too much on the treble side.

'The amplifiers had some extraordinary measurements. The preamplifier that I have now in my two-channel system has a bandwidth

RIGHT: Audionet Pre I G3 preamp and EPS external power supply while on the floor to the left of these can be seen one of the two Audionet Amp II Max monoblocks

BELOW RIGHT: The basement cinema room houses two rows of luxury seats. Columns on side and rear walls conceal surround speakers, three pairs in all



BELOW: Stefan's Stabi S turntable from Kuzma is equipped with the company's Stogi tonearm and a Benz Micro Ruby 2 Wood cartridge

from DC to 3MHz, and also has extremely low distortion. The power amplifier just goes up to 300kHz. And of course they work in Class A when you're not using too much power, if you play them at moderate levels. They get hot, but they play really nicely. And as you can hear, there is quite good headroom.'



Stefan's early set-ups had only played vinyl, of course.

'The first turntable was the Connoisseur kit, and then I had a Pioneer PL12D, and then a Dual. Later, when I had the Rogers speakers, I had a Bang & Olufsen turntable with a tangential-tracking arm.'

When CD arrived, Stefan was an early adopter, buying one of the first Sony players on the market.

'Looking back, it sounded terrible! But I still had my B&O record player. But then I went to a Wadia CD player, to the entry level model first, later upgrading it to the Wadia 861, which I enjoyed immensely and had for many years. Compared with other CD players at that time, it was the most analogue-like sound.'

NEW DECK AND CD

'The Wadia 861 worked quite well as a preamp too, though if you used the digital volume control and listened to music at moderate levels, the sound compressed. You had to come up to quite a high level to get the whole package.

'At that time I had what was the predecessor to the Audionet preamp I have today, the Pre I G2, and I only used that with vinyl. So I had to do some wiring, each time I wanted to play vinyl. That was a little bit tricky.'

The unsurprising result of this was that Stefan played less and less vinyl, and CD took over completely for a

Born in 1986 Raised in 2020

Leave Dynaudio engineers alone with a speaker and they'll make it better. They just can't help themselves. And they love nothing more than improving a legend.

With new tweeters, new woofers, new crossovers – and new thrills – Contour i takes all you've loved about the family since 1986, adds 2020 knowhow, and brings your music back to life.

www.dynaudio.com



DYNAUDIO

while. But eventually Stefan bought a new turntable, a Kuzma Stabi S, with an upgraded Stogi arm and Benz Micro Ruby 2 Wood pick-up.

On the CD front, Stefan moved from the Wadia 861 to a complete dCS combination: Verdi transport, Elgar DAC, Purcell upsampler and Verona clock. 'I tried the same thing, to go without a preamp. There was no problem with compressing, but it didn't play right, to my ears. With a good preamp, it sounded better.'

BIGGER PICTURE

But as he mentioned, Stefan had long since started building an AV system. 'I moved to the house where I'm living now, and I was divorced, so there was no-one saying "No, no!". Except my wallet. A guy I knew, who was working in a shop, was visiting me, and he said, "Why don't you do a simple home cinema? You have lots of space here in your basement". So I went for a Sony LCD

projector and then I had two InFocus projectors. I still have the second one, as a backup. But then I went to the DreamVision DreamBee 2, which I've had now for about half a year.

'There's a difference in how the two designs produce the picture, of course, because the InFocus was DLP but this one is D-ILA as it's based upon technology from JVC.'

'Back then, the basement room was a bit smaller than it is now, actually about 2.5m shorter, because there was a storage room. But I took down the wall to expand the cinema room.'

'I'd had a Canadian amplifier, Anthem – the company is quite famous for its tube amplification. That was a fairly good five-channel amp for a reasonable amount of money. Then I went for Audionet, as I told you. And I was really waiting for the Audionet five- or seven-channel amplifier to come out, but it took such a long time. I think they had to put fans in it. I didn't go for that one. Instead, at the start I had



"The speaker was a tricky one, due to the tweeter"

two Amp IVs (four channels each) but I didn't think the power was enough for my needs. It was 110W/channel into 8ohm.'

REAL POWER

'So then I went and bought the Amp II monoblocks. I've had those for five years now. I like them very much, because they are quick-sounding and they are powerful enough. The Focal Diva Utopia Be speakers I have now are a little bit of a tricky load; you've got to have 200W of real power. Then I had the Audionet DVD player, the model before the VIP G2 that I have now, which could play DVD-Audio and DVD, and of course, CD. Unlike the G2, it couldn't play SACD.'

So, what was it exactly that made Stefan so enamoured of the various Focal loudspeakers?

'It was two special things. It was the quickness in the bass – they are very quick – and I liked the upper air in the treble, they are very open.'



ABOVE: Like sentries, the twin Focal Diva Utopia Be speakers guard electronics from Audionet, Panasonic, Samsung, Bel Canto, and Sunfire, which are housed either side of a Focal Utopia Centre Be centre channel speaker. Racks are custom-built by Music Bench

ABOVE LEFT: The Verona external clock, Purcell upsampler and Delius DAC which, along with the Verdi CD transport racked above, make up the four-box dCS CD player

'I had something called the Mini Utopia, I had three of them in my cinema room. They were a bit like the centre speaker I have today. They were extremely quick. Combined with Audionet, it was a little bit like a sports car.'

'The Mezzo Utopia was a tricky one, too, because the titanium tweeter was a little bit on the harsh side. You'd got to be careful both with the choice of amplifiers and the wiring. When I heard the new series, they were a bit better in the bass, because that was one of the shortcomings of the Mezzo, that it didn't go so deep in the bass.'

MEANWHILE, UPSTAIRS...

While the big cinema system in the basement uses a Panasonic DMP-BD55 Blu-ray player, Stefan's Sony PS3 now provides Blu-ray for his second AV system in an upstairs sitting-room. Here, yet again, the loudspeakers are from Focal, but the front left, right and centre channels are served by three Focal Solo 6 Be professional active monitors.

Back down in the basement, we enjoyed some really tremendous music presentations, thanks to a number of recordings on Blu-ray.

'For the music system, I might try out the new loudspeaker that Focal has released recently, but they would have to do very much better work than the Alto I have today, to make me change.'

'But then,' says Stefan, looking around the racks of kit that flank us, 'I am a little bit spoilt!' ☺



System Audio

Scandinavian design flair and high performance for system builders from entry-level up...



01423 358 846 karma-av.co.uk

HI-FI @ HOME – CATCHING UP TEN YEARS LATER...

In the last few years, Stefan has upgraded everything in his main system except the turntable. Even that, he says 'is on the list for changing'. Back in 2009, he was quite happy with his speakers, but was ready to try something new from Focal, if it was really going to be much better.

Well, he did and it was. He upgraded to the Maestro Utopia [HFN Oct '09], while the Alto Utopia pair went downstairs to replace the Diva Utopia Be front speakers in the cinema room.

Unsurprisingly perhaps, the dCS Verdi/Elgar/Purcell/Verona combination has now given way to the four-box Scarlatti system [HFN Feb '09]. But there is more.

'I changed all of the amplifying gear and it's all triodes now', says Stefan. He's gone for a pair of the big Ayon Vulcan monoblocks, which use the Austrian company's own proprietary AA62B tubes, 'a bit more powerful than 300Bs'.

MORE MUSICAL

There's certainly enough power for the sensitive Focal Maestro Utopias: 'They're a little bit tricky in the bass, but no problem! You've got some 75W on tap now. The preamp is the Ayon Polaris, all tubes but with a separate power regenerator. It's a little bit special.'

As Focal speakers generally tend to have a forthright top end, I guessed that the sound Stefan is getting now they're driven by tubes must be quite different from what he had before.

'Oh yes. To my ears, they are now much more musical. They sing very, very nicely together.'

RIGHT: Staying with Focal and dCS, Stefan moved on to Maestro Utopia loudspeakers and a Scarlatti stack, but he's also now switched to all-triode tube amps, with Ayon Polaris two-box pre and Vulcan monoblocks [see inset]. His Kuzma Stogi turntable now has a double platter and a very exotic cartridge from Jan Allearts

BELOW: Stefan's 'small' system upstairs room has Ayon Thor monoblocks, plus a Nagra IVS open-reel and Nakamichi CR7E cassette deck. As in the main system, Entreq wooden ground boxes are used for key components

BELOW RIGHT: Stefan's fine set of open-reel tape recorders (l-r) Studer A807, Telefunken M28 and a Technics RS-1500



A807 broadcast machine, a lovely Technics RS-1500 and a Telefunken M28 which, Stefan points out, is the same model used by the owner of audiophile record label Opus 3.

'My son is very good when performing live

so my plan, eventually, is to do some live recordings', says Stefan.

Meanwhile, Stefan is listening to more vinyl than before. 'When I find a real good old pressing, it can be fabulous. And with the double triode amplifiers, it's a little more "live".'

'I still have my Kuzma Stogi, but now it has a double platter, so it's a much heavier turntable, with a separate electronic power supply. And I have something very special in the pick-up department. It's a Jan Allaerts MC1 Boron Mk II. It's quite unusual and not so cheap!

'But as I do with watches and cars, I always buy a little bit used. A little bit, but not too much...' ☺

Like the Alto Utopia speakers, those Audionet solid-state amps have found a new home in the basement. But in the little first-floor sitting room Stefan's 'small system', on top of which sits a Nagra IV S open-reel recorder and a Nakamichi CR-7E cassette, is also now tubed, with Ayon Thor monoblocks.

THE REEL DEAL

Stefan's music tastes centre on blues and rock, but things have changed a bit since he remarried a few years ago. He's now stepfather to Scandinavia's best-known country singer, Simon Andersson, and they've twice visited Music City together.

'So I put in a little of blues and rock into his music life and he put in quite a lot of country into mine – the modern kind of country, the sort that's related to pop or rock.'

Simon might also have influenced another audio development, as Stefan now has not just one, but three professional-standard open-reel recorders. There's a Studer



THE ULTIMATE



 **absolute sounds ltd.**

International Distributors & Consultants of Specialised Hi-End Home Audio & Video Systems
58 Durham Road, London, SW20 0TW T: +44 (0)20 89 71 39 09 F: +44 (0)20 88 79 79 62
absolutesounds.com info@absolutesounds.com



MUSIC PLAYBACK

For Your Nearest Dealer Please Visit The [Absolute Sounds Website](#)

RIGHT: Just a representative selection of today's new pre-recorded open-reel tapes, (l-r) Hemiola's *Portrait Of Jimi*, Foné's *Jazz* compilation from its Original Analog Master Tape series, plus *A Tribute To Ella Fitzgerald* and *Temple Church Concert* from *Chasing The Dragon*



Tape: the reel deals

BELOW: Dig deep for these: original Japanese tapes go for hundreds – and they're worth it

Ken Kessler brings you his definitive guide to buying reel-to-reel tapes, new and secondhand

For any format, whether new or revived, it is the availability of pre-recorded music that determines its health. That's why the LP came back like gangbusters, and the otherwise-

hugely-impressive Elcaset withered away. When it comes to the growing interest in reel-to-reel tapes, three routes exist for feeding the machines, and each has its adherents, while many users will adopt all three when building up a library.

For me, the sole reason for getting back into open-reel is the acquisition of pre-recorded tapes from the 1950s-1970s. The main providers were American, Japanese and British labels, but the last can be ruled out because, aside from a few stereo tapes, most were mono, now mainly of curiosity value. There are

exceptions, however. For instance, fans pay up to £100 for The Beatles' UK tapes, as collectible artefacts.

THE IDEAL COPY

According to Tim De Paravicini, the Japanese employed real-time copying, and the results are as

good as vintage pre-recorded tapes can be. These came from major labels, mainly jazz, classical and easy listening titles. Prices are commensurate with quality and rarity,

so £100-£200 for a Miles Davis or Ramsey Lewis title is not unusual.

It was the USA, however, that produced the most, running to many thousands of titles. Although copied at speed, Tim says Ampex (which did the bulk of the duplicating)

'Bargains are out there, if your tastes are wide-ranging'



maintained machines to high standards, and the proof is in the listening. Crucially, the tape stock must have been superlative, as the high survival rate of tapes stretches one's credulity and overturns pre-conceptions. But here's why...

Since open-reel decks were owned by 'grown-ups' partial to classical, jazz, musicals, standards (eg, Sinatra) and easy listening, they took better care of their tapes than did an audience more accustomed to stacking 45s on record changers. Rock is therefore the minority genre, but major performers, including The Beatles, Bob Dylan, Led Zeppelin, Aretha Franklin, many Motown artists and others were represented.

ALWAYS A GAMBLE

Even with used purchases, open-reel is 'a rich man's game' – just like the rest of high-end audio. While some of you have complained to us about the £40 cost of an audiophile LP, consider why open-reel was an elitist pursuit when it was current: one of my tapes has the retail price printed on it, *not a stamp from a retailer*. It sold for US \$12.95 in 1960 when LPs cost a quarter of that amount. In today's money, that's US \$112, or £86.68 – and wages have gone up.

Buying old tapes, however, is always a gamble, because – unlike LPs – visual examination will not disclose the general condition, nor if the tapes were stored poorly, for example in damp conditions or near to magnetic fields. As stated above, though, because said tapes were likely to be owned by enthusiasts who took care of them, experience shows that survival is higher than one might expect.

During the past two years, I have acquired over 1100 vintage pre-recorded open-reel tapes, online and scouring secondhand record shops. All are US-made bar one British and one Japanese, and I have now played 600 of them. Only 12 – yes, 12 – were so damaged they had to be discarded. Typical woes are bad spooling, poor splices, visibly worn or tangled tape, and the loss of the first few inches of tape. Still, if you bought 1100 used LPs, how many of them would be less-than-perfect?

Prices of used tapes are all over the place, made more chaotic by increasing demand. Just follow the exponential growth in the number ↻

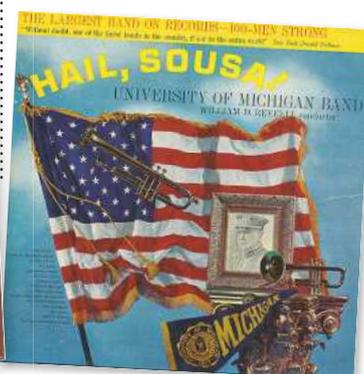
TOP RIGHT: Two unanticipated spectaculars and ones to seek out secondhand – big band standards from Jackie Gleason and *Hail, Sousa!*, an overwhelming marching band recording

FIVE VINTAGE TAPES TO SAVOUR

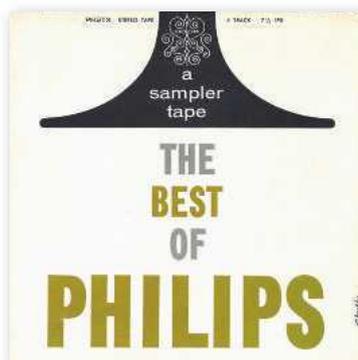
There are far too many great open-reel tapes from 1955-1980 to list, but these are ones I swear by, and are easy to find on eBay and Discogs (hence the dollar prices). Add to them any Broadway shows or soundtracks, CBS/Columbia classical tapes, Herb Alpert on A&M, anything on Liberty – the choice is vast!



Jackie Gleason: *Music, Martinis, And Memories* [Capitol ZW-509] Any of the dozens of Gleason tapes will suffice, and they're plentiful and cheap. Big band/easy-listening arrangements of pop standards, with to-die-for sound and musicianship of the finest sort. \$5-\$15



University Of Michigan Band: *Hail, Sousa!* [Vanguard VTC1650] Simply the most dynamic recording I have ever heard – and I'm not the greatest devotee of martial music (though I love Sousa). I cannot even begin to describe how this massacres every other so-called 'sonic spectacular' – a woofer killer! The price? People will probably pay you take it off their hands. To me? Priceless.



Various Artists: *The Best Of Philips* [Philips PHSTX] I could have named any label sampler – be it from Command, Bel Canto, whatever – as these showcase collections are mind-blowing. I chose this Philips release because the material is familiar (Woody Herman, Teresa Brewer, the Springfields) but sounding better than you have ever heard them. \$5-\$10



Original Broadway Cast: *The Music Man* [Capitol ZF-41] This is the 1/2-track version, but the 1/4-track is good, too. I could have named a few dozen in this genre – *West Side Story*, *The Sound Of Music*, *The King And I*, etc – but this one is so vivid and open that jaws will drop. \$5-\$25

RIGHT: Label samplers are terrific buys because the selections and sound quality were geared at converting buyers to tape – and this *Best Of Philips* is stunning

RIGHT: Among the 'unicorn' commercial tapes are early 7 1/2ips, 1/2-track versions, later replaced with 1/4-track editions (some even at 3 3/4ips) which used less tape



H120 Integrated Amplifier



baby
Giant



Standing on the shoulders of GIANTS, the H120 carries forward the proud history of HEGEL amplifiers. The multi award winning designs that over the years have

dazzled listeners with their combination of raw dynamics and delicate naturalness. The H120 carries that legacy with it, but in a smaller and more affordable package.



of bidders each time you log on to eBay, which I've been doing for two years. Of course, specific artists are the reason given tapes have high values, and the most expensive on *discogs.com* and eBay – two good sources – are Pink Floyd, Led Zepelin and The Beatles.

LIGHTLY WORN

That said, bargains are out there, especially if you have wide-ranging tastes. I bought a batch of 40 tapes with an average cost of US \$5.00 per tape (£3.85) which included a copy of the *Casino Royale* soundtrack. At the other extreme, I paid \$75 (£57.80) for a Buffalo Springfield tape. To compound matters, over 90% of the tapes worth buying online come from the USA, so postage can boost the cost by a further 40% to 100%.

Pre-recorded tapes from the past can be ½-track (mainly those from the 1950s), ¼-track, and either 3¾ips or 7½ips. Expect to pay an average of £15 for tapes in decent nick. Boxes are usually worn and split, but then so are LP sleeves. You might also enjoy lightly-worn tapes which cost very little, with a few drop-outs but still playable.

This is not a field in which to be picky. If you're the sort who stores CDs label-upright in their jewel cases and irons your jeans,

vintage open-reel tape is not for you.

A number of current labels specialising in open-reel tape form the second route to musical bliss. Thanks to Reel-to-Reel Rambler Dave Denyer and Petronel at Audiophiles Clinic, I have learned there are over 40 suppliers of brand-new pre-recorded tapes around the world, ranging from full catalogues

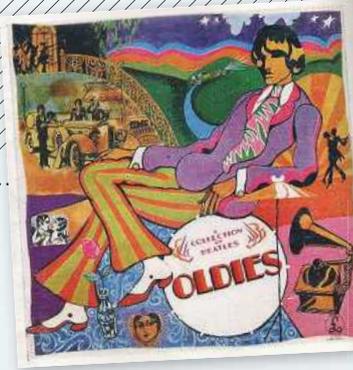
with dozens of titles to those with a mere one or two. A swift calculation shows there are over 400 tapes currently on offer, nearly all at 15ips/½-track on 10in spools. Prices for

these range from £250-£500.

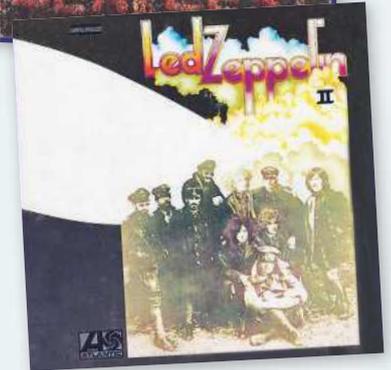
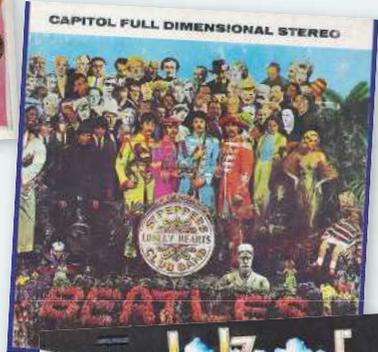
Before you freak out about prices, remember they include recording original material (or paying licensing fees for reissues), duplicating tapes in real-time, maintaining machinery to do so, the price of 10in blanks at an average of £50 trade cost, plus the cost of a metal spool.

Of course, there is no way I could sample the works of over 40 labels,

'There are over 400 new tapes on offer currently'



ABOVE: Not all Beatles tapes are equal – the UK *Collection Of Beatles Oldies* is certainly one to skip while the US *Sgt Pepper* [top right] is astonishing



RIGHT: Top prices go not only for Beatles open-reels, but also Led Zepplin and Pink Floyd, arguably due in part to fewer numbers being sold when they were originally released

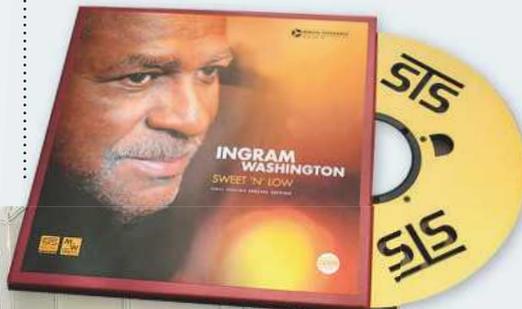
but I was able to borrow demo tapes from Foné, Hemiola and Open Reel Records from Italy, the UK's Chasing The Dragon, STS in the Netherlands and Opus 3 in Sweden. All, with the exception of Chasing The Dragon's 7½ips versions, were 15ips ½-track tapes. And the good news is that all sounded, well, fantastic.

LIMITLESS BASS

One of the first I played was from Opus 3, whose catalogue is among the most extensive. Its LPs and SACDs are familiar to audiophiles around the globe, and I cherish its Eric Bibb titles as exemplars of modern acoustic blues recordings. Its sampler contained a mix of blues, classical and jazz, culled from the company's catalogue and thus ripe for comparison, format-to-format. This is one of the more accessible labels, rather than a house that focuses on only one or two genres.

As is common to all of the labels, all duplicating is done in real-time. Opus 3 uses a modified Technics RS-1500 for master-tape playback. The feed goes to a Telefunken Magnetophone M-28 for copying to RMG Studio Master SM-468 tape.

Opus 3's tapes are issued on ¼in tape, ½-track configuration at 15ips playback with CCIR equalisation. I played them back on a Technics RS-1500 as well as an Otari MX-5050 (ditto for all the demo tapes) and the sound, even compared to SACDs, ↪



LEFT: Netty de With, Marketing and Export Sales Director of STS, adjusting her headphones at the 2019 Munich show while alongside the company's bespoke Ballfinger deck. The Ingram Washington tape on STS [inset] exemplifies open-reel's way with vocals





Prime Pinnacle

Audiophile Refinement
Breathtaking Home Theatre Dynamics



Prime Pinnacle makes towering statement with critics worldwide

"Low-end prodigies. Accurate and dynamic sound. Excellent imaging depth of field. With the Prime Pinnacle, SVS draws a line in the sand on the Value/Performance Beach and challenges all comers." **Sound & Vision**

"Just svelte enough to slip into all but the smallest rooms, and undemanding when it comes to placement, these floorstanders have clear all-round appeal, matched by a big, crowd-pleasing performance." **Hi-Fi News**

"Pristine, detailed with an enveloping sound stage that transcends the boundaries of the room and has palpable three-dimensionality. I got chills and goosebumps. No doubt Prime Pinnacle is one of the top speakers of 2019." **AVS Forum**



karma

audio - visual

karma-av.co.uk

SVSound.com



ABOVE: Fonè founder Giulio Cesare Ricci, the 'godfather' of the modern pre-recorded open-reel tape movement and [inset] the label's Original Analog Master Tape Classic compilation

was exactly what I had hoped for: airy, open and seemingly of limitless headroom and bass. The Bibb tracks are a great place to start, partly because of the familiarity of the music, but especially because of the impact of voice and guitar.

MODERN STANDARD

STS, which many of you know from its CDs, has been around for 40 years, and is staying up-to-the-minute having acquired a bespoke Ballfinger deck, seen at the 2019 Munich show. Its 30 titles are mainly jazz; I borrowed a tape of standards sung by Ingram Washington, and the sound immediately reminded me of the stunning Capitol pre-recorded reel-to-reel tapes of the 1950s – the benchmark for all tapes.

Meanwhile, Fonè is a label that's been supporting open-reel through thick and thin, since 1983. Founder Giulio Cesare Ricci releases his material, which is mainly new recordings, on LP, SACD, 24k Gold CD and HD files, yet it's his tape efforts that represent not just the pinnacle of his work, but set the standard for modern open-reel.

Ricci has produced over 600 analogue recordings, and the current catalogue contains more

than 60. Of course, duplication is in real time, undertaken personally by Ricci, copied onto RMG SM900 ¼in tape with IEC equalisation at 15ips via Nagra 4s, the tapes provided on 10in metal spools. The source is the Ampex ATR 102, from his original ½in master tapes recorded at 30ips.

Packaging is utterly professional, using beautifully-printed cardboard boxes with detailed information about the music, performers and technical notes. This may sound like an obvious feature, but trust me: many houses are not so fastidious.

Fonè provided two of its samplers – jazz and classical – and the sound was magnificent. The classic set featured a sublime interpretation of Chopin's Sonata for cello and piano, Op.68, with Rocco Filippini and Michele Campanella; and I was captivated by the Filarmonica Teatro Regio Torino with an excerpt from Rimsky-Korsakov's *Scheherazade*.

Even more exciting, the jazz set included an exquisite version of 'Moon River' with a quartet of drums, piano, bass, and sax, and a tear-inducing guitar version of Lennon's 'Imagine'. What made this especially

meaningful for me was the ability to play them back on the same model tape deck as used for the transfers.

Chasing The Dragon has been covered in depth in this magazine [HFN Sep '15, Oct '16] while Hemiola has rare Pavarotti recordings in its catalogue, from the family's archive. With labels such as these exhibiting in Munich, and with Analogue Productions announcing re-stocks of its reissue titles, it's clear enough enthusiasts care about open-reel tape to invest in single titles costing as much as a decent cartridge.

BANKING THE BLANKS

Lastly, there's the reason tape decks did so well in the UK 60 years ago: it was cheaper to buy blank tape and record a friend's LPs or off-air. A blank tape costs less than an LP and, if copying off LP, CD, FM, DAB or streaming sources sounds like a ludicrous reason for getting into the open-reel revival in 2020, let me leave you with this thought. Just as we were surprised, two decades

ago, to hear that commercial CDs burned to CD-Rs might well sound better than the source discs, so are there those who swear the transfer of even an LP or CD to open-reel tape can cast an

ameliorative, beneficial glow to the music. Having now heard this miracle many times, I've also acquired 40 or 50 blanks! ☺

RIGHT: Two from Chasing The Dragon, *España*, classical selections with Spanish themes, and the ideal demo tape, *Pure Reference*, both half-track tapes playing at 15ips



RIGHT: In 'The Reel-to-Reel Rambler' Room at the UK Hi-Fi Show Live at Ascot, tapes were heard via a Studer A810 deck feeding the Aesthetix Mimas integrated amp [HFN Mar '19] and Raidho TD2.2 speakers [HFN Jul '20]





PS AUDIO

Pioneering world class audio products

PS Audio's Stellar range is affordable excellence

Stellar Gain Cell Preamplifier/DAC

The Stellar Gain Cell™ combines the benefits of an exceptional analogue preamplifier and a full-featured DAC. Fully balanced analogue circuitry from input to output, the Stellar Gain Cell builds upon years of research and innovation in the art of Class A analogue amplification and state-of-the-art digital reproduction.



£1,550

Stellar S300 Stereo Amplifier

Breathe new life into your loudspeakers with the Stellar™ S300. The S300 combines the slam, linearity, and toe-tapping pacing of a Class D output stage with the warmth, grace, and rich inner detail of Stellar's Class A proprietary Analog Cell.



£1,350



£2,700

Stellar M700 Power Amplifier Monos (pair)

The Analog Cell is the heart of the M700's musicality, where richly overlaid layers of music's inner details are preserved even in the most complex orchestral crescendos. The Analog Cell is a proprietary, fully differential, zero feedback, discrete, Class A MOSFET circuit, hand-tuned to capture the smallest micro dynamics without sacrificing the loudest macro dynamics music has to offer.

Stellar Phono Preamplifier

The new Stellar Phono Preamp has both fixed and variable loading for moving coil cartridges, fully adjustable from the remote control. The unit's ultra-low noise allows the use of MC cartridges with output as low as 0.15 mV. Two different tonearms can be selected via the remote, with either single-ended or balanced outputs. A massive, heavily-regulated power supply and full DC coupling allow the unit to provide up to 20V rms output for powerful bass and unrestricted headroom and dynamics. PS Audio's first product way back in 1974 was a phono preamplifier that outperformed and replaced far more expensive units. Since then, we've offered a number of excellent phono preamps, but the new Stellar Phono Preamplifier is the best we've ever made.

Redefining record collections, one LP at a time



£2,500

"I recommend a listen to the Stellar to anyone in the market for a new phono preamp, regardless of price. I don't think I've ever written that before." Michael Fremer - Stereophile, Jan 2020

Stellar Power Plant P3 **LIMITED PERIOD OFFER £1,999***

Built as an evolution from our renowned P12, P15, and P20 the P3 is our most affordable regenerator – perfect for powering sources and small to medium systems. Power Plants generate sine-wave-perfect, regulated, high current AC power from your home's AC. In the process of regeneration, problems on your power line such as low voltage, distorted waveforms, sagging power, and noise are eliminated and the power quality enhanced. The results are both audibly and visually stunning when powering either audio or video products.



* Offer period until end 31st July

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

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

PS Audio introduces the Stellar Strata integrated & M1200 Mono Power amplifiers

NEW
Product Launch



£3,000

Stellar Strata (full featured streaming amplifier)

The Stellar Strata combines the benefits of an exceptional analogue preamplifier, a full-featured state-of-the-art DAC, a stereo 200 watt per channel power amplifier, and a high-resolution streaming module in one gorgeous package.

Stellar M1200 Mono Amplifier (pair)

The Stellar M1200 monoblock power amplifier combines the rich warmth and musicality of vacuum tubes with the jaw-dropping power and seemingly infinite headroom of a 1200 watt high-performance output stage. This extraordinary hybrid amplifier knows no limits.



£6,000

Signature
AUDIO SYSTEMS

Distributed by Signature Audio Systems, **call: 07738 – 007776**
or by e-mail to: info@signaturesystems.co.uk Web: www.psaudio.com

Franco Serblin Ktêma

As boutique Italian brand Franco Serblin prepares to boost its range we look at the iconic flagship
 Review: Ken Kessler Lab: Paul Miller

Franco Serblin, who passed away in 2013, first unveiled his flagship Ktêma in 2010. He had left Sonus faber, which he founded in 1983, in 2006, so the Ktêma was in development for nearly five years before he felt it was ready to be sold by the new company bearing his name. I remember the tension during its gestation, and Franco's elation at being able to produce a no-compromise system – not that he was ever restrained at Sonus faber. Think of the phenomenal Extrema, Guarneri and Stradivarius. The wait for the Ktêma proved worth it – as did the anticipation lasting a decade to hear a pair in my own system.

Why the delay in the full *HFN* treatment of this system? Whatever hindered the distribution here, we in the UK now have full access to this company, having looked at the *Accordo* two years ago [*HFN* Jan '18]. Renewed efforts and a discernible buzz about the brand thus justify our examination of this £25k-per-pair flagship system – its longevity marking it as a classic-in-the-making.

WHIFF OF LUXURY

We reviewed the Ktêma in Satin Sycamore, which would look simply wonderful in some open-architecture cabin with lots of woodwork, while those after a more tech-y feel can opt for high-gloss piano black. Both are capped and shod with hand-polished aluminium top and bottom plates, the latter accepting four superbly-finished, adjustable spikes. They're threaded, with caps on the top, so the attention to detail pays off in the absence of typically ugly, black anodised spikes which look like someone bought them in bulk at B&Q. By contrast, the Ktêma rests on bejewelled feet.

Installing them is a two-person effort as they weigh 55kg apiece and you do not want to mar the sublime finishes. They actually arrive protected by velvet drawstring covers, reminiscent of limited-edition champagne, costly perfumes and fine watches. This is what high-end audio should convey: the same whiff of luxury we associate with other artisan creations, and the Ktêma lets you see, feel and hear where your money went.

TRIPLE ARCH

Once out of the boxes, don't rush to install the spikes. I recommend positioning the speakers before fitting them, even though they also come with small metal coasters to protect wooden or tiled floors. The coasters are rubber underneath, so do not slide, but positioning prior to spiking and marking the locations with tape is advisable regardless of floor surface.

Unlike the Sonus fabers of Franco's day, the Ktêma's toe-in isn't intended to form a triangle that crosses just in front of the hot seat, but work best aimed precisely at the listening position, so that turning one's head to look at each speaker results in a face-on view of the baffle and drivers.

Franco's obsession was all about recreating the space of a live event. This, in turn, explains the unusual shape of the Ktêma and its almost-triangular footprint culminating in a severely narrow baffle only 170mm wide. That's narrower than an LS3/5A. The speaker spreads to

RIGHT: Behind a tensioned 'elastic band' grille lies a 28mm Ragnar Lian soft-dome tweeter and two 100mm midrange drivers. Bass is handled by two 230mm alloy-coned woofers that vent from the lower rear/side of the cabinet





FRANCO SERBLIN

As recounted in our *Accordo* review [*HFN* Jan '18], I considered Franco Serblin a mentor – thanks especially to his thoughts on soundstage recreation – but even I couldn't anticipate a belated revival in recognition of his contribution to speaker design. As has been said many times (and not just by me), Franco did more to influence the appearance of dynamic speakers through his first brand, Sonus faber, than any designer since the early 1980s. We owe domestically-acceptable speaker aesthetics largely, if not solely to him, seen first in the Sonus faber *Snail* and concurrently with cabinets he made for Cizek Audio Systems.

Staying true to his design philosophy with his eponymous brand, Franco made the *Ktêma* and other models with more extreme overall forms than he produced for Sonus faber. His signature criteria continue in the use of real wood in solid staves, furniture-grade finishes, rounded surfaces to create sculptural, pleasing-to-the-eye forms, unusual grilles culminating in the 'strings' which grace both Sonus faber and Serblin speakers, tapered-back enclosures, leather-clad baffles and integral stands in unusual materials. This is both visionary, and inspirational.

400mm across the rear, while front-to-back it's 460mm deep. And they like to breathe, so allow at least 0.5m from all walls.

Franco dubbed the construction a 'triple arch cabinet structure'. It is made from thin layers of wood and aliphatic glue 'hot pressed' together, all chosen to control enclosure resonances. That narrow front baffle, Franco told me, 'was reduced to the physical limit of the driver dimensions'. He felt that it was necessary 'in order to offer the smallest surface possible for the untrammelled dispersion of midrange and high frequencies'.

Another benefit is the 'improved transmission of the radiated energy'. This is all part of his quest to recreate a proscenium effect, and I have to admit I have never heard a non-panel speaker that 'disappears' like the *Ktêma*. There are simply no clues to the presence of a cabinet-type enclosure.

A vertical array comprising a 28mm soft-dome tweeter above two custom-made, 100mm midrange units resides in a step-compensated baffle, in what the company calls 'a cardioid acoustic-resistance configuration'. For some reason, I fantasised about the company

issuing that driver array in a 45cm-tall standmount enclosure to fill the gap between the *Accordo* mini-monitor and the

111cm-tall *Ktêma* – not too far a stretch as the mids, fitted in their own 'double aperiodic' sub-structure, could easily extend below the 135Hz where they meet the woofers [see PM's Lab Report, p39].

A brace of these custom-made, compression-loaded 230mm metal cone drivers fires out of the back of each tower. The woofers are covered by a slotted rear panel with vents at the sides, which force the sound outward. Those with recall for hi-fi trivia will remember that the original *Extrema* [*HFN* Jul '14] was fitted with a metal plate standing proud of its rear-firing KEF B139 woofer to similar effect.

Franco described this configuration as the 'waveguide that characterises

the *Ktêma* system'. It was his desire for the low frequencies to help support the goal to 'physically recall what we see in a real proscenium, where the soloists are at the front of the stage, while the rest of the orchestra is at

the back'. While very low frequencies are largely omni-directional here, most of the energy is guided along the convex sides of the speaker, with only a small fraction transmitted directly through the rear, via the slits in the back panel.

A SOUND FOR LIFE

As the speakers' cabling throughout is Yter's pure silver-palladium mono wiring, I used the same for the review. Connection was straightforward via superbly-made binding posts. And there was an instant discovery, which concurred with PM's findings [p39]: the imagined ease-of-driving suggested by the 40hm impedance and ↻

'This speaker truly walks the walk and talks the talk'

aqua
acoustic quality

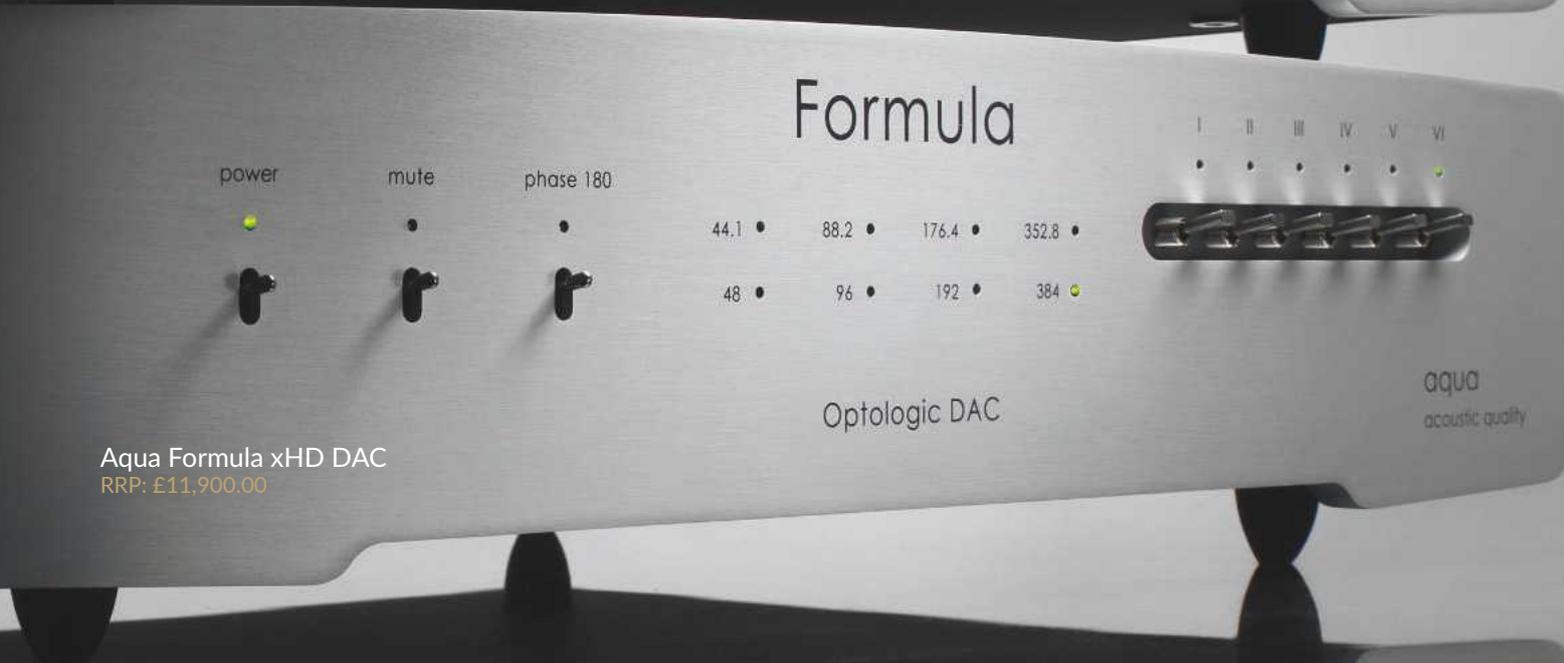
introducing the Aqua LinQ
the Italian streaming bridge

new

Aqua LinQ Network Interface'
RRP: from £4,982.00



Aqua Formula xHD DAC
RRP: £11,900.00



exclusively distributed in the UK by elite audio

contact us to find out more about our part exchange and interest free credit terms



Retailing the world's most sought
after Hi-Fi components.



T: 01334 570 666

E: INFO@ELITEAUDIOUK.COM
W: WWW.ELITEAUDIOUK.COM

aqua
acoustic quality

LOUDSPEAKER

92dB sensitivity was optimistic. While I barely got the needles on the D'Agostino Momentum Stereo [HFN Jul '11] to flicker (and the sensitivity for the meters was set to 'high'), the Ktêmas love a lot of juice... and enjoy delivering realistic levels.

That's not to say that the Ktêmas cannot whisper, for they excel at low levels. They seemed to operate independently of pure SPLs, and the grilles – which Franco told me were inspired by violin strings – have absolutely no effect on the sound. If you

can hear the difference, I will give you a bottle of Barolo. But the need for loads of power in reserve was manifested in the way the lower registers behaved, especially regarding control and slam.

I found this amusing, because Franco designed his loudspeakers more for finesse than force. The percussion in the remastered *Abbey Road* [Apple 02577 92112; CD/Blu-ray box] made some visitors jump visibly in their seats, the weight and scale so rich and substantial it was hard to credit even two pairs of 230mm woofers. But it was the control and transient attack which proved even more dazzling than the extension or bass quantity. Ringo's break at the tail-end of 'Carry That Weight' had nearly the impact of that legendary release, *The Sheffield Drum Record*. Yes, it was that vivid, especially its stage width and cavernous front-to-back depth.

LIFE CHANGING

When dealing with the Ktêma, though, one needs to keep in mind the *raison d'être*, which is the spatial element, in the same way that one considers a Lotus for handling or a Ferrari for speed. I put on Ray Anthony's admittedly schmaltzy *Dancing Over The Waves* [Capitol ZC-87], a 7½ips, ½-track tape from 1958 possessing the finest big band pedigree, firing up my treasured Denon DH-710F open-reel deck in order to savour it.

It proved room-filling in a way that I've only heard before from the likes of Apogee's Scintilla in 1ohm mode, via 200W Krell monoblocks, or Wilson XLFs in founder Dave's own listening room. Highs were crisp without being aggressive, airy and gossamer-like with no lack of precision or definition, and more-ish enough to inspire playing a half-dozen LPs into the wee hours. One can't avoid the term 'silky' because that's what you get: a glossy sheen that's so un-hi-fi-like, so organic you begin to understand what authenticity means by 2020 standards. ↻

LEFT: Side view of the concave, satin sycamore side cheeks with subtle venting for the midrange drivers. The two alloy woofers are 'compression loaded' against the convex rear panel [see p39] exhausting from the sides

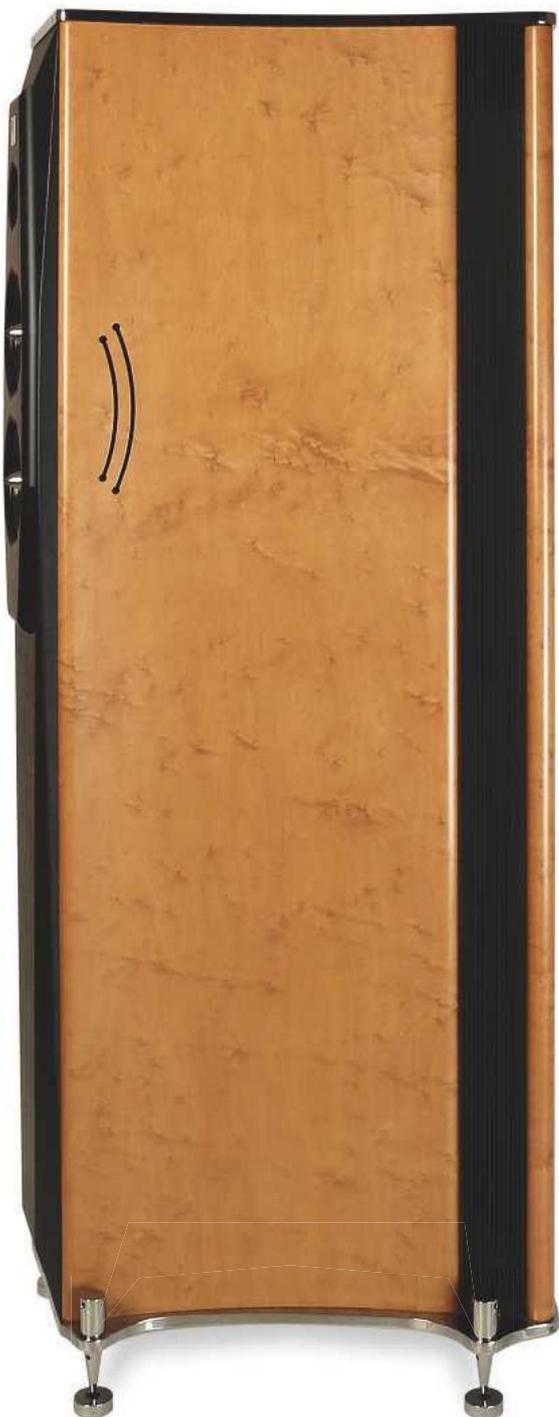
MASSIMILIANO FAVELLA

Massimiliano Favella, owner of Laboratorium, the manufacturer of Franco Serblin loudspeakers, Yter cables and Flexum acoustic panels, began his audio career in 1995 at Sonus faber. His last two years at the Italian speaker giant was spent working with Franco, his father-in-law, in the R&D department before leaving in 2001 and setting up Laboratorium a couple of years later.

'In 2010 Laboratorium produced Franco's final loudspeakers, the Ktêma and Accordo', recounts Massimiliano. 'The latter are permanently set up at Mozart's birth place in Salzburg, so visitors have the opportunity to listen to his masterpieces through the Accordo'.

Franco passed away in 2013 since which time Laboratorium has continued his legacy, finalising the Ligne project in 2016 and the Accordo Essence floorstander in 2018. 'Over the years we have maintained Franco's "Modus Operandi" in our R&D', says Massimiliano, 'using high quality electronic components and precious wood with harmonious shapes.'

'In order to maintain the highest quality standard, Laboratorium releases only a few loudspeakers – our production and QC is very time-consuming. Of course new projects will be announced in the future, in fact we are working on a new design at this moment, but it takes time to reach a good result. In truth it is not easy to carry on Franco's name, but I can affirm that the value we give to things is also the meaning we put into them, and reflects the profound esteem I always had of Franco.'



The First Word in Music Streaming.



Music. Literally the first word in 'music streaming', and always our top priority. Our network players feature cutting-edge technology – developed over 3 years by 25 expert engineers at our Salisbury HQ – but more importantly stay true to our founding mission, to take you closer to the authentic emotion of the music you love.

So, whether you're listening to your own digital library, commercial music services such as TIDAL, Spotify, Qobuz and internet radio, or exploring the world of Roon, you'll enjoy music streamed with our signature pace, rhythm and timing. Handmade here

in England, the slimline **ND5 XS 2**, Classic superstar **NDX 2** (pictured) and flagship **ND 555** players are winning Awards around the world. Hear the difference with your favourite music at your local Naim specialist retailer.

Now featuring native Qobuz integration



naimaudio.com/streaming-awards

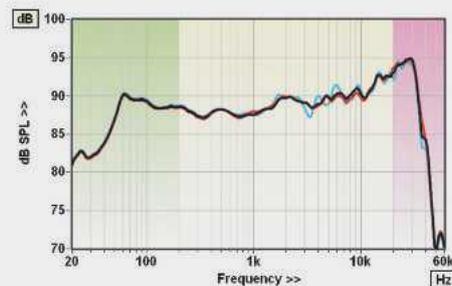
Awards for NDX 2



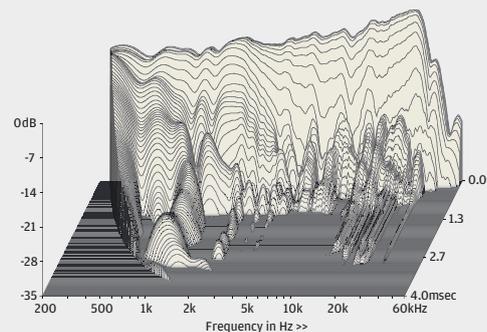
FRANCO SERBLIN KTÊMA

The front-facing midrange drivers in this four-way flagship segue into the two rear-facing woofers at 135Hz, the upper mid cone extending its reach to 1.15kHz before crossing to the 28mm soft-dome tweeter. There's an increase in distortion from <1% through bass and treble to ~2% at this same midband frequency, and a resonant mode too [see CSD Graph 2, below], but this is quickly dissipated. Bass is well extended down to 25Hz (-6dB re. 200Hz) but the corrected, summed nearfield measurements [green area, Graph 1] were complicated by the combined reflex ports and side-venting – the alloy woofers peak at 66Hz while the dual ports are tuned to 60Hz with a useful output down to 20Hz (-3dB). Measured on the treble axis, the forward response shows a boosted mid/presence/treble rising +5.5dB from 1kHz-20kHz, but pair matching is an impressive 0.8dB, improving to 0.6dB from 200Hz-5kHz [black/red traces, Graph 1]. Leaving the elastic grille strands in place [blue trace] reveals ±1.5dB 'ripples' appearing between 2.5-6kHz. Audible? See Ken's listening notes!

Serblin's rated 92dB sensitivity is a trifle optimistic unless a full 200Hz-20kHz range is included in the measurement, the high treble lift boosting it to 89.1dB. Otherwise, the 1kHz/2.83V/1m figure is 87.7dB and the mean from 500Hz-8kHz closer to 88.8dB. It's unlikely the Ktêma will be partnered with an asthmatic amplifier, but it remains a reasonably current hungry load to drive. Serblin's quoted minimum of 3.2ohm was proved on test at 27Hz but there's a further drop to 2.8ohm at a very high 20kHz. Phase angles are moderate at +24°/-28° but the *maximum* impedance is just 8.0ohm/860Hz. 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: Resonances are quickly suppressed with low-level modes remaining at 1.5kHz and 20-30kHz

LEFT: Behind this false cabinet rear lie two 230mm alloy-coned, relex-loaded bass units that vent out from the sides of the cabinet [see p37]. Crossover does not support bi-wiring/amping so single 4mm cable terminals are fitted

same time serving up heart-stoppingly, undamped, lightning-quick transients.

All of you know what I mean: balancing the necessary liquidity of bottleneck, slide, Hawaiian or other flowing guitar forms with the punctuation of the rapidly-plucked notes. One visitor was shocked to see a soft-dome tweeter, marvelling that it could have the sort of speed now associated with metal domes or ribbon tweeters. But Franco was a true maestro and he coaxed just the right quantities of both. Throw in two distinct vocal types and you have a speaker that walks the walk and talks the talk.

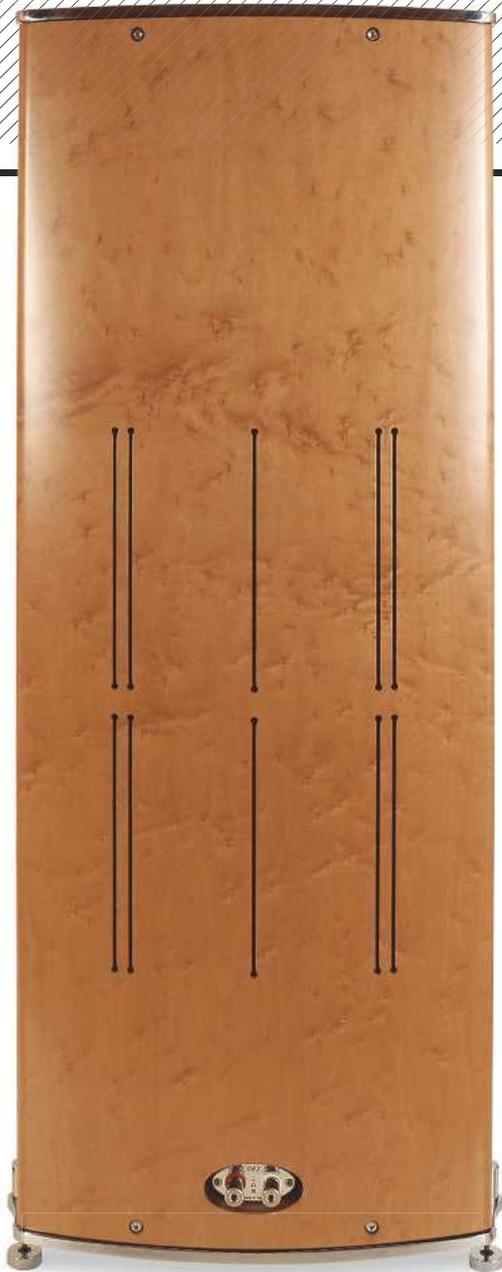
If ever a loudspeaker designer left us with a swan song to be sung by the angels, it's Franco Serblin with his Ktêma. Which, indeed, lives up to the quote from Thucydides that

inspired the name: '*Ktêma es aei* – A possession intended to last for ever'. How so? Simple: I cannot imagine any owner of these speakers ever parting with them. ☺

HI-FI NEWS VERDICT

It's a challenge to describe how dazzled I am by the Ktêma. A quick demo ain't the same as living with it: you need to 'learn' the Ktêma despite the instantly *simpatico* first impression. It does everything right and nothing wrong. It creates soundscapes – 'soundstage' is too bland a term – suggesting whole audio vistas beyond one's walls. The Ktêma conveys intimacy. It is one of the finest speakers I have ever heard.

Sound Quality: 89%



I sat there thinking that the original purchaser of the *Dancing Over The Waves* tape 62 years ago certainly never heard how good it could sound on contemporary equipment. Even the finest speakers of the era – Quad 57s – couldn't deliver the weight or the level, however gorgeous the midband. This was life-changing.

LIGHTNING QUICK

Turning to vinyl and *BB King & Eric Clapton – Riding With The King* [Reprise 093624895206], the test was the obvious battle of the guitars. In either case, beyond guitar fetishists wanting to identify the makes of guitar and strings, both performers are/were masters of restraint and fluidity on this set. The Ktêmas managed the deft trick of sounding like the audio equivalent of extra virgin olive oil, while at the

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – 1kHz/Mean/IEC)	87.7dB / 88.8dB / 87.0dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	2.8ohm @ 20kHz 8.0ohm @ 860Hz
Impedance phase: minimum & maximum (20Hz–20kHz)	-28° @ 5.1kHz 24° @ 415Hz
Pair matching/Resp. error (200Hz–20kHz)	0.8dB / ±2.9dB/±3.3dB
LF/HF extension (-6dB ref 200Hz/10kHz)	25Hz / 35kHz/36kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.7% / 2.1% / 0.2%
Dimensions (HWD) / Weight (each)	1110x425x460mm / 55kg

Simaudio MOON 780D v2

This flagship DAC from Canada, complete with a raft of in-house digital and power supply technologies, and very slick control app, is a complete network music solution
 Review: **Andrew Everard** Lab: **Paul Miller**

When is a DAC not a DAC? When it turns into a multifunctional network-connected music player, that's when!

Increasingly, the lines between products that exist to convert digital inputs into analogue audio and full-blown network players are becoming blurred. So, just as there are players provided only with digital outputs – network transports or bridges [see p52] to be paired with an outboard DAC – so we now have DACs with network capability built-in. Add an app running suitable UPnP control software, and you have a complete streaming solution.

For the network neophyte, all that can be a bit confusing, but a 'DAC with benefits' perfectly describes Simaudio's MOON 780D v2. Available in black, silver or two-tone black/silver, this £13,500 unit is the Canadian company's reference DAC, complete with a built-in streaming section developed in-house.

Neither is this the only streaming DAC in the company's range. For those with more restricted budgets, there's also the lower-spec 680D, yours for £8900, and the entry-level 280D MiND2, at £2950. Oh, and the digital-output-only MiND2 'network transport' at just £1950, and the 390, which combines streamer, DAC and analogue preamp. You pay yer money, and takes yer choice...

ALL IN THE MIND

With so many network products in the range, you can see the sense of Simaudio developing its own streaming solution, unsurprising called MiND2. The acronym stands for 'MOON intelligent Network Device', and this provides not only access to music stored on network computers and NAS drives, but also a range of online services. The second generation of MiND – older models using the original

version can be upgraded to MiND2 – adds access to Tidal Masters with MQA, Qobuz Sublime+ and Deezer Hi-Fi, and also allows synchronised multiroom playback using multiple MiND2-equipped devices, as well as Roon-ready certification.

The 780D v2 comes with a conventional FRM-3 system remote handset [p43], which is a hefty, backlit and stylish metal affair or, if you were feeling particularly masochistic, you could operate the unit using the octet of little front panel buttons straddling the prominent display. However, to access the streaming services on offer, you're really going to need the company's MOON MIND2 Controller app [see boxout, p41].

As well as its Ethernet connectivity, the 780D v2 also has Wi-Fi and Bluetooth with aptX, but I'd still swerve the former if you're streaming high-bitrate audio, and the latter on the grounds of sound quality. A decent network or USB hook-up always wins the day. To that end, the 780D v2

will accept audio from a computer via its asynchronous USB-B port, handling files at up to 384kHz/32-bit and DSD256, the latter in native form. MQA decoding is included and it also has two optical, three coaxial and an AES/EBU input. All of these are limited to 192kHz/24-bit.

Analogue outputs are on RCAs and balanced XLRs, and there's also another pair of XLR sockets – one four-pin, one five – to allow the 780D v2 to be used with the company's 820S offboard power supply, which will set you back a further £7200.

SPEAKING CLOCK

The 820S uses two custom toroidal transformers to feed separate supplies to the digital and analogue circuitry, and is designed as a universal upgrade for a range of MOON units. Not that the 780D v2 stints on the power supply front as standard, using the company's own 'MOON Hybrid Power' to supply the juice. The latter



RIGHT: Screened PSU [left] feeds 12 separately regulated supplies for the Stream 810 Wi-Fi board [blue], the network adapter [brown, underneath] and main audio board with its pair of ES9018S DACs [daughter PCB, right]



combines high-speed switching and linear PSUs with 'M-LoVo' (Moon Low Voltage) regulators, I2DCf (Independent Inductive DC filtering) and conductive polymer capacitors, with the whole thing being designed for extremely low noise.

Meanwhile the dual-mono balanced design uses a pair of ESS9018S Sabre DACs governed by a 'femtosecond-grade' master clock by way of tackling jitter [see PM's Lab Report, p43]. Incidentally, the dual DACs and high-accuracy (and rather expensive) clock set this flagship model apart from the somewhat more affordable 680D, which uses one DAC chip in stereo and a 'picosecond-accurate' clock – otherwise just about everything is the same.

The rest of the 780D v2 is all about Simaudio's customary build quality, which could be described as 'truck-like' only if the truck in question ran on tracks and had a big gun in a swivelly bit on top. Everything here has a reassuring sense of solidity and durability, and is finished to an exceptional standard. And that's about it, beyond the ability to go into the menu and re-label the digital inputs, or disable unused inputs to make flicking through them faster. It's also possible to alter the information shown on the display when music is playing, dim

the display (which is rather startling at full brightness) or turn it off completely, so it only lights when something is changed and then goes dark again.

OPEN SOURCE

Big and magnificent the 780D v2 may look, but its sound is something of a slow burn: this isn't a unit to rock you back on your heels with the first few notes, but what you do get is complete confidence and a beautifully open and superbly focused soundstage. And that holds true whether you're playing music via the digital inputs or making use of this

'Snowflakes
seemed to
blizzard out of
the speakers!'

network player's streaming functionality.

That was made clear with the recent *Bach: Redemption* set by soprano Anna Prohaska [Alpha Classics ALPHA658; 192kHz/24-bit], recorded with a small ensemble in the quest for period accuracy. So whether with the spare musical forces of most of the album, or the jazzy bonus arrangement with which it concludes, the effect is of very real performers at work in a well-resolved church acoustic. Prohaska's remarkable voice is handled with delicacy and care, and the instrumentation and small chorale on a few of the tracks have not a smidge of artifice about them.

ABOVE: The 780D v2 can (just) be operated using the four little buttons either side of the display, or the supplied remote handset, but the MiND Controller app makes things much easier

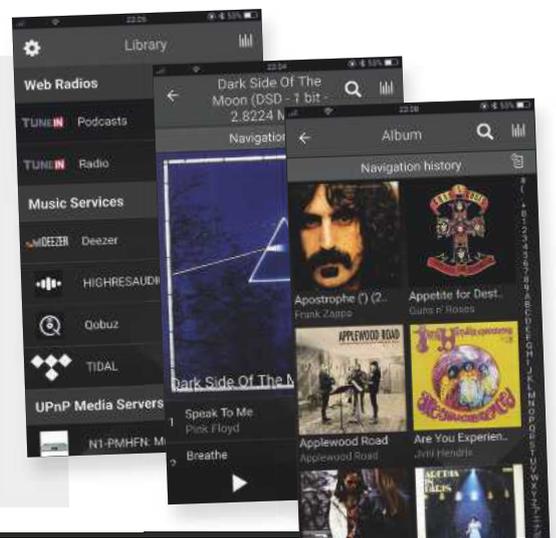
That this is a component to seduce rather than stun becomes ever clearer as you delve deeper into its capabilities and your music collection, whether playing files over the network, directly from a computer using USB, or streaming via Tidal or Qobuz in hi-res. Even with comparatively low-resolution streams – such as the odd Radio 3 live jazz session in 320kbps via the 780D v2's TuneIn feature – the sense of 'rightness' in the sound is maintained.

REAL SNAP

However, it's really with uncompressed music that this player/DAC shines. With Bob Dylan's latest album *Rough And Rowdy Ways* [Columbia; 96kHz/24-bit download], the 780D v2 gets right into the character of the voice from the off, and makes clear the world-weary lyrics, while at the same time chugging out the blues of 'Goodbye Jimmy Reed' in toe-tapping style. Again, it's a sound all about realistic-sounding instruments and confident music-making, with not a hint of hi-fi histrionics about. Sounding this good without making a huge fuss about it is a clever trick, and it's ↪

MIND2 APP

There are those manufacturers who'll tell you there's no point in developing a bespoke app to control their products: they'll refer you to a number of third-party UPnP/DLNA apps available for your phone or tablet that will pass muster. As you might expect from the amount of proprietary tech under the lid of the 780D v2, Simaudio would beg to differ, and its MOON MiND Controller app (for Android and iOS) has been developed as an integral part of its MiND streaming solution. As well as allowing the user to access music, this app can also act as a complete system controller, thanks to the (again proprietary) SimLink remote control connection between products in the company's range, for which a cable is supplied with every Simaudio product, easily extendible as it uses standard 3.5mm plugs. The operation is slick and reliable, and the screens very clearly laid out and easy to navigate, whether you're playing music from network storage, streaming from online services, or simply adjusting the volume on a connected Simaudio amplifier.





Klipsch®

REFERENCE
PREMIERE



August 2019

RP-600M

NO-NONSENSE GREAT SOUND

KEY FEATURES

- 1" Titanium LTS Vented Tweeter with Hybrid Tractrix® Horn
- 6.5" Spun Copper Cerametallic™ Woofers
- Bass-Reflex via Rear-Firing Tractrix® port
- Dual binding posts for bi-wire/bi-amp
- Strong, Flexible Removable Magnetic Grill

Leveraging a 1" titanium tweeter Mated to Klipsch's proprietary hybrid Tractrix® horn - the RP-600M bookshelf speaker delivers incredible acoustics to fill your home with loud, crystal-clear sound and robust bass that no ordinary bookshelf speaker can.

Copper anodized trim rings, satin painted baffles and a laser etched logo treatment give the Reference Premiere series a modern, premium feel.



Distributed by Henley Audio

T: +44 (0) 1235 511 166 | E: sales@henleyaudio.co.uk | W: www.henleyaudio.co.uk | Facebook: HenleyAudioUK | YouTube: HenleyAudio

NETWORK-ATTACHED DAC

SIMAUDIO MOON 780D V2



ABOVE: Wired and wireless network inputs (and a BT antenna) join another seven digital inputs – USB-B, three coax and two optical S/PDIF, plus AES/EBU. Single-ended and balanced outputs on RCA/XLRs are joined by ext. PSU inputs and 3.5mm triggers

a sleight of hand carried off with considerable style here.

Move back to the less dense – and more audiophile – sound of the 15th anniversary reissue of *Yuko Mabuchi Plays Miles Davis* [Yarlung Records YAR78690-15 DSD; DSD256], and the gloriously crisp live recording sparkles. Mabuchi's Steinway is perfectly weighted, and planted solidly in the soundstage, surrounded by the accompanying bass, drums and trumpet.

There's a real snap and drive to the quartet's take on 'Milestones', while 'So What' has an easygoing swing, the 780D v2 making clear the doubling of the bass line by Mabuchi's left hand and the bass of Del Atkins, while Bobby Breton's drums patter and shimmer and JJ Kirkpatrick's trumpet soars. It's a delicious, and very live, sound.

TRULY THRILLING

But don't be fooled into thinking this is one of those hi-fi components only really suited to hyper-clean

recordings of the kind used for hi-fi demonstrations which, after all, just about any decent system can play well. Push it harder with the full-on attack of parts of Arabella Steinbacher's *Four Seasons* [Pentatone PTC 5186746; DXD], combining Vivaldi's



LEFT: The heavyweight all-metal MOON FRM-3 remote caters for its amps, players and DACs. For the 780D v2 it offers current/elapsed time, display brightness and mute, plus playback for the D8 MiND input

familiar warhorse with Piazzolla's less-known work on the same theme, and it does a fabulous job with the tango rhythms of the Piazzolla, both with the stabs of strings and the rumble of the basses of the Munich Chamber Orchestra. Then it goes on to drive hard with Steinbacher's 'take no prisoners' charge through the Winter section of the Vivaldi, delivering it in truly thrilling fashion as those snowflakes seem to blizzard out of the loudspeakers!

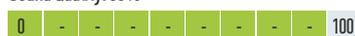
Up the scale of the musical forces to a full symphony orchestra – in this case the Oslo Philharmonic under Petrenko playing Rimsky-Korsakov's *Russian Easter Festival Overture* [Lawo Classics LWC1198; DXD] – or some charging rock, and the ability of the 780D v2 to deliver low-end power and grip while laying open all that's going above, however complex, is never in doubt.

Possessing all the grunt needed for even larger orchestral forces while having the ability to rock hard and fast, and yet do all this while delivering glorious finesse and detail, and without any sign of work going on behind the scenes, makes the 780D v2 very much a class act. ⚡

HI-FI NEWS VERDICT

The grand illusion here is that while the 780D v2 doesn't seem to be doing much, and its sound won't shake you to the core on first exposure, extended listening reveals its true maturity, resolution and power. With its wide-ranging capability, superb build and one of the best apps in the business, it makes an extremely strong case for itself. Understated, yes, but it's one of the best network players around.

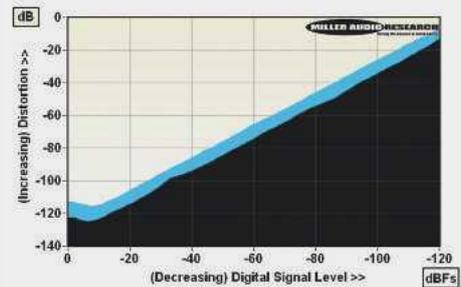
Sound Quality: 88%



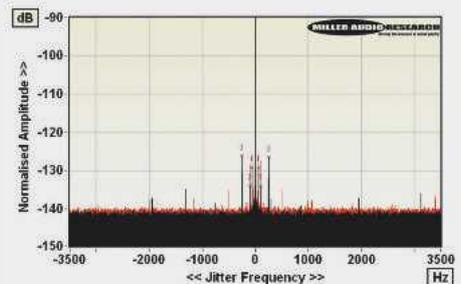
Version 2 it may be, but the 780D still employs the tried-and-tested Sabre ES9018S DACs from ESS in preference to the newer 9028 and 9038 Pro versions. And for good reason, as its performance is absolutely 'top-drawer', from the vanishingly low distortion that falls to just 0.00005% over the top 30dB of its dynamic range [see Graph 1, below] and the very wide 110.6dB A-wtd S/N from a modest (by balanced XLR standards) 2.4V peak output. There is one minor 'bug' – peak level digital inputs at high frequency (~20kHz) cause the device to clip and THD jumps to 0.5%, but falls right back to 0.0003% at -1dBfs/20kHz. This only occurs at 48kHz sampling, not at 96kHz, 192kHz, etc., and is largely of technical/academic interest.

Of more practical/subjective impact, perhaps, is Simaudio's choice of slow roll-off minimum phase digital filter (one of several options within the ES9018S) that trades zero pre-ringing and limited post-ringing for poor stopband rejection at low sample rates (just 11dB at 48kfs) and roll-offs of -0.5dB/20kHz, -9.7dB/45kHz and -6.1dB/90kHz with 48kHz, 96kHz and 192kHz media, respectively. This choice of filter is a very good compromise for higher sample rate files (88.2kHz+).

Meanwhile the wide S/N ratio assists in delivering the 780D v2's excellent low-level resolution – good to within ±0.1dB over a 100dB dynamic range before deviating slightly to ±1dB between -100dBfs and -110dBfs. Digital jitter is typically well suppressed by the ESS DACs, and so it is here with just 33psec, 19sec and 10psec recorded with 48kHz, 96kHz and 192kHz/24-bit test files [see Graph 2, below]. Finally, while the analogue output stage has a moderate 120ohm source impedance, the careful layout still confers a wide 130dB stereo separation. PM



ABOVE: Distortion vs. 96kHz/24-bit digital signal level over a 120dB dynamic range (1kHz, black; 20kHz, blue)



ABOVE: High resolution jitter spectrum via network (black, 48kHz/24-bit; red, 96kHz/24-bit with markers)

HI-FI NEWS SPECIFICATIONS

Maximum output level / Impedance	2.369Vrms / 120ohm
A-wtd S/N ratio	110.6dB
Distortion (1kHz, 0dBfs/-30dBfs)	0.00009% / 0.00065%
Distortion & Noise (20kHz, 0dBfs/-30dBfs)	0.00025% / 0.0011%
Freq. resp. (20Hz-20kHz/40kHz/75kHz)	+0.0 to -0.2dB/-9.7dB/-6.1dB
Digital jitter (48kHz / 96kHz / 192kHz)	33psec / 19psec / 10psec
Resolution (re. -100dBfs / -110dBfs)	±0.1dB / ±1.0dB
Power consumption	15W (14W standby)
Dimensions (WHD) / Weight	476x102x427mm / 18kg

AVID Volvere SP

Inspired by the flagship Acutus turntable, and bucking the trend for unsuspending decks with socially-distanced motors, the Volvere SP also comes with a familiar tonearm
 Review: **Adam Smith** Lab: **Paul Miller**

Given that pretty much every component AVID has ever offered is still in production, it's clear company owner Conrad Mas does not chop and change designs on a whim. So it's no surprise that when it comes to turntables AVID has largely stuck with the thinking behind its very first deck, the Acutus, which was launched in 1999.

The same philosophy of high-mass platter, suspended subchassis and torquey motor can be seen at work in the latest version of AVID's midrange turntable, the £5500 Volvere SP. The first iteration of the Volvere deck was actually the firm's third ever product [see PM's boxout, p45], but the 'SP' appellation signifies it now benefits from the fine speed control offered by its DSP-governed PSU [pictured, p47].

Available in either silver or black, the Volvere SP features a cast alloy subchassis with carefully machined ridges to minimise vibration. This subchassis sports three legs, each of which sits in a spring located on the lower base. In fact, the legs sit in 'cups' in the centre of the springs, so the coils extend downwards in normal use.

HANDY FEATURE

Experience suggests that this arrangement makes for a much more stable set-up than when compressed springs are used and requires less regular tweaking. In addition, three sturdy O-rings locate around each suspension turret onto pegs on the subchassis, which limits lateral movement.

The subchassis contains the bearing and an outrigger on which to mount a tonearm. As a result, the deck does not offer interchangeable armboards but comes pre-drilled for a standard 9in SME fitting. Adapters that allow arms with standard Linn or Rega mounts to fit this are readily available from AVID.

RIGHT: Phosphor bronze/sapphire bearing rides on an inverted spindle that's connected to a triangular cast alloy subchassis 'sitting' on a three-point sprung suspension. The AC motor is connected to the main chassis

A handy feature is that this subchassis will sit securely on its mounting legs prior to fitting into the springs. This greatly aids set-up as it means that the arm and cartridge can be fitted and aligned before the whole thing is lowered onto the main lower base. After all, there are few things more frustrating than trying to align a cartridge on a bouncing turntable!

As for the bearing, this is an inverted type, meaning it has a central spindle on which sits a ball in a small dimple. This makes contact with a sapphire thrust pad on the underside of the main bearing when this is lowered over it. The inherent stability of this design means that only one bush is required lower down the bearing shaft. This is made from sintered bronze and is essentially self-lubricating. Indeed, AVID confidently claims

that no additional lubrication is required for ten years under normal use.

SPEED BUMP

The outboard PSU generates a stable supply for the AC motor [see PM's Lab Report, p47], and can be altered in frequency to not only allow push-button speed change between 33.3 and 45rpm, but also permit the fine tuning of each speed. The PSU weighs in at 2.2kg and its front panel features dainty pushbuttons for turntable start/stop and speed change, alongside a large rotary knob for main power on/off. A high-quality internal toroidal transformer provides the main supply, so it does not rely on the cheap 'wall wart' mains adapters that are so common these days.

'The picked bass notes were fruity and sinuous'





LEFT: The subchassis sits in three suspension towers with rubber O-rings providing lateral damping. The heavy alloy platter has a thick peripheral rubber ring of its own, a fixed cork mat and screw-down LP clamp/weight

The Volvere SP's motor is made by French manufacturer Crouzet and this drives the platter via two precision circular cross-section belts. As mentioned in PM's Lab Report, this whips the 6.7kg platter up to speed remarkably quickly. The platter is topped by a fixed cork mat, and as part of AVID's vibration-control measures a supplied screw-down record clamp ensures the LP can be mated snugly to it.

So far so good then, but the tricky bit comes when you need to fit the twin belts. With the subchassis and base mated, the belts are wrapped around the main platter drive hub, and a pin must be fitted into a hole on the underside of the platter. The platter is then lowered onto the bearing and the belts persuaded off the pin and onto the pulley, before finally the pin is removed. It sounds easy when you write it down, but it took me eight attempts.

For review, the Volvere SP was supplied as a £5990 package with an AVID TA-3 tonearm – to all intents and purposes, a

Rega RB330. This is mounted to the deck using a natty AVID three-point Rega-to-SME mount adapter plate, though this does not address the Rega design's main drawback, which is the lack of VTA adjustment.

THRILL SEEKER

For my listening I used an Audio-Technica AT-OC9MLII cartridge and connected the turntable to Yamaha's C-5000/M-5000 pre/power amplifiers [*HFN* Aug '20] driving PMC Twenty5.24 loudspeakers [*HFN* May '17]. And it didn't take long to discover just how good a performance can be obtained from a really first-class belt-drive deck.

Put simply, the Volvere SP combines the sheer fluidity and atmosphere belt-drive decks are so good at, with the solidity and precision a capable direct-drive can deliver so well. The result is a magnificent sense of focus and stability, whatever the material played. Rhythms were locked down tightly, performers could be pinpointed accurately in the soundstage and the deck was also

able to present a glorious amount of detail. If you're seeking a turntable able to reveal all the excitement buried in the grooves of your vinyl collection, then look no further – the Volvere SP is an expert in this area.

Yet it was the low-end that kept me coming back for more. This AVID deck was effortlessly capable when handling basslines, sounding unflustered and remarkable confident. I've heard some turntables at this price level become slightly messy when the going gets more complex, but the Volvere SP positively powered through. The twin-belt drive set-up may be a right faff to install, but it rewards your persistence in spades.

EMOTIONAL RESCUE

The picked bass notes that introduce the remixed version of Chris Rea's 'Loving You' from *One Fine Day* [Magnet 0190295498856] were deep, fruity and sinuous, carrying the track along perfectly. When Rea's vocals came in, the Volvere SP ensured his voice sounded emotive and lifelike before his trademark vocals became appropriately gruff. I have heard a slightly richer sound with this track in the past, but the slight 'grey' across the midband is arguably a feature of the Rega RB330 arm, and so not a criticism that can be levelled directly at the turntable.

In all other respects, the midrange detailing and atmosphere could not be faulted. Playing something simple, such as the soothing sounds of 'If Time Was For Wasting' from Dylan LeBlanc's *Pauper's Field* album [Rough Trade RTRADLP590], had the hairs standing up on the back of my neck as the Volvere SP projected his vocals with both clarity and emotion. ↪

A VERY INTERESTING DESIGN

While the company and brandname was incorporated in 1995 as a design/subcontract business, its first turntable – the Acutus – was launched some four years later [*HFN* Jun '99]. From the outset, AVID's 'Very Interesting Designs' have always been 'high mass' suspended subchassis models, the Acutus closely followed by the first Volvere in 2000 [the Volvere Sequel in *HFN* Dec '03]. Manufacturing was brought fully in-house in 2005 with investment in a larger engineering facility. AVID began subcontracting its precision engineering to the aerospace, automotive and audio sectors around this time. Its own brand products expanded with the DIVA turntable series, followed by phono stages in 2010, loudspeakers in 2016 and pre/power amps a year later. AVID now exports its range to no fewer than 50 countries with Asia Pacific and Poland being key markets. Due for launch in the near future is a £3000 integrated – the Accent – and the new EVO range of speakers premiered at last year's Hi-Fi Show Live. **PM**

#music reengineered

HA 200

Start your journey by scanning the QR code or contact: The Audio Business
hello@theaudiobusiness.co.uk



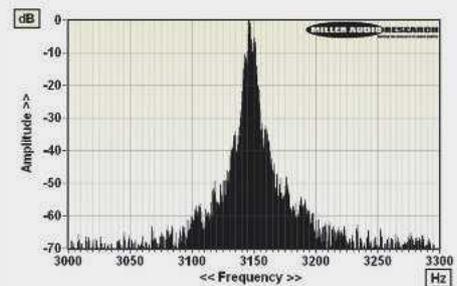
T+A
Engineering Emotion

LAB REPORT

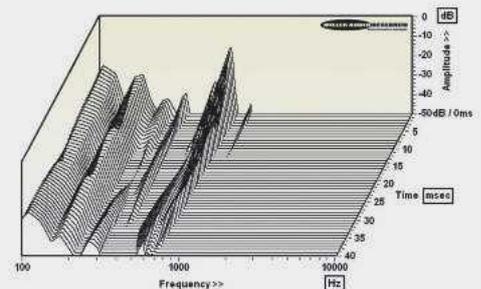
AVID VOLVERE SP

Despite the substantial 6.7kg mass of the alloy platter it is brought very swiftly up to speed thanks to the combination of its high-torque AC synchronous motor and dual belt drive. Absolute speed was very slightly slow at -0.13% (but adjustable in this SP model) while the peak-wtd wow and flutter is a respectable 0.08% , the latter comprising some 0.04% wow at $\pm 4.5\text{Hz}$ (the resonant frequency of the sprung suspension, perhaps) and 0.04% flutter at $\pm 13\text{Hz}$, both sidebands clearly illustrated on the W&F spectrum [Graph 1]. The peak at 13Hz coincided with a dominant mode at exactly the same frequency seen on the through-bearing rumble measurement [not shown here]. Otherwise the substantial stainless steel/bronze inverted bearing delivers a low -69dB DIN-B wtd rumble, improving still further to -71dB through the vinyl groove – testament to the effectiveness of the alloy platter, with peripheral rubber ring, and integral cork mat. The figure is largely unaffected by the use of the record clamp.

The partnering AVID TA-3 tonearm – an unbranded Rega RB330 – offers a medium 11g effective mass and compatibility with a wide range of pick-ups. Friction within Rega's pre-loaded 'zero-play' bearings is an excellent $<10\text{mg}$ in both horizontal and vertical planes while the resonant behaviour of its one-piece alloy tube and headshell is as clean as we've come to expect [see Graph 2, below]. The main bending mode occurs at 110Hz with a harmonic or torsional mode at 185Hz followed by a high-Q resonance at 700Hz – a distinctive feature of earlier Rega tonearms [HFN Aug '15 and Feb '18]. Taken as a package, the TA-3/RB330 is almost ideally suited to the Volvere and represents very fine value engineering. PM



ABOVE: Wow and flutter re. 3150Hz tone at 5cm/sec (plotted $\pm 150\text{Hz}$, 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	33.29rpm (-0.13%)
Time to audible stabilisation	2-3sec
Peak Wow/Flutter (Peak wtd)	0.04% / 0.04%
Rumble (silent groove, DIN B wtd)	-70.9dB (-71.0dB with clamp)
Rumble (through bearing, DIN B wtd)	-69.0dB
Hum & Noise (unwtd, rel. to 5cm/sec)	-52.8dB
Power Consumption	13W
Dimensions (WHD) / Weight	$460 \times 210 \times 480\text{mm}$ / 12.5kg



ABOVE: An outrigger from the triangular subchassis [see p44] provides a reinforced platform for the TA-3 tonearm while the leads are dressed via a clamp on the rear leg of the deck. The DIN PSU socket is fitted directly to the body of the AC motor housing

Equally, the soundstage width and depth was arguably one of the best I have heard at the price, and without any feeling of the deck trying to impress. This sounded like the properly atmospheric recording that it is, rather than it having any kind of artificial 'stereo-wide' effect.

CRISP 'N' CLEAN

Spin something more densely recorded and the Volvere SP rises to the challenge magnificently. The jangling guitar, mandolin and kick-drum on the intro to Steve Earle's 'Copperhead Road' [MCA DMCF 3426] can sometimes fight each other for supremacy in the mix, but the Volvere SP slapped them into line perfectly. And talking of those kick-drum strikes, yes, they thumped straight into my chest!

Equally, Gary U.S. Bonds' *Dedication* [EMI AML 3017] – a recording that is all too often pushed to the back of my play pile due to its poor engineering – was brought back to life. Through the Volvere SP, the underlying rhythm of 'Jole Blon' fought its way gallantly through the murk and the whole track bounded along with a swagger that put a big grin on my face.

As for the higher frequencies, my choice of cartridge was intentional

as I have often found that the treble sparkle of the AT-OC9MLII can help ameliorate the rather over-smooth top-end of Rega-based arms. With the TA-3 and AT-OC9MLII, the overall combination balanced out perfectly. There was no artificial sheen to the treble, and if a recording was turbid, the turntable let you know. That said, cymbal strikes were dynamic and clean, hi-hats crisp and snappy, and subtle background effects, such as the gentlest tap on an orchestral triangle, were clear to hear.

As a final footnote, you can't keep a vinyl-fiddler down, so at the end of the review period, I whipped off the TA-3 arm and replaced it with my regular SME 309. The results were absolutely sublime, suggesting that, while the AVID TA-3 is certainly a fine partner for the Volvere SP, the deck has even more to give, if and when upgrade funds allow. It's no secret that AVID has been working on its own range of tonearms for a few years now, and I suspect that these will be well worth the wait. 📶

HI-FI NEWS VERDICT

The Volvere SP has an inherent 'rightness' about the way it makes music, rewarding with a dynamic, detailed and confident presentation that delivers all the thrills buried within the grooves of your records without the spills. Belt-fitment excepted, it's straightforward to set up while its features almost read like a checklist of turntable 'best practice'. The results are clear to hear in its solid, precise sound.

Sound Quality: 87%



ABOVE: AVID's outboard PSU offers fine speed control, connecting to the deck via a DIN-terminated umbilical

B&W 702 Signature

An enhanced crossover and Datuk Gloss ebony-coloured veneer sees the 702 S2 offered in a 'Signature' guise
 Review: **Andrew Everard** Lab: **Paul Miller**

You'd be forgiven for a double-take when gazing upon the latest offerings from Bowers & Wilkins, the £4499 702 Signature speakers.

One of two new Signature models from the Worthing-based company – the other is the £2699 705 Signature standmount – there's little to set this slender floorstander apart from the £3399 702 S2 on which it's based [*HFN* Dec '17], beyond a rather snazzy wood finish to the cabinet, some shinier trim-rings around the drivers, with a matching grille over the tweeter, and a metal 'Signature' plate on the rear panel.

The in-house designed and built drivers are the same, as is the configuration, the just under 1m-tall cabinet housing a midrange driver and a trio of bass units, the latter tuned with a rear-venting port. The tweeter sits in its own pod atop the enclosure, in a design the company calls 'tweeter-on-top' derived from its 800 series, and long a feature of upmarket B&W speakers.

Neither is the 'Signature' idea new for the company [see boxout, p49] but anyway here we have new versions of two models from the nine-strong 700 S2 range launched back in 2017, which have been, we are told, 'crafted, honed and perfected' to create this new Signature duo.

CARBON COATING

So what's actually new here? Well, the standout feature is that wood veneer, which is unarguably luxurious. The standard 702 S2 model is available in gloss black, rosenut and satin white while these Signatures are clad in Datuk Gloss ebony-coloured veneer, sourced from specialist Italian wood processing company Alpi. The latter's sustainably sourced products are more commonly found in the decor of upscale apartments, and luxury yachts from the likes of Beneteau, Ferretti and Riva.

Closely pair-matched, but with a grain pattern unique to each set of Signatures, the veneers from this 101-year-old Italian company are topped off with nine layers of

finish – primer, base and lacquer – by B&W, giving them their deep gloss looks. No alternative finishes are available.

The driver lineup will be familiar to anyone who's kept up to speed with the current generations of B&W speakers, starting with the 25mm 'Carbon Dome' tweeter, which actually uses a 30 micron aluminium dome stiffened with a coating of carbon applied by physical vapour deposition, and then further reinforced with a 300 micron-thick ring of carbon bonded to its inner surface. All this pushes the first break-up point of the driver out to around 47kHz [see PM's Lab Report, p51].

SPLENDID ISOLATION

The tweeter is mounted in that 'solid body tweeter-on-top' housing, milled from a single chunk of aluminium and mounted

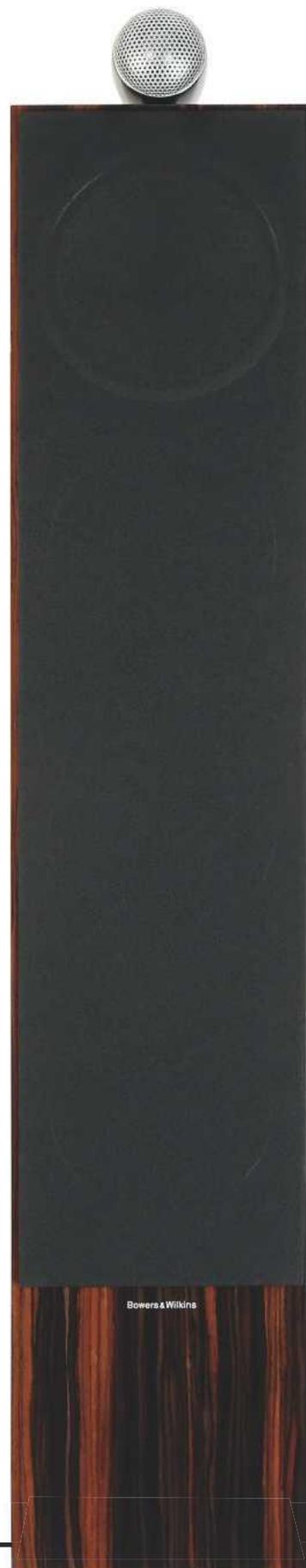
compliantly to the top of the main cabinet. This assembly, weighing over 1kg, both isolates the tweeter from the effects of the larger drivers below and acts as a heatsink for the tweeter motor.

The midrange is a 165mm Continuum driver, of a kind first seen in the 800 series Diamond range as a replacement for the company's famous yellow Kevlar cones. Its woven composite cone is of in-house design and its chassis engineered for maximum stiffness. It uses B&W's FST 'surroundless' design and utilises tuned mass damping to tackle resonances.

The entire midrange driver is decoupled from the cabinet, which is probably no bad thing given that it sits above a trio of 165mm 'Aerofoil Profile' bass drivers, their cones formed from composite skins enclosing an EPS foam core. Again, this is a design derived from the 800 series lineup, albeit in a simplified form here and in the standard 700 S2 models. So, a new cabinet finish, but the same drivers as the plain

'An attacking sound, but so hugely enjoyable'

RIGHT: Clothed in its luxury cabinet finish the 'Signature' shares the same trio of Aerofoil bass drivers, Continuum-coned FST midrange unit and carbon-dome tweeter as the original 702 S2





SIGNATURE OF THE TIMES

The idea of a Signature model isn't new for Bowers & Wilkins although, until recent times at least, the badge was reserved for celebratory models marking significant milestones in the company's history. The Silver Signature speaker, a standmount model with a cross-shaped metal protector over the Kevlar mid/bass unit, attached to a brightly polished surround, and an offset tweeter housing atop the exotically-veneered cabinet, was launched in 1991 to mark the company's quarter century. It was followed by the Signature 30 five years later which took the same thinking and applied it to a floorstanding design. By now the speaker protectors had become a horizontal bar, and two finishes were offered: Grey Tiger's Eye and Red Bird's Eye, both lacquered to a high gloss. Internal wiring was silver, and the speakers used the company's Matrix cabinet reinforcement. Launched for the 40th anniversary, the Signature Diamond was a complete departure, a Kevlar driver mounted in its own structure onto a tubular cabinet with solid marble 'tweeter-on-top' housing [HFN Dec '07]. Until the 702, the most recent 'Sigs' are headphones – B&W's P9 Signature [HFN Mar '17].

vanilla 702 S2 – is that it? Not quite, as the Signature model also has an upgraded crossover design and components, running to 'specially treated and upgraded bypass capacitors sourced from Mundorf, larger heatsinking and an upgraded low-frequency capacitor on the bass section'.

The speakers are supplied with both spikes and, for hardwood floors, rubber feet, while the full-length grilles for the main enclosure are attached with invisible magnetic fixings, and the metal grille over the tweeter is fixed in place. The terminals are mounted low down to the rear, below the dimpled port, and these are linked with jumper bars that are removable for bi-wiring or bi-amping [see p51].

Two-part foam pieces, comprising an outer ring and an inner 'bung' are supplied for bass tuning, but I found these speakers to be uncommonly room-friendly, with little of the bass output coming from the port. While the use of the bung may tighten things marginally by increasing air resistance in the port, they do little to alter the amount of bass power these speakers deliver – which is considerable.

EFFORTLESS GROOVE

If memory serves, the original 702 S2 speakers were impressively detailed, fast and gutsy-sounding, and it's on these qualities that the 702 Signatures improve. At very low levels they sound a little soft and lightweight, but haul the levels up to normal domestic listening settings and they stir into life with a focused, open sound as impressive as it is for its soundstaging as the way it presents the timbres and textures of voices and instruments.

Those who like it loud, by the way, will appreciate the fact that these relatively compact speakers are perfectly capable of shaking the sofa without the sound getting

confused or strident, or the bass messy. Yes, these speakers have what's perhaps best described as very commercial bass – as PM notes in his Lab Report [p51] it doesn't actually go that low, but it is powerful and very apparent – but it's kept well in control, making it exciting rather than annoying.

Fire up Monty Alexander's take on 'Rocking In Rhythm' [My America; Telarc SACD-63552] and the 702 Signatures really slam into the dramatic opening before settling into an effortless groove, the growling bass underpinning the piano and percussion as the track bops along.

Similarly with 'Canción del Mariachi' [Desperado soundtrack disc; Epic Soundtrax EPC 480944 2], performed by Los Lobos and Antonio Banderas, the speakers make light work of the propulsive rhythms, while delivering plenty of insight into both the vocals and the metallic sound of the guitar strings. It's definitely an attacking sound, but a hugely enjoyable one.

Switching pace to Dire Straits' 'Wild West End', from the band's debut album [Vertigo UIGY-9032], the 702 Signatures demonstrate their unforced, effortless and yet highly detailed sound once more, with a highly natural image and soundstaging, if a slight tendency to make the movement of fingers on fretboards a little too obvious. But what becomes apparent from this track, and a spin of the familiar 'In The Mountains', from the Espen Eriksen Trio's *Never Ending January* [Rune Grammofon RCD2173], is that the speakers cast an image that's very much on the plane of that Continuum midrange driver.

So, from a slightly low listening position, there's a suggestion of the performers being on a stage before the listener, and not on the floor in the room. It's not an unpleasant effect, just a slightly unusual one, and with the jazz trio track it's hard ➔

S booster

The audiophile power supply solution

Sbooster BOTW Power & Precision ECO MK2 linear power supply.

This simple linear power supply upgrade will dramatically improve the performance of your Hifi products* and you will hear the difference. At £330.00 this is one of the most cost effective Hifi upgrades available. Contact your dealer for a demonstration.

*Must have an DC inlet.

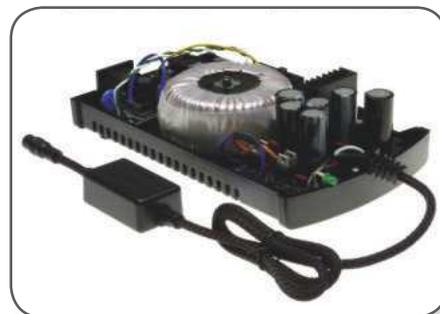
For a full list of compatible brands please see www.sbooster.com and search upgrades.

Arcam	Auralic	Bel Canto
Chord	Creek	Graham Slee
iFi Audio	Lumin	M2TECH
Martin Logan	Melco	Musical Fidelity
Mytek	Project	Rega
Roon	SOtM	Stax

Products from the brands above benefit sonically when used with S Booster linear power supply.

Signature
AUDIO SYSTEMS

Distributed by Signature Audio Systems, call: 07738 – 007776
or by e-mail to: info@signaturesystems.co.uk Web: www.sbooster.com



LINDEMANN.

Lindemann's next generation Musicbook Network Music Player is the perfect package.



Signature
AUDIO SYSTEMS

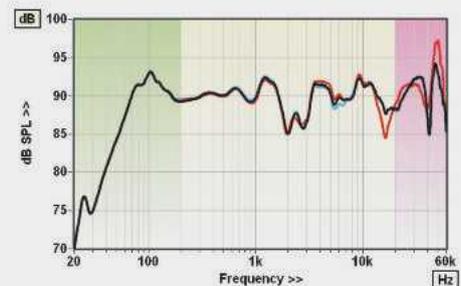
Distributed by Signature Audio Systems, call: 07738 – 007776
or by e-mail to: info@signaturesystems.co.uk Web: www.lindemann-audio.de

B&W 702 SIGNATURE

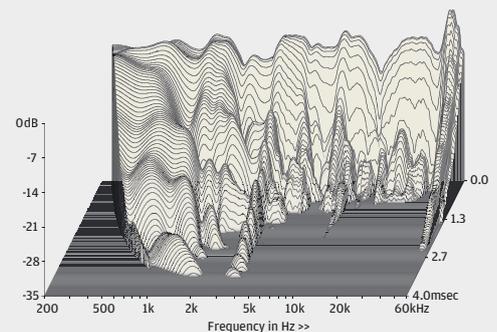
While the performance of the 702 Sig is broadly unchanged from the measurements published for the 702 S2 [HFN Dec 17], it is now possible to reveal some extra valuable detail. The forward response, measured on B&W's preferred midrange axis, shows the same distinctively irregular $\pm 4.2\text{dB}$ pattern although the significant dip at 16kHz [red trace, Graph 1] was less obvious on one of the pair [black trace], resulting in a 3.3dB imbalance. Between 200Hz-10kHz, however, pair matching is an excellent 0.6dB and sensitivity close to B&W's 90dB spec. at 89.6dB.

B&W also demonstrates that a speaker grille need not introduce large cancellation notches in response [blue trace, Graph 1] and we can now also see the primary resonance of the 'carbon' dome tweeter is at a high 48kHz/+7dB [pink shaded area]. This is also visible on the CSD plot [Graph 2] along with a mode in the Continuum mid cone at $\sim 4\text{kHz}$. At the other end of the spectrum [green shaded area] corrected nearfield analysis reveals a steep roll-off beyond the triple woofers' 105Hz peak and what might seem a limited 50Hz bass extension (-6dB/200Hz). However, it's worth noting that the rear-facing port, tuned to 21Hz with -3dB points at 17-30Hz, offers a limited contribution and so the 702 Signature may be safely used near a rear wall and its bass further 'tuned' without fear of boominess.

High sensitivity, meanwhile, is achieved at the expense of a fairly tough load, the impedance minimum of 2.95ohm/118Hz joined by a dip to 3.25ohm/660Hz where there are $\pm 20^\circ$ phase angles. The biggest swings in phase angle of $+47^\circ/1.4\text{kHz}$ and a significant $-70^\circ/72\text{Hz}$ at 8.3ohm will test some amplifiers. 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: Major modes decay quite quickly here, exposing a mid-driver resonance at 4kHz [see Graph 1]

LEFT: The bi-wire/bi-amp terminals, and associated links, are a feature of all 800/700 series loudspeakers although the Flowport reflex port faces rearwards rather than frontwards in the 702 Sig.

brio by the John Wilson Orchestra [*Rodgers & Hammerstein At The Movies*; EMI Classics 50999 3 19301 2 3], is handled in an entirely persuasive fashion, the sense of the unstoppable fairground ride spinning relentlessly evoked with real style both in the playing and the way the 702 Signatures deliver the music.

SERIOUS PUNCH

Feed these speakers with something really big, hard-hitting and complex – and what better than ELP's three-part 'Karn Evil' [*Brain Salad Surgery*; Razor & Tie, 96kHz/24-bit] – and the 702 Signatures show what they can really do, especially at 'bass felt as well as heard' levels. All three performers are crystal clear, even in the most frenetic moments, with Greg Lake's slinky bass figures thundering away, Carl Palmer's big kit going like the clappers, with serious punch and liberal gongage, and Keith Emerson's keyboards and synths swooping, swooshing and grinding through the mix with a superb old-school electronic bite.

Around about the second part of the piece, I wrote in my listening notes 'This isn't prog – it's actually trio jazz on the grand scale', and that's exactly how it sounded via the 702 Signature speakers, with all the crispness and acuity of timing you'd expect from a tight little jazz trio, just delivered with a huge multitracked swipe. Glorious stuff! \downarrow

HI-FI NEWS VERDICT

Yes, the sound of the 702 Sigs has been both refined and, I suspect, given a slightly more commercial edge. This isn't the purest-sounding design around, but it's both hugely enjoyable and musically very rewarding. They are very room-friendly and easy enough to match, provided you give them some amp power to work with, and the tried-and-tested in-house drivers work well in this swish new cabinet.

Sound Quality: 85%



not to like the rich thud of the drums and sonorous tone of Eriksen's piano, along with the way each instrument is clearly defined and placed.

That clean balance, allied to no shortage of power, serves well the demands of classical music: the brass of Wagner's *Götterdämmerung* Prologue [Gustavo Dudamel/ Orquestra Sinfónica Simón Bolívar de Venezuela; 48kHz/24-bit] sounds suitably menacing, while the strings and woodwind are treated with delicacy and precision as the piece develops into 'Siegfried's Rhine Journey' with its intertwining textures. Meanwhile the great swirling build of Richard Rodgers' 'The Carousel Waltz', played with

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – 1kHz/Mean/IEC)	89.8dB / 89.6dB / 87.5dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	2.90ohm @ 118Hz 23.7ohm @ 59Hz
Impedance phase: minimum & maximum (20Hz–20kHz)	-70° @ 72Hz 47° @ 1.35kHz
Pair matching/Resp. error (200Hz–20kHz)	3.3dB / $\pm 3.7\text{dB}$ / $\pm 4.2\text{dB}$
LF/HF extension (-6dB ref 200Hz/10kHz)	50Hz / 63kHz/61kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.5% / 0.15% / 0.5%
Dimensions (HWD) / Weight (each)	994x200x337mm/29.5kg

Aqua LinQ

Packed with proprietary technology, this network bridge is the obvious partner for Aqua's own DACs. But does its appeal extend beyond a one-brand digital set-up?
 Review: **Andrew Everard** Lab: **Paul Miller**

Never let it be said that AQ Technologies is either a follower of fashion or a taker of the easy route: the Milan-based company behind the Aqua range always does things its own way. And while that might sometimes seem like an exercise in making life difficult for itself, the policy typically pays off in the performance, as we discovered when reviewing the Aqua Formula xHD Optologic DAC [HFN Apr '20]. Under the Nextel-finished anti-resonant aluminium casework of that model – one of three DACs in a total Aqua lineup of five products – is a galvanically-isolated resistor-ladder converter of novel design.

Now, for a network source to feed the DACs – there's also a CD transport in the lineup – the company has developed its own network streaming solution, which is at the heart of the £4982 LinQ we have here. Add the DAC and this network 'transport' together, and you have a complete streaming player with a tag around the £16,000 mark, or you could start at a lower level with the LinQ and Aqua's La Voce S3 DAC, and do the job for a little over £9000.

ON THE CARDS

So what actually is the LinQ? Well, the connections to the rear tell the story better than the front panels. There's just an Ethernet port for network connection here, and a range of digital outputs, so this is effectively a network bridge, designed to bring streaming capability to the company's DACs. But intrinsic to the design is its modularity, with the LinQ's chassis able to accept up to four cards designed to add functionality [see PM's boxout, p53].

As standard for your £4982, the LinQ will come equipped with either a Roon-ready card or one for UPnP/DLNA streaming, but include both Roon and UPnP

and you increase the bill to £5990. At the moment those are the only two cards available for the LinQ, but we are promised more, the module in use being selected by simple front-panel toggle switches.

It's worth noting here that this modular architecture allows each board to be optimised for its function, rather than squeezing all the functionality through a single one-size-fits-all board. In addition to the LinQ itself having separate C-Core transformers for its network and digital decoder sections, each board has its own PSU regulation. There's also a bespoke LAN switch module included, increasing isolation from the user's network.

And that, almost, is your lot when it comes to things to play with on the LinQ, as the only other controls are a power switch and one to turn off the display.

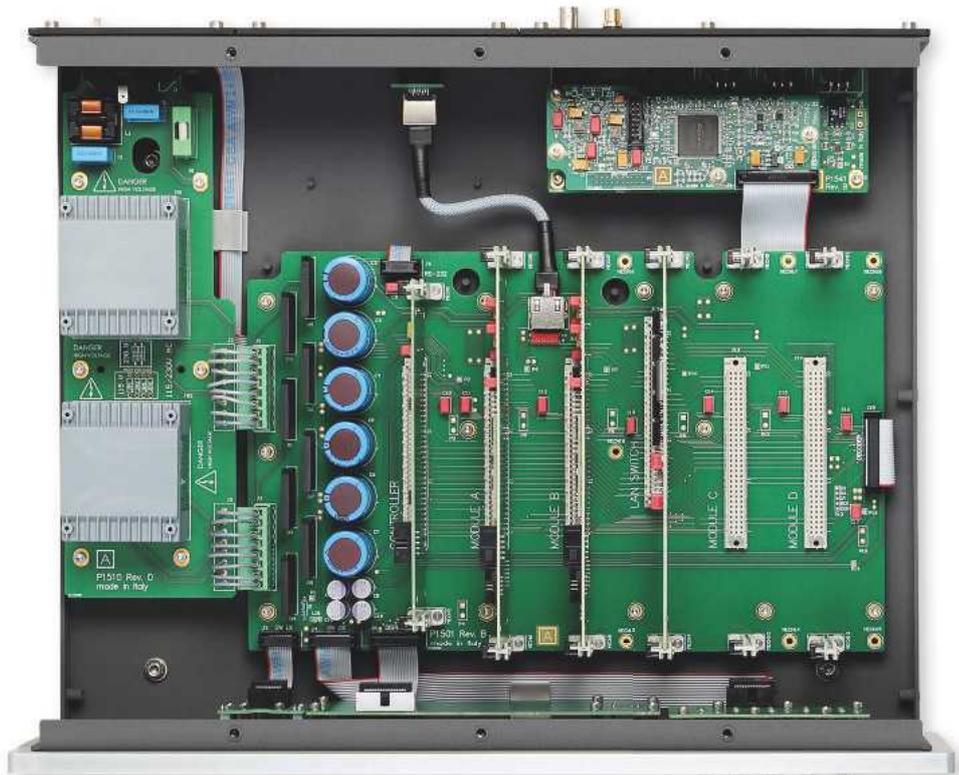
There's no remote (though an RC5 handset is available as an option), and neither does this player have a dedicated control app.

ROON TO THE RESCUE

Now I get the whole 'no need to reinvent the wheel' thing when there's a good range of third party UPnP control/player apps available, from PlugPlayer and Bubble UPnP to mConnect and Kinsky, but I can't help feeling an app 'skinned' with the Aqua aesthetic wouldn't go amiss here, reflecting the company's idiosyncratic approach.

Oh well, I suppose there's always Roon, which renders the whole subject moot, coming as it does with its own ultra-slick and intuitive app interface, which is quite unlike that of any conventional UPnP software. You can even 'drive' the LinQ

'The LinQ does absolutely nothing – but in a good way!'



RIGHT: Two transformers [near left] feed separately regulated PSUs [blue caps] that supply the custom LAN switch card [far right], Roon and UPnP DLNA cards [centre] and digital decoder [on an Altera FPGA, top right PCB]



ABOVE: The LinQ keeps it simple, its fascia having little more than toggles to select the modular boards (up to four may be loaded). Switches to left select power and display on/off

from a laptop or desktop computer using Roon, as well as from your phone or tablet – but bear in mind that you’re also going to need a means of running the Roon Core software (which could be on that computer) and of course a Roon licence.

So is the LinQ only for owners of Aqua’s DACs, or does it have wider appeal than that? Well, that sort of depends what you want from your network bridge, for unlike just about every device of this kind, the LinQ’s output of choice isn’t a USB port to match up with virtually every aftermarket DAC. Instead, the principal digital output here is something called ‘AQLink Pro’, on an RJ45 ‘Ethernet type’ socket – just don’t be fooled into thinking this is some kind of network connection.

STRIPPED DOWN

Of course, Aqua’s DACs have this connection, which is a proprietary spin on I²S, and able to carry audio formats up to 384kHz/32-bit LPCM and DSD128, as is the dual AES/EBU connection, should your

DAC support that. The remaining single AES/EBU and two S/PDIFs – one apiece on BNC and RCA – are capable of delivering up to 192kHz/24-bit and DSD64. Why no USB audio output? Simply, Aqua says it has chosen to leave it out to avoid the conversions needed to implement it, which it feels are detrimental to sound quality.

The same goes for other elements of the somewhat stripped-down network interface found here, so you’ll search in vain for any sign of wireless connectivity, whether that be Wi-Fi or any flavour of Bluetooth. The LinQ is optimised for wired networking, and nothing else – although if your controller app supports it, you can play music from your smartphone, for example, via UPnP to the LinQ.

So, the use of the LinQ with one of the Aqua DACs could be seen as something of a no-brainer, so

closely are they designed to work together. Use them with a UPnP control app such as the mConnect Player and you can access your own files stored elsewhere on your home network, as well as online services such as Qobuz and Tidal, along with Internet radio. And you can also enjoy files up to dual DSD and DXD.

For those of us without recourse to an Aqua DAC, things are a little more limited – but that’s where Roon comes in, with its ability to convert files before sending them to the LinQ, not to mention a much more enjoyable and flexible interface than any of the commercially available UPnP apps.

CLEAR TO HEAR

For much of the testing here, I used the LinQ alongside the Simaudio MOON 780D v2 [see p40], switching between MOON’s onboard MiND2 streaming implementation and the LinQ connected via an AES/EBU connection, and between UPnP operation and Roon RAAT connectivity, before coming to a couple of conclusions after only a day or so of listening.

The first was that there was nothing in it between the sound with the 780D v2 fed by its internal MiND2 module and the LinQ/780D v2 path. The second was that switching between the LinQ’s UPnP module and its Roon board made not a jot of difference to the sound.

So for the rest of the listening period I mainly stuck to controlling the LinQ via Roon and using the 780D v2 as just a DAC. I also tried a few experiments such as feeding the Aqua’s inputs into my Naim 

CUSTOM DIGITAL

There is very little indeed that’s ‘off-the-shelf’ within the LinQ even if its lack of a USB output, proprietary or otherwise, remains something of a puzzle. In practice, the LinQ is based on a series of completely independent modules, each optimised for a particular function. In addition to the Roon Ready bridge module and UPnP DLNA streaming module there’s also an HQ Player NAA solution in development. Each module has its own dedicated power supply and plugs into a connector on the base board, this architecture also enabling swap-out upgrades in the future.

The current modules are based around TI’s AM335x Arm/Cortex processor running proprietary UNIX code and a custom Linux kernel for the Ethernet stream. The modules boot swiftly, assigning the router/modem DHCP IP within seconds. There’s also a Xilinx FPGA for the clock and digital routing, with further proprietary code developed to implement the S/PDIF, AES/EBU and dual-AES outputs. Finally, the communication lines between each module are galvanically isolated, with further separation afforded by the internal LAN switch module, developed by Aqua. Indeed, Aqua claims the use of this built-in LAN switch is key to obtaining the best sound out of the LinQ. PM



ribbon tweeter

134mm
bass/mid
drive unit



NEAT:
THINKING
INSIDE THE
BOX.



neat
acoustics

Handcrafted in England.
www.neatacoustics.com

low Q p

crossov
& input

seale
iso-
cha...

134mm

NETWORK BRIDGE



ABOVE: Aqua offers a single wired Ethernet port by way of input, feeding single and dual-AES/EBU outputs on XLRs, S/PDIF outputs on coaxial and BNC connectors, and an I²S output via an RJ45 connection (this is not a network port)

ND555 [HFN Apr '19] via digital in, and drawing comparisons between the two 'network transports', as well as trying the LinQ with various other DACs and 'digital input' amps I had to hand [NAD M33, HFN Aug '20].

The upshot of all this fiddling about? Well, the Aqua LinQ does absolutely nothing – but in a good way! I rapidly became aware that I was listening not to anything being added or removed by Aqua's 'network interface', but to the sound of the digital converters to which it was connected being fed with a clean S/PDIF or AES/EBU stream.

SOARING RIFFS

So, when thundering out the live version of 'Telegraph Road' from Mark Knopfler and Emmylou Harris's collaborative *Real Live Roadrunning* set from 2006 [Nonesuch/Warner Bros 44417-2], the sound was both open and unmistakably live, with a real sense of event and a fine insight into Knopfler's ringing guitar work and his husky voice.

Meanwhile in the duets with Harris the two voices play off each other in a delightful fashion, while at the same time being totally distinct, the backing band, all accordion, pedal steel and organ, creating a warm, lush backdrop. And then on 'Speedway At Nazareth' Knopfler lets loose with stabs of guitar and soaring riffs, the transparency of the LinQ really taking the listener into the heart of the band.

With an entirely different genre, it's something it also does with the precision and reverberant ambience of Anna Prohaska's *Bach: Redemption* collection [Alpha Classics ALPHA658; 192kHz/24-bit], both bringing out the detail of the small musical forces involved and allowing Prohaska's lovely soprano voice to fill the church acoustic in which the album was recorded.

The open clarity also suits well the effortlessly natural-sounding production of Bob Dylan's *Rough And Rowdy Ways* [Columbia; 96kHz/24-bit download], whether with the darkness of the track 'Black Rider' or the chugging blues of 'Crossing The Rubicon'. Here the whole set has a 'stick a microphone in front of the band' feel, and the crisp rendition of the unforced sound – if one can have such a thing with an album so obviously produced to within an inch of its life – even makes the convoluted closer, 'Murder Most Foul', compelling. Yes, all 17 minutes of it!

Every single detail of the mix is delivered through the Aqua LinQ into whichever DAC you choose to use with it, and it's a sound you'll find yourself listening to repeatedly, just to hear those little nuances in Dylan's near-spoken vocals.

And it's affecting musically, too, more than which one really can't ask. Yes, it's arguable there are less expensive ways of achieving the same effect when networking an existing DAC, but Aqua's following of its own ways certainly pays dividends here. ☺

HI-FI NEWS VERDICT

Any sound quality score here is somewhat arbitrary, simply because the Aqua LinQ brings nothing of itself to the sound, and merely lets the DAC to which it's connected perform at its best. Arguably still better connected to one of the company's own DACs via the proprietary AQLink connection, it certainly offers a very clear path twixt network and digital conversion, and it's hard to argue with that.

Sound Quality: 84%

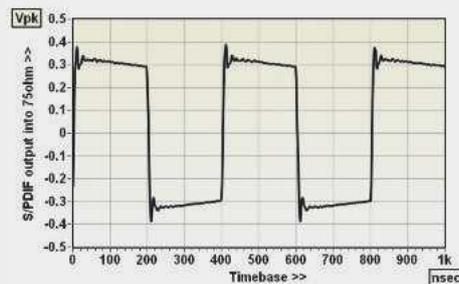


AQUA LINQ

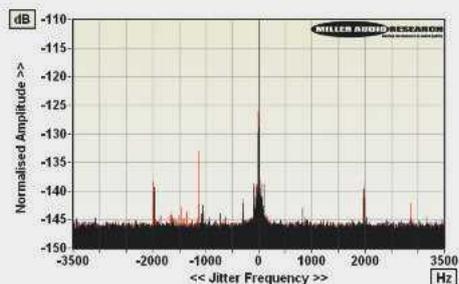
The LinQ's closest bedfellows in the hi-fi market are products like the Pro-Ject Stream Box S2 Ultra [HFN Oct '18] and dCS Bridge [HFN Jun '17], all of which are digital signal conditioning devices without either onboard ripping or storage services. In practice this means re-clocking and formatting data between Ethernet and, in this case, AES/EBU and S/PDIF output formats. The LinQ's S/PDIF output falls a little outside the 0.9-1.2V IEC-958 specification at 766mV_{p-p} but deterministic jitter is well within the ±20nsec window at ±1nsec. Aqua uses a wideband line driver that confers a 'fast' 5.8nsec risetime with minor ringing and overshoot into a standard 75ohm termination [see Graph 1].

Otherwise, as the music data remains in the digital domain in and out of the LinQ, any uplift in subjective performance over a conventional NAS or PC/Mac can only be inferred via a third-party DAC. Secondary re-clocking or jitter suppression within the attached DAC is also a factor here, so a DAC with excellent performance may not express a significant difference. Similarly, a DAC that incurs jitter at the chip level will not improve regardless of the LinQ's re-clocking of the digital data. A good example of the former is provided by Mytek's Brooklyn DAC [HFN Aug '17] which employs an ES9018 converter expressly recognised for its built-in jitter suppression.

So there was no difference in the 115.5dB A-wtd S/N ratio between both instrument-grade PC and Aqua LinQ/Mytek combinations and essentially no difference in the 8psec/7psec jitter (48kHz/96kHz sample rates). However there was a reduction in non-jitter spurious between the custom PC and LinQ [red and black traces, Graph 2, below]. A similarly high level of performance was measured via Musical Fidelity's PCM1795-equipped MX-DAC where jitter remained <10psec at all sample rates with the Aqua LinQ as the interface. PM



ABOVE: S/PDIF data pattern from Aqua LinQ coaxial output into a default 75ohm receiver



ABOVE: 48kHz/24-bit jitter spectra from a Mytek Brooklyn DAC over S/PDIF (red, via instrument-grade PC with dedicated digital out; black, via Aqua LinQ)

HI-FI NEWS SPECIFICATIONS

Digital inputs	1x Ethernet
Digital outputs	AES, dual-AES, I ² S, 2x S/PDIF
S/PDIF (output level/risetime)	766mV _{p-p} / 5.8nsec
Digital jitter (Mytek Bridge)	8psec (9psec via PC S/PDIF)
Digital jitter (MF MX-DAC)	9psec (12psec via PC S/PDIF)
Power consumption	5W
Dimensions (WHD) / Weight	450x100x370mm / 9kg

Ayre AX-5 Twenty

The Colorado company celebrates its platinum anniversary with a reworked version of a fully balanced integrated that sent the preamp stage packing. Another class act?

Review: **David Price** Lab: **Paul Miller**

Back in 1993, Charles Hansen – the designer and founder of respected US loudspeaker specialist Avalon Acoustics – formed Ayre Acoustics. Over the 25 years that followed, he built up the brand, adding a range of innovative preamps, power amplifiers and integrated designs, all descended from the company's original 'zero-negative feedback' V-1 power amplifier. Bolstering the current lineup are various digital sources, such as the Ayre QX-5 Twenty USB/streaming DAC [*HFN* Dec '17], phono stages, and head-fi products like the Codex DAC/headphone preamp [*HFN* Jul '16] – all at prices that indicate they're not aimed at the mass market.

Charles passed away at the end of 2017, but the company, which is based in Boulder, Colorado, was already advanced in its plans to celebrate the brand's illustrious history, having launched the £14,750 AX-5 Twenty integrated amp in 2016 to mark its 20th anniversary. A replacement for the AX-5 [*HFN* Jun '14], it's an integrated whose size, weight and cosmetics bear all the hallmarks of the American high-end.

DOUBLE ACT

This is nothing if not a big and chunky product. Measuring 440x120x480mm (whd) it tips the scales at 22kg, which is sufficient to make you not want to keep moving it around once you have it unpacked and in your listening room. The quality of finish is excellent, and even if it does have something of a 'hand made' feel compared with the ultra-slick finishes found on some other premium components, in this case it adds character.

Toting a claimed 125W per channel into 8ohm, and twice that into 4ohm [see PM's Lab Report, p59], most people will struggle to find a loudspeaker to stretch it. Indeed this fully discrete, fully balanced, 'zero-

feedback' amplifier is something of a wolf in sheep's clothing, packing innovative tech such as a revised version of the Diamond output stage used in the AX-5 – now renamed the 'Double Diamond' and said to run cooler – and EquiLock circuitry. It also employs the Variable Gain Technology found in the Ayre KX-R preamplifier in the power amplifier section [see boxout, p57].

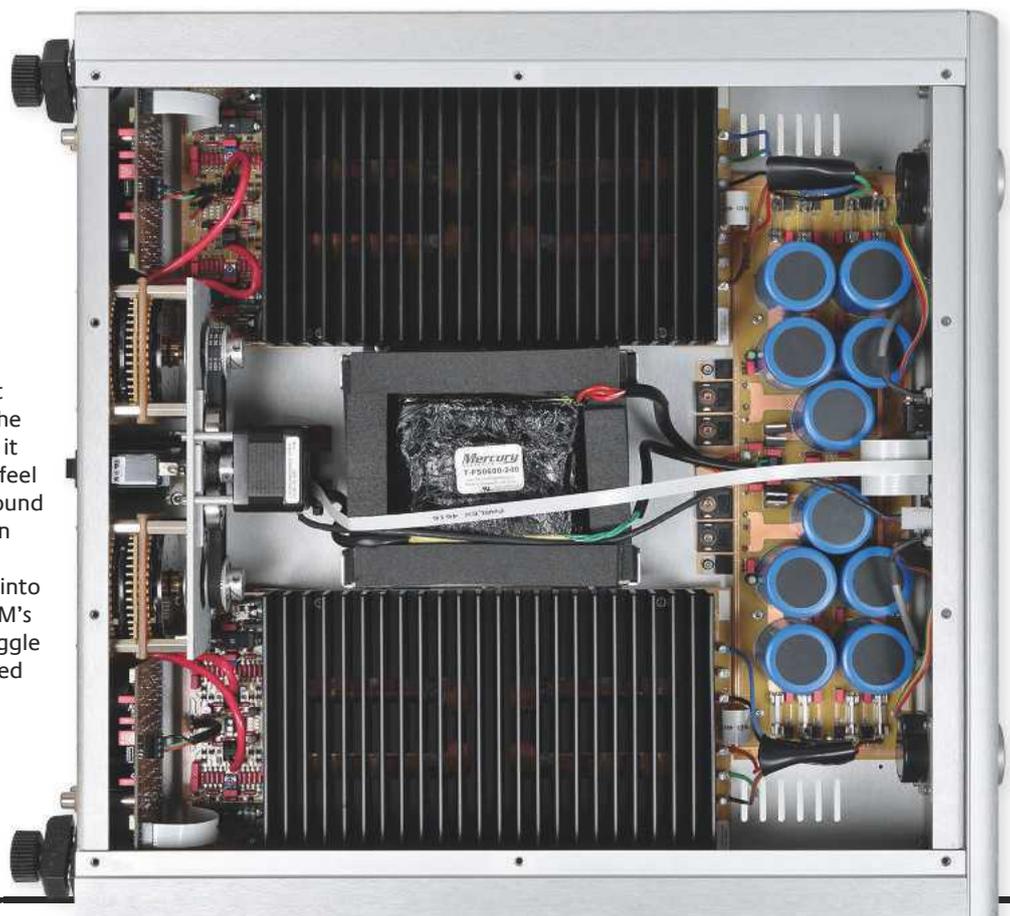
Fresh out of the box, the AX-5 Twenty needs configuring and won't work until you've assigned names to the inputs. If this stage has been overlooked then the amp automatically starts up in set-up mode. You're asked how many of its six inputs you wish to use, as you run through a procedure that names each one. This makes sense, but only up to a point since the menu of preset names includes some

pretty arcane choices. Why, for example, is there both 'CD' and 'CDR', and does anyone use 'DAT' anymore?

CHARM SCHOOL

You can also assign your own names to inputs, but this is a more involved process and there's a maximum of three characters allowed, which in 2020 feels unnecessarily limiting. Also, the fact that the display is an old-fashioned alphanumeric digital type makes this process even more of a chore. Indeed, by modern standards the whole procedure feels clunky, though some might find they warm to its old-school charm!

The fascia looks swish, and the knobs for source and stepwise volume have a nice action. Only the big blue LED display looks dated. Its saving grace is that it's large



RIGHT: The balanced 'Double Diamond' amplifier modules are embedded under heatsinks [top and bottom]. Motorised belt-driven Shallco (silver) switches govern the stepped L/R gain controls [left]



and so can be seen easily across the room. Handily, you can also control its brightness from the partnering, and reassuringly solid remote control [see p59]. Aside from the two big rotary controls, you get two buttons either side of the display, the left handling tape outputs and set-up, and the right mute and standby – both depending on whether you give the button a short or a long press. As for the power switch, this is to be found on the rear of the amp, along with four balanced and two single-ended line inputs, plus balanced loudspeaker terminals. These are joined by tape outputs on balanced XLR sockets and two AyreLink remote switching ports.

LIGHT FANTASTIC

There is little sense of the AX-5 Twenty being a ‘character amplifier’, one that thrusts its personality at the listener.

POLISHED DIAMOND

Patented in the 1960s by Prof. Richard Baker of MIT, the ‘Gateable Bridge Network Having Power Gain’ (or Diamond Circuit) describes two pairs of bipolar transistors with tied emitters and bases. Still used in unity gain op-amp ICs to boost current rather than voltage output, the technique remains rare in higher power amplifier circuits. While there are advantages in the reduction of common-mode noise and distortion, the bridged output is necessarily floating, so the AX-5 Twenty should not be connected to any speaker that has a ground (including electrostatics or many with active bass systems).

Its other ‘feature’, VGT or Variable Gain Transconductance, is a method of offering control over volume without simply attenuating the full gain of the preceding preamp section. Here a stepwise resistor ladder governs the *gain* of the power amp’s FET-based input – innovative, but with variable gain comes variable compensation (feedback) and so distortion changes with volume setting even if the output power is unchanged. For example, for a fixed 10W power output, the lowest distortion (0.03%/1kHz) is achieved at the maximum volume position ‘46’ (+31dB gain), increasing very slightly to 0.04% at ‘40’ (+22dB gain) before advancing to 0.05% at ‘38’ (+19dB gain), 0.14% at ‘34’ (+13dB gain) and 0.26% at ‘32’ (+10dB gain). This is clearly illustrated by the inset Graph where grey is ‘Vol 46’; red, ‘40’; cyan, ‘38’; green, ‘34’ and black is ‘Vol 32’. PM

‘Most will struggle to find a loudspeaker to stretch it’

Rather, it’s remarkably even-handed and thorough in the way it makes music, never adding colour or stripping recordings of their textures and dynamics. The result is a big, powerful and articulate presentation that shines a light into the recesses of the most complex of mixes yet at the same time never dazzling the listener.

Of all its talents, the most noteworthy have to be its power and sheer dynamic headroom. There are few amplifiers at any price that seem completely at ease with themselves, yet this is one of them. Kraftwerk’s ‘Techno Pop’ [*Electric Cafe (Deutsche Version)*]; Kling Klang CDP 564-746420 2] is a veritable sonic work-out for any hi-fi system thanks to its enormous tracts of deep bass and fist-clenching dynamics, yet so unflustered was the AX-5 Twenty that it might as well have

ABOVE: Rotary encoders are for source selection and volume, plus navigation of the setup menu when in standby. Push buttons are for tape output on/off and mute/standby

been handling some easy listening music – Barry White maybe? – at dinner party levels. What’s more, while it delivered its power effortlessly, it never sounded either louche or overly laid-back.

SEALING THE DEAL

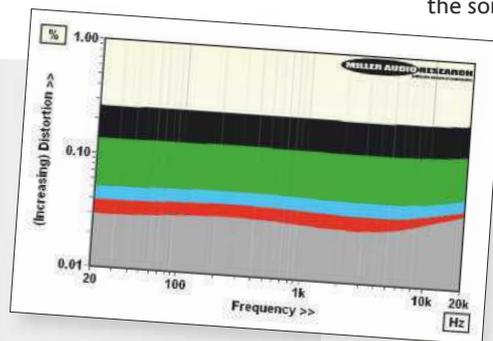
I’ve heard a number of big, barrel-chested amplifiers over the years, and some of them – despite their power – have seemed almost uninterested in the job in hand. Grace Jones’ ‘Slave To The Rhythm’ [*Island Life*; Island Records 842 453-2] can sound like an over-produced dirge via some amps but here I was treated to a seriously engaging and propulsive sound. There was a lot of physicality to the proceedings, but Ayre’s AX-5 Twenty was able to track the song’s dynamics very well –

resulting in a performance that was not just lively but downright compelling.

As the song reached a crescendo, this mighty integrated just kept on pushing, and proved really adept at conveying the emotional side of the music too. Throughout the track, Grace Jones’ vocals have a brooding quality that sometimes build up

to an almost angry intensity, and this was conveyed perfectly. So the AX-5 Twenty is far from being a big-booted but flat-footed bruiser. Rather, it can really rock out and make music fun.

There are more admirable facets to its character that seal the deal. First is detail retrieval. There’s a sense that you can hear into the music in a way that few integrated amps at any price enable you to. Steely Dan’s ‘Home At Last’ [*Aja*; MCA Records 088 112 056-2] was a real treat, the amp revealing all the grain in singer Donald ☺



NOVAFIDELITY

Innovators in streaming devices offering unrivalled future-proof feature sets since 2003.



Multiple control options

- Full traditional remote control
- Full front panel control with 7 inch colour screen**
- Web interface via PC, iOS or Android device
- [NEW] Music X Neo control app for iOS and Android

Highly flexible

- Up to 8TB internal storage (16TB on X50/X50PRO)
- CD ripping functionality
- Network protocols supported
 - °UPnP(DLNA) Server/Client/Media Renderer
 - °Samba Server/Client
- Bluetooth, Airable (internet radio), DAB/FM
- Wide-ranging analogue I/O including phono stage***

*HD implementation due early 2020

** Excludes N15D. app/webinterface control only

***Phono stage on X35, X45, X45Pro



**Now shipping
with MusicX NEO**

Remote control
app compatible
with iOS and
Android



WWW.NOVAFIDELITY.COM

Distributed exclusively in the UK and Ireland by **SCV Distribution**
www.scvdistribution.co.uk | 03301 222500

AYRE AX-5 TWENTY



ABOVE: Cardas speaker terminals are joined by four balanced and two single-ended line inputs, plus tape out XLRs. The RJ-11 sockets provide 'AyreLink' system commms

Fagen's voice, yet ensuring the vocal performance never sounded brittle. The piano work was vibrant and you could hear the slight echo to it better than usual. The percussion seemed more direct and had a more believable, tangible quality, too. All these relatively small details came together to give the song much more of a believable feel, it seeming less processed than when heard through many of the high-end solid-state amplifiers that have passed through my listening room.

TRUE GRIP

It's important to point out that the AX-5 Twenty is not especially tonally bright. It certainly casts a clean white light on things, but the luminance – if you can call it that – is just right. There's no sense of wishing you had a smoother DAC or turntable as source, or a pair of warmer-sounding loudspeakers.

Indeed, I found I could play 'well-lit' tracks, such as Annie Lennox's Grammy Award-winning cover of 'No More "I Love You's"' [Medusa; RCA BVCP-796] and not need to take cover behind the sofa with my fingers in my ears. This amplifier's even tone is much appreciated, because some big transistor designs can sound a little harsh with this track, especially at higher volumes.

Only in the bass could the AX-5 Twenty be said to fall a little short. While the low end is big and strong there are times when it's not quite as tight as one might like. I noted this particularly with my hard-to-

LEFT: The Ayre system remote governs menu navigation, input, volume and display brightness here



drive, infinite baffle Yamaha NS-1000M loudspeakers, where it didn't quite have the stop/start speed of some cost-no-object solid-state designs I've tried. But with my Quad ESL-989 electrostatics this proved much less of an issue and by most standards bass performance is very good indeed. It's just that there's nowhere to hide at this price.

The last aspect of the AX-5 Twenty's performance that caught my ear is its soundstaging. This is highly impressive, and goes back to the amplifier's overall sense of grip and effortless power. I drove my big NS-1000Ms like they were tiny little Wharfedale Diamonds, absolutely commanding them. This in turn made for a superb rendition of the recorded acoustic of Crosby, Stills, Nash & Young's 'Country Girl' [Deja Vu; Atlantic 7567-82649-2].

By no means would you call this an audiophile recording, yet the AX-5 Twenty picked through the murky soundscape to give a really clean, architectural sound with everything neatly in its place. There was no sense of instruments being placed in the mix incorrectly, or indeed vaguely. Instead, everything was practically nailed down to the floor. Depth perspective was impressively good too, giving a really immersive feel to this classic track. ⚡

HI-FI NEWS VERDICT

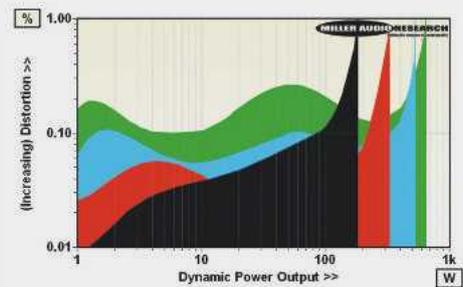
Ayre's AX-5 Twenty is nothing if not a special-sounding amp. It may not be the world's most versatile integrated and its ergonomics are quirky to say the least, yet it gets on with the job of serving up serious amounts of power and detail, allied to fine dynamics, in an enjoyable and authoritative way. Factor in its use of innovative tech plus its sturdy build and it's an impressive package – even at this price.

Sound Quality: 85%

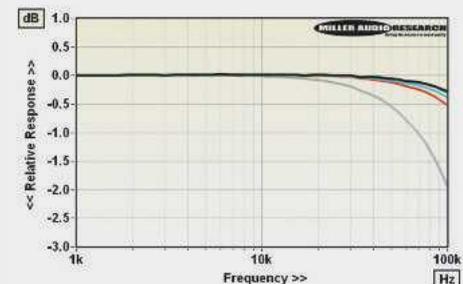


While the anniversary celebrated by this 'Twenty' version of the AX-5 integrated has long since passed, comparisons with the original AX-5 [HFN Jun '14] reveal potentially far greater revisions to both the VGT (Variable Gain Transconductance) 'volume control' and 'Double Diamond' output stage than suggested by Ayre itself. Both these circuit innovations combine to create a very distinctive technical fingerprint for the AX-5 and its successor – noise, for example, is exceptionally low and the A-wtd S/N correspondingly wide at 101dB (re. 0dBW) while distortion is purely 2nd/3rd harmonic. Distortion is very consistent with frequency but not with output level or applied gain [see boxout, p57]. For example, THD is as low as 0.009% at 1W/8ohm but increases to 0.04%/10W and 0.13%/100W (all from 20Hz-10kHz). The output impedance is also very flat at 0.150-0.155ohm (20Hz-20kHz), increasing slightly to 0.185ohm/100kHz, but the response [see Graph 2, below] gets flatter and more extended the lower the gain (lower VGT setting), from -2.0dB/100kHz (vol = 46) to -0.3dB/100kHz (vol = 32).

Power output is higher than achieved by the AX-5, and its load tolerance is significantly enhanced, despite the 125W/8ohm specification remaining unchanged. The AX-5 Twenty achieves 2x155W/8ohm and 2x250W/4ohm with a boost to 183W, 335W, 535W and 650W into 8, 4, 2 and 1ohm loads under dynamic conditions (the AX-5 managed 160W, 280W, 215W and 125W, respectively). This is clearly illustrated [Graph 1, below] as is the variation in distortion both with output level and decreasing load impedance. I would expect the sound of the AX-5 Twenty to vary slightly with speaker load and volume setting. PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 25.5A



ABOVE: HF resp. from 1k-100kHz at 10W/8ohm (grey, Vol '46'; red, '40'; cyan, '38'; green, '34'; black, '32')

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	155W / 250W
Dynamic power (<1% THD, 8/4/2/1ohm)	183W / 335W / 535W / 650W
Output imp. (20Hz-20kHz/100kHz)	0.150-0.155ohm / 0.185ohm
Freq. resp. (20Hz-20kHz/100kHz)	+0.0dB to -0.09dB/-1.85dB
Input sensitivity (for 0dBW/125W)	81mV / 905mV (balanced)
A-wtd S/N ratio (re. 0dBW/125W)	100.9dB / 121.9dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.038-0.048%
Power consumption (Idle/Rated o/p)	113W / 435W (31W standby)
Dimensions (WHD) / Weight	440x120x480mm / 22kg

Emotiva XPA HC-1

With remarkable power on tap, and very little lost to heat, Emotiva's XPA HC-1 monoblock promises exceptional performance-per-pound. Is it the bargain it seems?
 Review: **Mark Craven** Lab: **Paul Miller**

American brand Emotiva's mission statement puts affordability front and centre. Claiming that 'the price of sonic nirvana' had begun to slip out of the reach of many audio fans, it launched in the early 2000s with the goal of dragging it back, using founder Dan Kaufman's previous experience as an OEM supplier as its foundation. This XPA HC-1 monoblock amp is a perfect example of the Emotiva ethos, promising serious power without the serious price. Just £799, in fact.

The company first hit the market with the DMC-1 multichannel preamp/processor, but its full product suite now includes loudspeakers and subwoofers, CD players and AV processors, and preamps and amplifiers ranging from mono to 11-channel. The XPA HC-1, despite the budget ticket, is actually one of its 'high-end' models, designed and manufactured at Emotiva's Tennessee plant, and part of the flagship X series. Those wanting to

BELOW: Modular design in action as Emotiva's mono amplifier card [top] is fed from a custom switchmode PSU [bottom]. The amplifier and PSU heatsinks are braced via a couple of links

save even more pennies can investigate Emotiva's BaseX range, which includes the TA-100 integrated [*HFN* Apr '19].

GENERATION X

At the heart of any XPA amp, whether here or the Differential Reference units [*HFN* Oct '18], is the company's third-generation amp module. This represents more than just an incremental technology change from one generation to the next. Emotiva's XPA Gen2 amps were Class AB designs, used a linear power supply and offered a user-selectable, enriched 'Class A mode'. For its current Gen3 models, Emotiva has introduced a switchmode power supply and implemented a substantially more efficient Class H design [see PM's boxout, p61]. And this really does seem to be 'a whole new ball game' – to use Emotiva's own words.

Styling largely matches that of the rest of the X series fleet, although the XPA HC-1 adopts a half-width chassis that gives it an almost square front fascia and the look, perhaps, of a NAS drive. This relatively

narrow chassis brings some placement flexibility – Emotiva suggests positioning the amps adjacent to your speakers, which will enable shorter runs of speaker wire – and ventilation is top-mounted, meaning two can be installed side-by-side if desired.

The company also sells an HCRE-1 'Coupler Kit' (£25) to physically secure two XPA HC-1s together, creating a 19in-wide unit ideal for a rack enclosure (rack ears are also available). The depth of 457mm is worth considering if you're planning on placing it on a hi-fi shelf.

Front-panel aesthetics are expectedly minimal, with only a single LED status light (which can be switched off via a button on the rear of the amplifier), power button (which is also illuminated, but – irritatingly – can't be dimmed), and 'Emotiva' and 'XPA' branding.

LIGHT ON ITS FEET

Around the back there are single balanced XLR and unbalanced RCA inputs, with a toggle to switch the amp's operation from one to the other, plus trigger input/output

'Beeps and whirrs, then it explodes into life'





LEFT: The no-nonsense and slightly 'industrial' aesthetic of the HC-1 is softened by the blue illumination of the logo/power switch. No frippery here!

XPA HC-1 sits firmly in the entry-level camp – both in the wider market and Emotiva's own stable of products – they do justice to the concept. The sound is both grippy and rhythmic, digging deep into the music and engineering a wide, open soundstage. Value for money? Certainly.

With my pair partnered with Emotiva's XSP-1 preamp [HFN Oct '18], I was eager to hear Led Zeppelin's 'Kashmir' [Physical Graffiti; Swan Song 8122795795], a track with a lumbering, relentless rhythm that I imagined would suit the amps down to the ground. And even with the phaser effect given to John Bonham's drums robbing his snare hits of ultimate attack, his drumming still sounded forthright and metronomic, an ever-present accompaniment to Robert Plant's mystic lyrics and the

stop-start instrumentation. The string chords that prelude Plant's 'Oh, I've been flying' were particularly well-handled, being both weighty and incisive.

A genre classic 'Kashmir' may be, but I felt the XPA HC-1s yielded a more impressive performance with music fuller in tone, faster in tempo and more straightforward in production. 'SOS', from Take That's surprisingly dance-centric *Progress* album [Polydor 274 847-4], thundered along with the HC-1s in the driving seat. Quick-fire and bass-rich, there was a real sense

that every last drop was being squeezed out and with none of the various musical elements swallowed up by the pounding – but never flabby – bass.

DOUBLE BASS

Switching to the sheer energy of Moving Fusion's drum and bass epic 'Turbulence' [Drum And Bass Arena; Warner Dance WSMCD160], the result was the same. While the track starts calmly enough, a swirling tapestry of electronic beeps and whirrs above crisply delivered percussion, it then explodes into life when the thick, roiling bassline enters the fray. Here the XPA HC-1s snapped into action, gripping tightly on to the fluid low-end and following it through its peaks and troughs. My speakers seemed to double in size... ↻

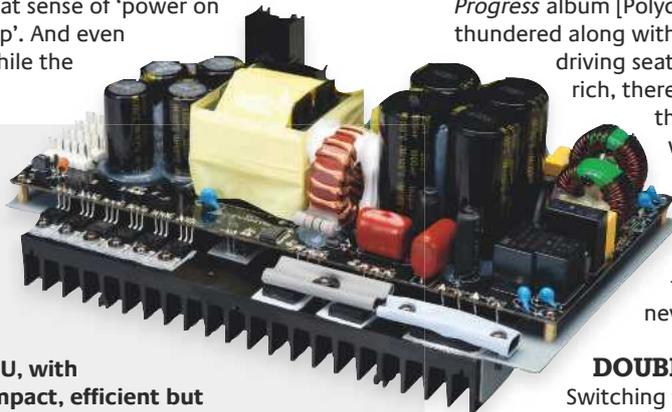
connections for system integration and a set of robust speaker cable binding posts.

Robust is also a term that suits aspects of the XPA HC-1 overall. The chassis, raised by four integrated feet, is pressed steel and fronted by a thick aluminium fascia with hairline finish. Yet anyone used to the monster monoblocks of some rivals, or Emotiva's earlier Gen1 and Gen2 designs, will likely be surprised by how relatively lightweight the XPA HC-1 is at just 10kg, a by-product of that switchmode PSU. Of course, Emotiva suggests this all plays a

part in its affordability, as reducing weight by around a third makes it more cost-effective when it comes to shipping.

POUND FOR POUND

The appeal of a monoblock amplifier comes from its singular purpose – its dedicated power supply, isolation from other channels and the chance to locate it hard up against each loudspeaker, maximising that sense of 'power on tap'. And even while the



CLASS H... OR G

By blending a Class AB output stage with a Class H stepped-rail PSU architecture, Emotiva has engineered a cooler-running amplifier with an electrical efficiency only 10-15% behind that of a modern Class D design [see NAD M33, HFN Aug '20].

Also key to its 'green' equation is Emotiva's decision to eschew a conventional linear PSU, with heavyweight transformer, in favour of a compact, efficient but very high capacity switch-mode PSU, rated at a very substantial 3kW [see inset picture]. With an idle power consumption of just 18W and a (measured) efficiency of 75% at 200W/8ohm output, the XPA HC-1 is able to use relatively modest heatsinking to keep its mere 10kg chassis cool under pressure.

Class H boosts efficiency by switching up to a higher voltage PSU rail only when signal conditions demand it, but the earliest designs would often betray a 'step' in distortion as the PSU switched between rails. Fortunately the XPA HC-1 is entirely free of this side-effect and so, like many amps of any 'Class', its distortion changes progressively and smoothly with level [see Lab Report, p63]. In practice, Emotiva's Class H is not dissimilar to the Class G regime recently employed by Arcam in its amplifiers, including the latest SA30 [HFN Jul '20]. PM

Still setting the Benchmark...



"We can't think of an alternative that does so much so well"

What HiFi
DAC3

"Technically about as immaculate as you're going to get"

HiFi News
HPA4

"About the best compact power amp we have encountered"

HiFi Plus
AHB2

"Specification and performance is simply outstanding"

HiFi Pig
DAC3

AUDIO-PHILIA
Edinburgh
0131 221 9753

PREMIUM SOUND
London
020 8567 8703

HIFONIX
Midlands
0121 382 5444

HIFI LOUNGE
Bedfordshire
01767 448121

THE AUDIOBARN
Essex
01279 454860

OXFORD AUDIO
Oxfordshire
01865 790879

IGLOO AUDIO
Kent
01892 532995

KINGSCOTE AUDIO
Devon
01803 313714

EMOTIVA XPA HC-1



ABOVE: Single-ended (RCA) and balanced (XLR) inputs are switched via a toggle while outputs are limited to a single set of 4mm speaker terminals. The blue illumination can be defeated here while trigger ports assist with home/system automation

The XPA HC-1s steer clear of excessive warmth or brightness, but might be considered a little dry in their pursuit of sonic neutrality. So, those seeking a warming hug from their stereo set-up may want to seek out speakers with a more full-bodied approach. Nor does the sound have the assured smoothness and power of some pricier amplifiers.

TIDAL WAVE

Still, it's the ability to impart bass weight and slam that marks the XPA HC1 out from less powerful amplification, and this encouraged me to frequently step upwards on the XSP-1's volume ladder. There's tangible power here [see PM's Lab Report, opposite] and you'll want to use it, because at lower listening levels the XPA HC-1s' star attractions

– their dynamism and scale – are dimmed. 'Too Young To Know' by UFO [Phenomenon; Chrysalis 50999 5 04440 2 1] bounced along

amiably enough at a family-friendly volume, but gained a fizzing energy and midrange crunch when the amps were given a push. Happily, these amplifiers are just as adept with music that seeks to stir emotions through orchestral swells and charismatic crescendos. John Williams' 'Theme From Jurassic Park' [Tidal Hi-Fi] may have no driving rhythm behind it, but its melody hit like a tidal wave made from string, brass and wind instruments, while the soaring violins and diving cello of Max Richter's 'On The Nature Of Daylight' [The Blue Notebooks; 130701, CD13-04] had me breaking out in goosebumps. Value these amplifiers for their muscularity, but don't discount their musicality too. ☺



LEFT: Supplied with Emotiva's partnering XSP-1 preamp, the IR handset governs input and processor/ tape loop selection, volume, LF/HF trims and direct mode

HI-FI NEWS VERDICT

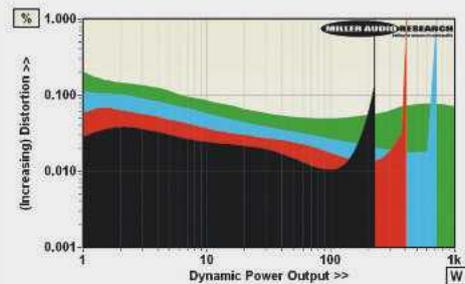
Emotiva's simple-to-install Class H monoblock amplifier proves consistently entertaining and easily outshines its budget price tag. An impressive performer combining a lust for the low-end with dynamic ability, it will tempt audiophiles looking to take their 'separates' adventure to another level without breaking the bank. There's not much about the XPA HC-1's aesthetics to charm you, but its sound surely will.

Sound Quality: 85%

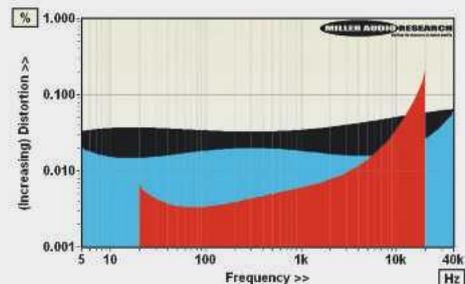


Our first exposure to Emotiva's exceptional watt-per-pound value amplifiers came with the XPA DR2 [HFN Oct '18] which is rated at 550W/8ohm and 800W/4ohm but, on test, delivered 650W/8ohm and 1.02kW/4ohm. The XPA DR2 uses two of Emotiva's amplifier modules in bridged mode with a derivative of the switchmode PSU that we see in the XPA HC-1 tested here. However, the HC-1 uses one amplifier module per channel in single-ended fashion and so, without the voltage headroom of bridging, it supports a lower 220W/415W output into 8/4ohm but exactly the same 32A current before its electronic protection kicks-in. So the DR2 offers 2060W/2ohm and the HC-1 an 'equivalent' 1035W/1ohm [see Graph 1]. Few other £800 amps will support 1kW/1ohm, so this is a very load-tolerant monoblock.

Graph 1 also illustrates a more fundamental difference in the behaviour of the HC-1's single module where distortion is highest at low power output (and typically 3rd, 5th, 7th odd harmonics) before decreasing as power increases, from 0.045%/1W to 0.015%/10W down to the rated 0.005% from 100-200W (all at 1kHz/8ohm). This trend, plus the general uniformity of distortion vs. frequency at moderate power is also clearly illustrated in Graph 2, below. Overall gain matches that of the DR2 at +29.3dB (balanced in) but noise is slightly higher and the A-wtd S/N lower at 86.5dB (re. 0dBW). The response is also unchanged over the DR2, rolling gently away at HF to -0.45dB/20kHz and -5.4dB/100kHz, just as the output impedance holds to a steady 0.04ohm from 20Hz-5kHz, increasing gently to 0.065ohm/20kHz and 0.34ohm/100kHz. PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 32.2A



ABOVE: Distortion versus frequency from 5Hz-40kHz (black, 1W/8ohm; cyan, 10W/8ohm) and 20Hz-20kHz (red, 200W/8ohm). Note THD falls at higher power

HI-FI NEWS SPECIFICATIONS

Continuous power (<1% THD, 8/4ohm)	220W / 415W
Dynamic power (<1% THD, 8/4/2/1ohm)	225W / 415W / 720W / 1035W
Output impedance (20Hz-20kHz)	0.037-0.065ohm
Freq. response (20Hz-20kHz/100kHz)	+0.0dB to -0.45dB / -5.4dB
Input sensitivity (for 0dBW/200W)	98mV / 1393mV
A-wtd S/N ratio (re. 0dBW/200W)	86.5dB / 109.5dB
Distortion (20Hz-20kHz, 10W)	0.015-0.025%
Power consumption (idle/rated o/p)	18W / 40W (2W standby)
Dimensions (WHD) / Weight	213x194x483mm / 9.8kg

Lehmannaudio Linear USB II

In a world where every other product seems to have streaming this or network that, this compact box from the German brand is about as direct – or linear – as it can get
 Review: **Andrew Everard** Lab: **Paul Miller**

Writing in his Welcome page last month, editor Paul Miller explained how shifting hugely heavy equipment about is all part and parcel of the *HFN* reviewing ‘experience’. Perhaps he was eyeing a recent speaker launch proudly declaring that its new products weigh over 450kg apiece [see p16]. Add on their external crossover with its power supply, and a quartet of high-quality amps to drive them, and you could well end up wondering whether your floor will support a tonne and a half of hi-fi.

Add to that all the complexity built into so much equipment these days, and it comes as something of relief to get acquainted with a high-end component you could take home on the bus in a carrier bag, and which is both simple and direct in its purpose. That undoubtedly describes the Lehmannaudio – yes, it is one word – Linear USB II, a £1700 DAC/headphone amp just 110mm wide and 44mm tall, weighing a mere 1.5kg, and available in a choice of silver, black or chrome faceplate finishes.

PREAMP TOO

And if all that wasn’t inconspicuous enough, the Cologne-based company will even sell you a pair of mounting brackets, available to special order at £45, so your desktop audio solution can be installed under the table, thus freeing up valuable desktop space. That’s novel – and logical – thinking. And that clarity of thought is apparent throughout the Linear USB II, for while it’s very simple it is also built with great attention

to detail, from the quality of the casework to the inputs and outputs and smooth volume control. As a piece, it exudes an air of craftsmanship and precision.

Despite the compact dimensions, the Linear USB II packs a toroidal transformer at the rear of the case, just in front of the IEC mains inlet – there’s no messing around with offboard PSUs here – while the dual mono layout uses discrete transistors to power its Class A headphone output stage. There are also separate boards for the digital and analogue sections.

While this is principally a ‘USB in/headphones out’ unit, as the product designation suggests, it has a couple of extra strings to its bow. Specifically, above the USB-B port is a pair of analogue audio inputs to which the Linear USB II defaults in the absence of a USB signal. There’s also a pair of analogue outputs, allowing this little unit to also operate as a simple

preamp, straight into power amps or active speakers. And, as we’ll discover, it’s pretty impressive in this secondary role.

DOUBLE DIP

There’s no labelling on the rear panel to indicate which of the RCAs does what, beyond the red and white channel indication collars on the sockets themselves. The explanation is actually given on a label on the underside of the unit [see below], but it’s pretty easy to remember that the two sockets arranged horizontally are for analogue input, and the two stacked vertically are for output.

Meanwhile, the digital section uses the near-ubiquitous ESS ES9018 Sabre DAC, allowing audio streams at up to 384kHz/32-bit to be accepted, along with DSD files via DoP. This USB II version is also distinguished by Lehmannaudio’s latest ‘Low-Z Copper’ circuitboard.



RIGHT: [Top] Inside the Linear USB II the digital PCB [below transformer] carries an XMos USB solution and ES9018 DAC while discrete BD139/140 transistors [on heatsinks, top left] power the Class A headphone amp. [Below] DIP switches set the overall gain from 0dB to +20dB



LEFT: Simple, no frills casework defines the Lehmannaudio 'look' with its traditional analogue volume control and pair of unswitched 6.35mm headphone sockets

As with the chunky input connectors to the rear, the 6.35mm front panel headphone sockets are of high quality, being sourced from Neutrik. The two are connected in parallel, and can be used together: there's no switching, so you can choose to listen to one pair of headphones or share your personal listening experience with a friend using another pair.

By the way, if you also take a connection out to a power amplifier or a pair of active loudspeakers, then that's taken care of too. This is because plugging a pair of headphones into the left 6.35mm socket will mute the unit's preamplifier outputs.

On the subject of using different headphones, the final feature of the amplifier section is hidden underneath the Linear USB II, along with the trio of isolating feet. Four little DIP switches, two for each channel, are provided, and

'Lehmann offers settings for "loud" and "very loud"'

depending on their position the gain can be increased from unity (0dB) to +10, +18 or +20dB [see PM's Lab Report, p67].

This layout emphasises the dual-mono nature of the unit, while Lehmannaudio suggests a choice of settings for 'loud' and 'very loud' with a range of headphones from AKG, Beyerdynamic, Grado and Sennheiser.

In more general terms, the company counsels that you should 'Only switch to a higher gain setting if you get to the right-hand stop of the [volume] control quite often without achieving your desired maximum volume level'. For headphones beyond that limited list of examples provided by the manufacturer it's trial and error. There's no 'correct' setting, and the switch positions you choose have a lot to do with how much adjustment you want in the volume control, and how loud you like to play your music.

Here it's worth introducing the usual caveat about the dangers of playing music at too high a level through headphones. We all did it when we were young but pounding your ears quite that hard probably isn't a habit to develop now.

GRAND SCALE

The simplicity of this DAC/headphone amp means set-up is fuss-free, requiring nothing more than the connection of the supplied USB cable to a computer. Flip the mains switch on the rear – there's no front panel on/off – and you're good to go. And for all that discussion of headphones and DIP switches, you really are all set – even in its default 0dB gain setting, this little box can deliver more than enough power to drive even the most recalcitrant 'phones as hard as most of us will ever require, whether fed via USB or through the RCA line inputs.

I ran the Linear USB II from my MacBook Air computer, using both Audirvana and Amarra player software, and straight from the little Intel NUC running my Roon Core on my desk, and in each case it simply worked. Well, perhaps 'simply worked' is selling it short. Having recently reviewed several headphone amps, including the mighty T+A HA 200 [HFN Aug '20], I was instantly surprised by the clarity, power and resolution this compact unit could deliver across a range of headphones.

These included my much-used Focal Spirit Pro [HFN Dec '15], the newer Clear model [HFN Mar '18] from the same stable, Oppo's much-missed PM-1 planar magnetics [HFN Jul '14] and B&W's P9 Signature [HFN Mar '17] and quite simply, the openness, detail and – above all – musicality of this amp brought out the best in every set of cans I tried. Yes, the Linear USB II runs a little warm in use, but that's my only quibble, and not a problem given ☺

LEHMANNAUDIO LINEUP

Lehmannaudio started out with a single product, the celebrated Black Cube phono preamp, which was launched in 1995. How influential was it? Well, a quarter century later, this model is still a mainstay of the company's range. In fact there are four versions in the lineup now, starting from £350, while the phono flagship is the £4000 Silver cube. Like all Lehmannaudio products, they're handbuilt by the company in Bergish Gladbach, some 20km outside Cologne, where audio engineering student Norbert Lehmann started the company back in 1988. More than 30 years later, he's still running the company.

Lehmannaudio's range of headphone amplifiers began in 2004 with a product called the Black Cube Linear that, like the phono amp, was based on the application of professional audio principles to the domestic market. Now the headphone amp range runs to four models, beginning with the modular 'Drachenfels', which takes its name from a castle along the Rhine. It starts at £525 in all-analogue form and can be expanded with the addition of S/PDIF digital and USB boards. The current Linear range runs to three models, with a choice of analogue and digital inputs.



**LUKE,
I'M YOUR
SPEAKER.**



www.finkteam.de



www.kogaudio.com

BORG:

“This big loudspeaker has a massive, uncompressed, live soundstage quality, with more than a hint of a classical large professional monitor about it.”

Martin Colloms, HIFICRITIC, OCT | NOV | DEC 2019

LEHMANNAUDIO LINEAR USB II



ABOVE: The Linear USB II has both stereo inputs and preamp outputs on RCAs [identified on the underside, see p64] together with a default USB-B input

its ability to deliver the scale of a recording – and I don't just mean the big, bold stuff, but also the tightly-focused intimacy of a small ensemble – as well as the weight and range of instruments and voices.

Without all the fuss of some rivals – there's just one of the Sabre DAC's digital filters implemented here – this DAC/amp simply works, whatever the music you choose, and whatever the headphones connected. Yes, you will hear the different tonalities of the various headphones you try, but you'll hear those 'phones being driven properly, and with absolute control.

SPINE-TINGLING

Play a recording such as Yevgeny Sudbin's meticulous reading of Rachmaninov's 2nd and 3rd Piano Concertos [BIS 2338; 96kHz/24-bit], and the amplifier delivers all the weight and control of the playing, while scaling the BBC SO under Sakari Oramo, placing it all in a persuasive studio acoustic. There's no tonal colouring going on here – at least not from the driving electronics – but just that sense of 'rightness' you experience as soon as you hear the Linear USB II powering a pair of headphones.

It can do crystalline clarity too, as illustrated by the celebrated Tallis Scholars recording of Allegri's *Miserere* [from Gimell CDGIM 639; 192kHz/24-bit], not just breaking that 'in your head' impression but even hinting at music surrounding you. At the next turn it puts you in the studio with Neil Young and at the heart of the rambling, slightly shambolic *Homegrown* project [Reprise n/a cat no; 96kHz/24-bit], which is a weird place to be for a short while, made more so by the

way this Lehmannaudio amplifier resolves every element of the mix.

Play The Rolling Stones' uneasy 'Living In A Ghost Town' single [Rolling Stone Records 071 483-9], and the entirely characteristic sound of the old codgers doing what they do best sings out, even more claustrophobically when they're messing with your head in close proximity! Meanwhile, with David Bowie's *ChangesNowBowie* set of acoustic versions of familiar tracks [streamed from Tidal], the intimacy of the sound and the clarity with which the Linear USB II delivers it, is spine-tingling with headphones such as the Focal Clear or Oppo PM-1.

Even when playing a big John Williams orchestral piece such as the Dallas Winds' recording of 'March' from *1941* [Reference Recordings RR 142 SACD], which starts delicately before building to an explosive conclusion, the masterful control – and sheer energy – of the Linear USB II is totally captivating. Frankly, if you are serious about headphones, you have to hear it. ☺

HI-FI NEWS VERDICT

There's nothing much to play with here – once you've decided how much gain you want with those little DIP switches – but all the simplicity and directness of the Linear USB II is evident from the first listen. With massive power, fine detailing, deft control and total confidence, this is a world-class headphone amp, and makes some of its more complex rivals look overly fussy. It's even an extremely decent DAC/pre too.

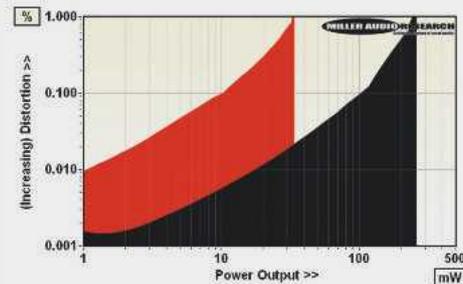
Sound Quality: 87%



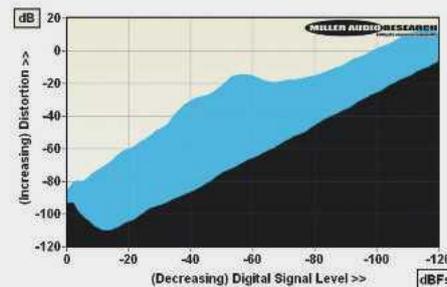
Two DIP switches on the base of the preamp [see p64] confer a range of four alternate gain settings: 0dB, +10dB, +18dB and +20dB that amount to -0.25dB, +9.7dB, +17.7dB and +19.8dB, respectively. There is no difference in the amplifier's maximum power output or source impedance – a flat 60hm from 20Hz-20kHz – with the various gain settings although, for a given output voltage, distortion falls with increasing gain reaching a minimum of 0.0003% through bass and midrange at 1V/600ohm, increasing to 0.0023%/20kHz. Distortion does increase as the amp drives lower impedances, however, up to 0.02% (20Hz-20kHz) at 30mW/32ohm.

Maximum output is 260mW/32ohm (Lehmannaudio specifies 400mW/60ohm) with distortion climbing from 0.002%/1mW to 0.006%/10mW, 0.1%/100mW and 0.5%/200mW/32ohm [black trace, Graph 1]. There's sufficient current available to support 35mW into a very low impedance 8ohm insert earphone, for example [red trace, Graph 1]. The response is flat to within ±1dB from 3Hz-43kHz, the A-wtd S/N is sufficiently wide at 93dB and residual noise usefully low at -92dBV (25µV/+20dB gain setting).

The USB/preamp was tested at the +10dB gain setting, yielding a maximum 3.265V output (re. 1kHz/0dBfs) from the rear RCAs. Note that the output is phase inverting and that digital files up to 96kHz are accepted with a default Windows USB driver. The chosen slow roll-off linear phase digital filter delivers a -9.1dB/20kHz and -13.8dB/45kHz response (more audible with CD/48kHz files than 96kHz) while the A-wtd S/N is a generous 108dB and jitter suppressed to a spectacularly low <10psec. Distortion falls as low as 0.0003% over the top 20dB of its dynamic range [black trace, Graph 2] but increases at HF. PM



ABOVE: Continuous power output vs. THD into 32ohm (black) and low 8ohm (red) headphone loads



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

HI-FI NEWS SPECIFICATIONS

Maximum output (<1% THD into 47kohm)	9500mV (RCAs)
Maximum power output (<1% THD)	260mW/32ohm (35mW/8ohm)
Output Impedance (20Hz-20kHz)	6.0-6.1ohm (51ohm, RCAs)
A-wtd S/N ratio (re. 10mW/0dBV)	92.7dB / 108.2dB
Distortion (20Hz-20kHz, re. 10mW/0dBV)	0.018-0.029%/0.0024-0.0029%
Frequency resp. (20Hz-20kHz/100kHz)	+0.0dB to -0.23dB/-3.7dB
Digital jitter (48kHz / 96kHz)	15psec / 10psec
Power consumption	9W
Dimensions (WHD) / Weight	110x44x280mm / 1.5kg



Available in:



X2 TURNTABLE

The X2 is fine-tuned to focus on audio excellence. It has all the features needed for convenient day-to-day use, but no superfluous add-ons that start to negatively impact the sonic character. The end result is a highly engaging, musical turntable that delivers deep, detailed lows, crisp high frequencies and an engaging well-presented midrange. Thanks to Pro-Ject's advanced manufacturing experience, while delivering great sound the X2 is also a beautiful piece of engineering that can stand proud as the focal point in any home environment.

The X2 is available in four finishes; a premium walnut wood veneer, a luxurious black 8-layer high gloss paint, or black or white eight-layer hand-polished satin paint.



Includes pre-installed Ortofon 2M Silver



Electronically regulated precision drive motor with sub-platter system.



33/45/78 RPM speed compatible



High quality resonance-free acrylic platter



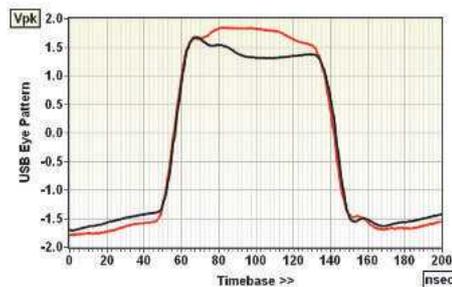
Chord Epic USB

Tucked away in the ranges of most large cable brands is a selection of USB interconnects, including Chord who topped our USB shootout in 2013. Review & Lab: **Paul Miller**

We last ran a comprehensive USB cable group test over six years ago [*HFN* Jul '13 and '14] with Chord's entry-level SilverPlus coming top-of-the-heap and remaining in residence ever since as our cable of choice. The intervening period has seen the SilverPlus morph into the current entry-level C-series while the costlier Signature 'Tuned Aray' USB cable became the template for Chord's more recent, intermediate Epic USB model. And, at £400 for a terminated 1m set (£160 per additional metre), the new Epic USB is no costlier than its Signature forefather in 2014.

So, the Epic USB employs a similar set of four PTFE-insulated, silver-plated copper conductors for the +5V line and ground plus the differential data pair, which are also separately shielded. This geometry deviates slightly from the USB standard (you'll notice that few 'audio USB' cables carry the official USB trident motif), but limited overshoot on the waveshape and a fast 9.6nsec risetime [see black waveform, Graph below] suggest its characteristic impedance is not too far under the 90ohm standard, at least at these data rates and frequency. Note that a 5m length of Epic USB has a slightly reduced bandwidth but exactly the same edge risetime [red trace]. A 2m length may well prove optimum.

Finally, a high-density double braid provides improved RF/EMI rejection, while the woven silver-grey jacket brings added



ABOVE: USB data pattern measured via a 90ohm host USB sink and comparing 1m (black) with 5m (red) of Chord Epic USB cable



robustness. However, the Epic USB is not especially flexible so care must be taken not to stress delicate USB sockets when locating and inserting Chord's custom silver-plated A- and B-type plugs.

AN EPIC SOUND?

Pressed home – carefully – between a Melco N1ZS20/2 music library [*HFN* Jun '17] and dCS Vivaldi One player/DAC [*HFN* Feb '18] the influence of Chord's Epic USB was subtle but nonetheless engaging – the intimate setting of Vov Dylan and Glenn Amer's self-explanatory *The Music Of Cole Porter Without Words* [Elkwood Sony ELK00004; DSD 128] sounding especially close without sucking the air from the room. The rosin-rich tone of the violin was perfectly pitched against the gentle percussion of Amer's piano, the duet, in all likelihood, sweeping you along while you sing 'I Get A Kick Out Of You' and 'I've Got You Under My Skin' in the hope and anticipation that no-one's listening...

Compared directly with my long-term sample of Chord's SilverPlus, the Epic USB delivered a slightly darker and, on brief audition, fractionally less vibrant sound. Listen longer, however, and it's clear that the Epic USB is marginally more refined, possessed of great control and delivering energy and passion when required as slickly

ABOVE: Terminated in bespoke silver-plated A- and B-type plugs, the Epic USB is inspired by Chord's first-generation Signature cable

as it will reveal subtle details. Never more so than in the prelude to 'Ride Of The Valkyries' from Wagner's *The Symphonic Ring* [Duisburger Phil/Jonathan Darlington; Acousence ACO21309, 192kHz/24-bit] as the stormy strings swell to meet the thunderous energy of the horns and flashes of percussion that sparkle in a broad and deep soundstage. Much of this resolution will depend on the scope and scale of your system, but if your kit has the capacity then Chord's Epic USB will surely open the door. ⬇

HI-FI NEWS VERDICT

Just like Chord's original Signature 'Tuned Aray' cable, the current Epic USB promotes a sound that's smooth, richly detailed and very expressive. On first exposure it might appear to lack some 'bite', but in practice there's no lack of colour or contrast to its richly hued performance. Yet this tickled-up Epic still faces stiff competition from, er, the more flexible C-USB, née SilverPlus, available at just £50/1m. Thinking of 5m runs? Compare before plunging.

Sound Quality: 85%



Vinnie  Rossi

amplification.performance.style



L2i 'Signature Edition' Integrated Amplifier
- with L2 DAC & L2 Phonostage Modules
RRP: £25,985.00

exclusively available in the UK
through **elite** audio



T: 01334 570 666
E: INFO@ELITEAUDIOUK.COM
W: WWW.ELITEAUDIOUK.COM



Retailing the world's most sought
after Hi-Fi components.

Classical Companion

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

Eugene Ormandy *Conductor*

A child prodigy from Budapest, lured to the States with a false promise, he took over a top orchestra and stayed with it for 44 years. **Christopher Breunig** gives an outline

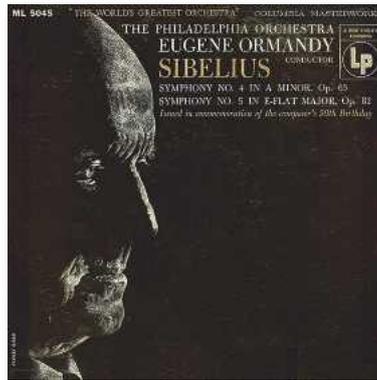
It's a nice story, but discredited, that the young Hungarian musician, Jenő Blau, changed his surname because he'd sailed to New York in 1921 on the *SS Normandie*. Ormandy himself told his Philadelphia lead violinist Anshel Brusilow that his French grandmother had changed *her* name from Goldberg to Or-mont, while other sources say that Ormandy was his second forename anyway.

With a university degree in philosophy, he'd come to the States with the promise of a concert tour as a violinist. As a four-year-old the young Jenő was sent to Budapest's music academy, and – a pupil of Jenő Hubay – won a master's degree ten years later (1913). He had been playing in public at the age of seven.

As the concert tour fell through, Ormandy was lucky in getting work playing in New York's Capitol Theatre accompanying silent films, a former academy student there

→ This coupling of Sibelius's Symphonies Nos 4 and 5 was issued to mark the composer's 90th birthday

← Eugene Ormandy was with the Philadelphia Orchestra for 44 years, starting in 1936 and working with Stokowski



introducing him to its conductor, Erno Rapee. Within days he became concert-master and from 1923-9 he made shellac recordings as a violinist – but he was also conducting the Theatre orchestra. His debut in that role came in 1924.

When the powerful concert agent Arthur Judson heard Ormandy accompanying a dance recital with Isodora Duncan he was immediately impressed and began helping the young émigré, and in 1931 with

Toscanini falling sick, Ormandy was invited to conduct the Philadelphia Orchestra for performances over two weeks. Against well-meaning advice he accepted the challenge, and it was 'the turning point' in his career.

His success there led to joining the Minneapolis SO that year for a five-year tenure, and in 1935 they set down Mahler's 'Resurrection' Symphony for RCA Victor, its first electrical recording, and well received. A year earlier they made several Percy Grainger 78s – the composer had become an American citizen in 1918 and his music was popular there. The 'Londonderry Air', from 1915, you can find online (though not an Ormandy recording).

Sibelius was the composer dearest to Ormandy's heart. In 1932 he conducted his Symphony No 1 for the first time and it was recorded with the Minneapolis SO, again for RCA Victor, in January 1935 – you can listen to it on the Internet.

BALCONY WELCOME

My introduction to Ormandy's records came with the admirable Philips coupling of Symphonies Nos 4 and 5, recorded in Nov/Dec '54 [ABL 3084; see American Columbia sleeve left]. Again, Shellackophile lets you listen online or download a FLAC file. Ormandy took all of his (then) Philadelphia players to Finland in 1955, where Sibelius greeted them from his Ainola (home) balcony.

His various Sibelius discs [see Essential Recordings boxout] omit two of the symphonies: 'The Third and Sixth remain enigmas as far as I am concerned,' he said.

In 1936 Ormandy was appointed associate conductor of the Philadelphia Orchestra, taking over

completely from Leopold Stokowski as music director two years later. Ormandy would remain with them until 1980, recording music by Bartók, Hindemith and Sibelius for EMI,

and Saint-Saens' Symphony No 3 for Telarc in his two final years. In March 1985 he died from pneumonia after a period of cardiac illness.

Bartók's *Concerto for Orchestra* was the last piece he conducted (from memory), in January 1984 at Carnegie Hall. His last recording of this came as a 1979 'Red Seal' digital LP [RCA RL14321] with an insert explaining all this miraculous new technology! (In fact it all sounds rather facelessly efficient and a year or so earlier Ormandy had written

'Ormandy's Philadelphia debut was "a turning point"'



PHOTO: SONY CLASSICAL

complaining of 'the old horse having to keep on plugging', goaded by industry managers.)

Back in 1929 Stokowski had started recording the Rachmaninov Piano Concertos with the composer as soloist, and for Nos 1, 3 and 4 Ormandy took over [Naxos 8110602 and 8110601]. He also premiered the three *Symphonic Dances* at Philadelphia in 1941 but only made his acclaimed recording as late as 1960 [Sony; FLAC download].

To see Eugene Ormandy in his prime there's a Movietone film of a 1949 rehearsal of Brahms's Symphony No 2 in Birmingham Town Hall, jumping back and forth in the editing and with a crumbling sound-track, but at least giving some idea of the conductor (batonless) creating 'the Philadelphia Sound'.

Is there a single record that stands out from that large Philadelphia discography? I'd say the coupling of Shostakovich's youthful Symphony No 1 and the



PHOTO: RCA RECORDS

first Cello Concerto with Mstislav Rostropovich. It has been variously reissued and is in the set detailed in the Essential Recordings boxout.

Ormandy gave the US premiere of the composer's last Symphony, No 15, and quickly made the first Western LP, in 1972. The snag was that this quadrasonic/compatible LP [ARD 1-0014] was on a very thin pressing, but Dutton now has it as a 2-SACD release [2CDLX7370] with a fine account of Symphony No 5 and Kodály's *Háry János* Suite. In his sleeve essay Ormandy wondered if the Wagner quotations in No 15 were 'a gesture of reconciliation'.

Ormandy was equally impressive in Prokofiev and he made the world premiere recordings of *Alexander Nevsky* (1945) and Symphonies Nos 6 and 7. I particularly enjoy the way in which he constantly reminds us of *Romeo and Juliet* in the finale of

→ Sony has collected key works by Shostakovich recorded by Ormandy and the Philadelphia Orchestra

← Ormandy with Sergei Rachmaninov – a recording session at Philadelphia in 1939



No 5 – his earlier 1957 stereo version – and the mechanistic ending comes off very well [Sony G0100009346935, download only]. The conductor also made the premiere recording (Nov '65) of musicologist Deryck Cooke's completion of Mahler's Symphony No 10 – currently not available.

COMING THIRD

Columbia Records producer Thomas Frost found Ormandy 'The easiest conductor I've ever worked with – he has less of an ego problem than any of them...'. But is there an elephant in the room? One put-down was that any Ormandy record would be a 'third choice' and reviewers have often looked in vain

for deeper insights. The old UK *EMG Monthly Letter* review magazine rarely had a good word to say about him. But when you listen, you have to admire the superb ensemble he secured in Philadelphia and the depth of tone this 105-person orchestra produced (its woodwind voices were less attractive!).

Yes, he was at best in colourful music, but beside the standard classical repertoire he made recordings of Nielsen, Barber, Copland, Harris, Piston, Schuman, Ives, Delius, Holst (the inevitable *Planets* Suite), Stravinsky and Britten. Yet he had an assistant simplify the time-signatures for Stravinsky's *Rite of Spring* and the composer told Brusilow that he deplored that. ☹

ESSENTIAL RECORDINGS

Rimsky-Korsakov: Scheherazade

Sony G0100009616885 (download only)
Anshel Brusilow is soloist in this 1962 recording, preferable to the '72 remake.

Saint-Saens: 'Organ' Symphony

Telarc CD80051
This 1980 Soundstream recording with Michael Murray, made in the St Francis de Sales Church was originally on SACD – see description at www.stereotimes.com.

Shostakovich: Symphonies, etc

Sony 19439704792 (three CDs)
Symphonies Nos 1, 4, 5 and 10, and the Cello Concerto No 1. Ormandy seemed at his best in Russian works (see main text: Prokofiev).

Sibelius: Symphonies, Violin Concerto, etc

Sony 88875108582 (eight CDs)
Symphonies Nos 1-7 minus 3/6 (see text) with two versions of Nos 1, 2 and the Concerto (Stern/Jenson), and short orchestral pieces.

Violin Concertos with David Oistrakh

Naxos 8111246 (mono)
Sony 88697858162 (download only)
Bach BWV1042, Mozart K218 and the E-minor Mendelssohn – all were recorded in a day in 1955. And the 1959 Sibelius and Tchaikovsky.

Orff: Carmina Burana; Catulli Carmina

Sony G010001367999L (download only)
Issued back in 1960/67, these Philadelphia versions still stand up well today.

Vinyl Release

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

Paul Butterfield *Debut LP (180g)*

Two of the band's principals were found dead from drug overdoses. **Steve Sutherland** tells the sad story and welcomes this 1965 album as an orange vinyl reissue!

At 11 o'clock in the morning of Sunday the 15th of February 1981, the police were called to a quiet side-street in the upscale neighbourhood of Forest Hills, San Francisco. There they found a beat-up beige 1971 Mercury Marquis. All four doors were locked, and slumped in the front seat behind the steering wheel was a body. An empty Valium bottle was discovered in the pocket of a coat on the back seat.

MUSIC ON LEGS

The body was soon identified as that of 37-year-old Michael Bernard Bloomfield, a native of Chicago who'd been lately residing in Mill Valley – a man raised in an affluent Jewish family who broke away to play guitar and was once referred to, in the late 1960s, by Eric Clapton as 'music on two legs', claimed by Muddy Waters as 'my son' and rated by those who knew about these things as 'the future of the blues'.

His guitar style – cutting-treble tone, a breakneck ability to improvise and incisive, melodic articulation – was hugely admired

and much sought-after. 'He had so much soul... he knew all the styles,' observed Bob Dylan. 'Michael was organic – he played directly from his heart into an amp,' said a former bandmate. 'Without a guitar, I'm like a poet with no hands,' Bloomfield himself said when he was 24.

The autopsy revealed that when Bloomfield died he had a poisoning amount of cocaine and amphetamine in his system. Yet Bloomfield, a chronic insomniac, hated coke and amphetamine. This is the scenario that those who knew him best pieced together: Bloomfield had gone to a party on his own, OD'ed on smack, was shot-up with cocaine in an unsuccessful effort to counteract the lethal effects of the H, then driven by a couple of dealers to his car where they dumped him and promptly scarpered.

Bloomfield's rise

had been as meteoric as it was troubled.

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...



Left-handed, he taught himself to play the other way round. By the early '60s, at age 17 he was active in Chicago's blues scene, recording with Sleepy John Estes and Big Joe Williams, and jamming in local clubs invited by the legendary likes of Muddy Waters and Howlin' Wolf.

In the summer of 1965, having witnessed his stunning ability at club engagements, Bob Dylan invited Bloomfield to join sessions for his sixth studio album, *Highway 61 Revisited*, at CBS's studios in

"I didn't like him. He was just too hard a cat for me"

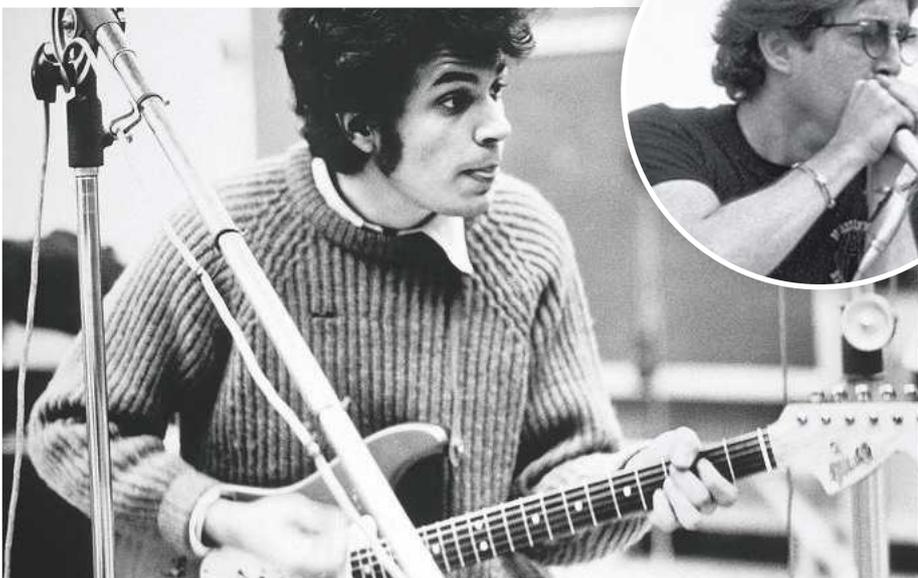
Manhattan. Another top-notch sessioneer, Al Kooper, was expecting to play guitar. Then Bloomfield 'Walked in, sat down next to me, said hello and started warming up. I'd never heard anybody that good, much less somebody my age. I put my guitar in the case and slipped it under the chair. He got rid of me in five minutes.'

SCRIBBLED NOTE

The first thing they did at the session was 'Like A Rolling Stone'. 'I figured he wanted blues, string bending, because that's what I do,' Bloomfield recalled. 'Dylan said "Hey, man, I don't want any of that BB King stuff". So I really fell apart. I was thinking "What the heck does he want?". So we messed around, I played the way that he dug, and he said it was groovy.'

Bloomfield also played on the tracks 'Tombstone Blues' and 'Desolation Row'. The results were, to put it mildly, historic, and Bloomfield stayed around to back Dylan at the Newport Folk Festival weeks later. That performance, in July 1965, was a landmark moment in Dylan's career – and, indeed, in the whole of rock music: the day folkie Bob turned Judas on the protest scene and 'went electric'.

Other revered Bloomfield records over the next few years include *The Super Session*, a proposed two-day jam organised by Al Kooper in LA. The first day produced



ELLIOT LANDY

Michael Bernard Bloomfield plays guitar in the studio in the early '60s and (inset) Paul Butterfield on stage in 1979 at the Woodstock Reunion concert in New York



➔ Priced £25, the 180g orange vinyl reissue of *The Paul Butterfield Blues Band* is available from www.amazon.co.uk

pure gold, easily enough tracks for one side of an album. Then Bloomfield went AWOL. Kooper found a scribbled note in his room: 'Alan, couldn't sleep. Went back home to San Francisco. Sorry, thanks, and good luck. MB'. Kooper called up Stephen Stills to complete the album.

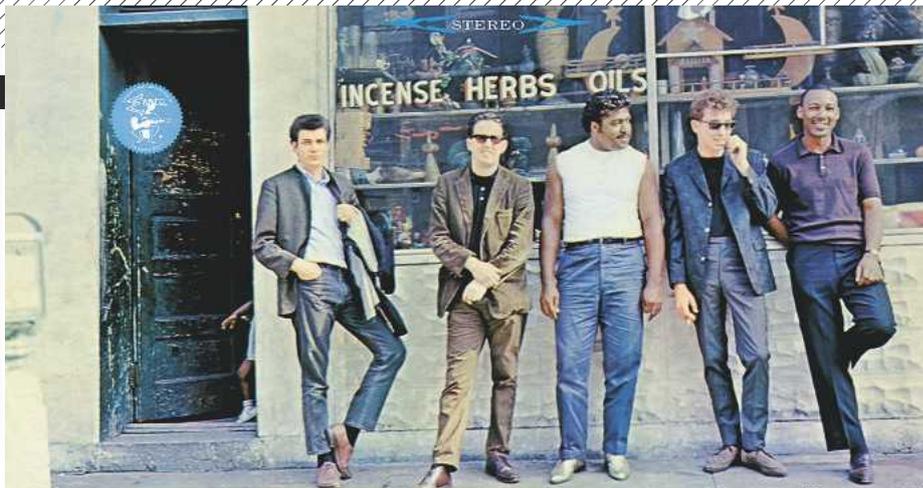
TALKING TOUGH

Then there was Electric Flag, an outfit he put together briefly in 1967 with a horn section and drummer Buddy Miles to, 'prove that white boys have soul'. They debuted at the Monterey Pop Festival, made an appearance in and soundtracked the Peter Fonda/Roger Corman movie *The Trip*, did one LP in 1968, called *A Long Time Comin'*, then split when drug abuse and personality clashes yanked them asunder.

But how the world at large really got to know about Bloomfield was in early 1965, when he reluctantly accepted an offer to join The Paul Butterfield Blues Band at the behest of Elektra's brilliant in-house producer Paul Rothchild. Bandleader Butterfield was a fellow white pretty-well-to-do Chicagoan blues aficionado, a harmonica player who, with his pal Nick Gravenites, hung around the same blues joints as the youthful Bloomfield.

Butterfield put together a band and in 1963 they were invited to play at Big John's, a club located on Chicago's White North Side. They stole bassist Jerome Arnold and drummer Sam Lay from Howlin' Wolf with an offer of more money and became one of the first racially-mixed outfits on the blues scene.

By now Butterfield had a bit of a reputation as a tough taskmaster. 'I didn't like him,' Bloomfield admitted later. 'He was just too hard a cat for me.' Another initial problem was that the band already had a pretty ace guitarist in Elvin Bishop, but the pair soon ironed out a musical relationship and their first eponymous album – the one that we're here to



the PAUL BUTTERFIELD BLUES band



celebrate – was recorded in autumn '65, completely live. 'Some of it was one take, some of it was 50 takes', claimed Bishop.

The album was released to so-so sales but immediate acclaim. Up until now young white kids having a crack at the blues had done so somewhat sheepishly and with deep reverence. *TPBBB* changed all that at a stroke, one critic summing it up nicely as, 'a voluminous blast that hipped the white college crowd to the electric roar of black America'.

FADE AWAY

Mixing ferocious takes on blues classics such as Muddy Waters' 'I Got My Mojo Workin'', Willie Dixon's 'Mellow Down Easy', Elmore James' 'Shake Your Money-Maker' and the Junior Parker and Sam Philips song 'Mystery Train', with instrumental originals 'Screamin' and 'Thank You Mr Poobah', this was one tough, thrilling and forward-looking LP. And it would act as an instant inspiration to a generation of new American guitar-slingers in much the same way as John Mayall's *Bluesbreakers* with Eric Clapton had in the UK.

Their follow-up album, *East-West*, heavily influenced by John Coltrane and Ravi Shankar, went even further out into psych improv, 'like a hippie raga superimposed on a blues tune', according to Elvin Bishop. By Feb '67, Bloomfield couldn't stand to work with Butterfield any longer, his insomnia

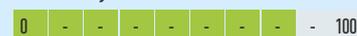
and drug intake were well out of hand and he quit TPBBB, moved to San Francisco, did Electric Flag and, aside from guesting with Janis Joplin, Otis Rush, Albert King and Canned Heat, never really reached the heights again and just faded away.

Butterfield bashed on but also never regained the heights that he did while playing with Bloomfield. On the 4th of May 1987, after nearly a decade of suffering from peritonitis, he was found dead in the kitchen of his apartment by his manager. An autopsy revealed he was the victim of an accidental mixed drugs overdose. ☹

RE-RELEASE VERDICT

The band's 11-track eponymous debut Chicago blues/rock album, with Butterfield on harmonica and vocals, and produced by Paul Rothchild, was first released in 1965 in the US on the Elektra label [EKL294 – UK catalogue no EKS-7294]. Our 180g LP reissue comes as part of a Music On Vinyl limited edition of 1000 numbered copies which are pressed on flaming orange coloured vinyl [MOVLP823]. Sleeve design was by 1960s Elektra art director William S Harvey. *HFN*

Sound Quality: 80%



*The Allman Brothers Band
Brothers and Sisters*



Allman Bros *Brothers And Sisters*

With its now famous front cover showing the son of drummer Butch Trucks, the band's fifth album was the sound of a group striving for renewal after the tragic deaths of two of its members. Yet the album's success would only sour the relationships between them

Words: **Mike Barnes**

In many ways it was remarkable that The Allman Brothers Band's *Brothers And Sisters* was made at all, arriving as it did after the deaths of two of the group's members within a year, and drug abuse by the musicians and their entourage having spiralled out of control. The fact that it was also their greatest commercial success still feels rather hard to believe.

Gregg Allman received his first guitar when aged 13. Duane, his slightly older brother, would borrow it and when he got his own instrument showed exceptional talent, soon overtaking Gregg. The brothers recorded some tracks as The Allman Joys in 1966, but in a first serious stab at fame changed their name to The Hour Glass and moved to Hollywood. They recorded two albums in 1967 and '68, neither attracting much interest.

FAME AND FORTUNE

While Gregg stayed on the West Coast, Duane travelled south to FAME Studios, in Alabama, in search of work. Studio owner Rick Hall's reservations about his hippyish appearance were soon dispelled by the intensity and originality of his guitar playing – including electric bottleneck – and he featured on sessions with such soul luminaries as Wilson Pickett and Aretha Franklin.

Phil Walden, who also managed Otis Redding, signed Duane to Capricorn Records and recruited bass guitarist Berry Oakley along with drummer Jai Johanny Johanson (aka Jaimoe), who had played with Percy Sledge and Arthur Conley.

Inspired by James Brown and Otis Redding, Duane decided he also needed two drummers, and drafted in Butch Trucks, who played in a contrasting but complementary style. A second guitarist was going to have to be exceptional to keep up with Duane, and the job fell to Dickey Betts, reckoned to be one of the hottest lead guitarists in Florida.

The as yet unnamed band started out playing free concerts in Jacksonville, Florida. Gregg Allman was astonished at what he heard. His brother's band had hit upon an individual style of blues-rock – soulful and funky, with syncopated grooves and a jazzy swing. But they were

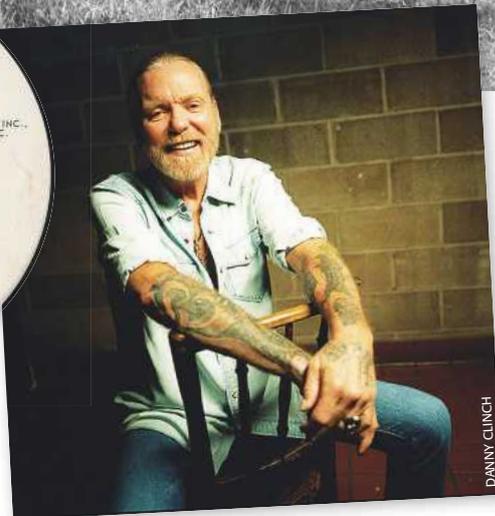


Shot of the band from 1972 (l-r) Jaimoe Johanson, Gregg Allman, Butch Trucks, Berry Oakley, Lamar Williams and Dickey Betts

Label for original Capricorn Records release in 1973

Gregg Allman poses for a portrait shot in 2011

The band and their crew in 1972 at 'The Farm', their hangout in Georgia



DANNY CLINCH

lacking a lead singer and quality songwriter. And so Gregg – whom Duane had had in mind from the outset – was rescued from a flagging solo career and drafted in on keyboards and vocals.

His first composition to be accepted by the group, 'It's Not My Cross To Bear', was a surprisingly authentic sounding blues. And so The Allman Brothers Band was formed in 1969.

In May of that year the band moved up to Macon, Georgia, where Capricorn was based. In many ways they didn't fit into Southern culture. Their long hair attracted some negative attention as did the fact that in an area that had until

recently practised segregation, a black musician – Jaimoe – was playing in an otherwise white group. The Allman Brothers Band began to build up a sizeable fanbase

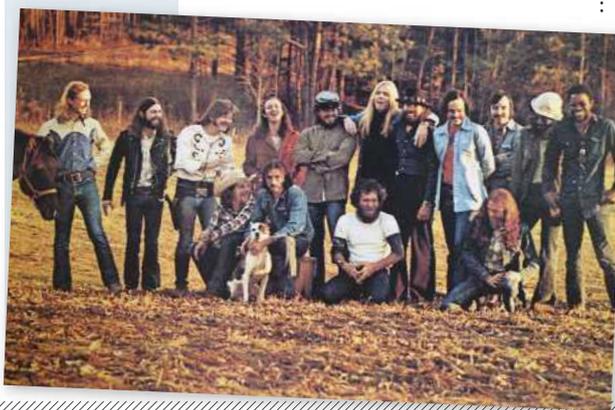
'A drug bust followed, and then tragedy struck them'

in New York but unlike most bands from the South, and despite record company pressure, they resisted the temptation to relocate there, a decision that was pivotal in establishing the emerging Southern rock scene.

CONFIDENT OF SUCCESS

Crucially, they had the chops to extend instrumental passages into expansive post-psychedelic explorations. Both Oakley and Betts were inspired by Jefferson Airplane and The Grateful Dead, while Duane and Jamoe were fans of Miles Davis and John Coltrane.

The Allman Brothers Band released their self-titled debut LP in 1969, followed by *Idlewild South* in 1970. Although well received by the music press, neither album was particularly



Audio Venue

bespoke audio visual consultants



Vertere Acoustics DG1
£2750.00



B&W 800 D3
£22500.00



JBL L100 Classics
£4000.00



Proac K3
£9750.00



Luxman SQ-N150
£3000.00



Sonus Faber Amati
£23500.00



Mark Levinson No.5085
£7995.00



Wilson Audio Sabrina
£18998.00



Auralic Vega G2.1
£5999.00

Part exchange and home demonstrations available

audiovenue.com

27 Bond Street
Ealing
London W5 5AS
T 020 8567 8703
E w5@audiovenue.com

36 Queen Street
Maidenhead
Berkshire SL6 1HZ
T 01628 633 995
E info@audiovenue.com

BRANDS INCLUDE Anthem, Arcam, Audeze, Audio Research, Audioquest, Auralic, Astell & Kern, Dagastino Inc, Bowers & Wilkins, Chord, Classe Audio, Control 4, Devialet, Esoteric, Focal, Fyne Audio, Hana, JL Audio, Kaleidescape, KEF, Koetsu, Krell, Lateral Audio, Luxman, Mark Levinson, Martin Logan, Michell Engineering, Musical Fidelity, Naim Audio, Primatuna, Proac, Project, PS audio, Quadraspire, Questyle, Rotel, Ruark Audio, Sennheiser, SONOS, Sonus Faber, Spectral Furniture, TelluriumQ, Vertere Acoustics, Wilson Audio, Yamaha, and many more...

PRODUCTION NOTES

The earliest sessions for *Brothers And Sisters* took place in mid 1972 at Capricorn Studios in Macon, with the group characteristically jamming at length in rehearsals – some of which were recorded – and everyone chipping in with ideas. The recording proper began in October that year and ran through to the November, with the sessions co-produced with Johnny Sandlin who played bass guitar in the pre-Allman Brothers groups Allman Joys and Hour Glass.

Berry Oakley was in relatively good spirits and on good form in these early sessions, but after his death Lamar Williams slotted in remarkably well as a replacement, and showed his adaptability by playing double-bass on 'Pony Boy'.

Sandlin has noted that it wasn't always easy to get all the band members together in one place, as some of them were working on different projects. Betts was arranging a big benefit concert for Native Americans and Gregg Allman was recording his debut solo album *Laid Back* at Capricorn, so some sessions were deferred to evenings.

Johnny Sandlin described the way they worked to *Circular* magazine in 1973. 'We would try three or four



takes... maybe even six a night. If it didn't happen, then everyone would quit and we'd come back the next night to give it another try. When the take finally happened, it would sound quite spontaneous.'

Part of the freshness of the sound of *Brothers And Sisters* is down to the fact that almost all of the tracks were recorded live in the studio with very little added. Sandlin reckoned that the only overdubs were vocals, and also percussion parts like congas tambourines and maracas.



← Press shot issued by Capricorn Records in 1971 to promote the band's *Live At Fillmore East* (l-r) Jaimoe, Duane, Gregg, Dickey Betts, Berry Oakley (standing), Butch Trucks

commercially successful, but Duane, who was the *de facto* leader, was confident that the group would succeed. And despite playing slide guitar extensively on Derek And The Dominos' *Layla And Other Assorted Love Songs* he declined an invitation to join them.

CRACKS APPEAR

The constant touring that established The Allman Brothers Band as a remarkable live group gave them their breakthrough double-album *Live At Fillmore East*, released in July 1971. But with drugs and alcohol coming more into the picture, cracks began to appear – their road manager stabbed a promoter and Duane had to be revived from an opium overdose. A drug bust followed and then tragedy struck. On October the 29th Duane suffered a fatal motorbike accident.

Live At Fillmore East was certified gold the following month. And the shock of Duane's death actually galvanised the group.

Firstly they finished off the recording of the part live, part studio, album *Eat A Peach* which peaked at No 4 in the 1972 *Billboard* chart). For its follow-up *Brothers And Sisters*, the pressure was now on Betts as their lone lead guitarist and while he consciously avoided slide guitar, viewing it as Duane's territory, his own playing on Gregg's 'Wasted Words' is full of invention.



Betts started writing more of the songs and effectively led the sessions, while the band's approach changed direction subtly. Initially his song 'Ramblin' Man' was considered too country for the group and they thought of offering it to a country singer like Merle Haggard. But when they all started jamming on the song it seemed to make sense.

URGED TO CONTINUE

Here Betts plays with guest guitarist Les Dudek, but overall the band

veered away from their trademark twin guitar sound to two keyboards, with pianist Chuck Leavell dovetailing with Gregg on the Hammond Organ.

After these tracks had been recorded, tragedy struck again when Berry Oakley crashed his motorbike into the side of a bus in Nov '72 while high on heroin and died from his injuries. But even at this point the musicians' sense

'The pressure was now on Betts as lone lead guitarist'

↑ The band on stage at Wane Music Festival, Live Oak, Florida, on April the 16th, 2011

← View of the control room at Capricorn Studios in Macon. Little has changed in both the studio space and control room since 1972

GutWire Audio Grounding Cables



Consummate Ground Cable; Ultimate Ground Cable; Perfect Ground Cable.

An extremely effective and simple way to improve the sound of any audio system. A single cable to enable the proper grounding of electronic components.

Simply attach the RCA (or XLR) connector end to any spare input socket on your integrated amplifier or pre-amplifier. The mains plug end goes into any spare wall socket, or into a mains distributor. This creates the shortest route to ground from the circuit boards and introduces a different ground potential into the system.

It takes moments to hear the sound stage increase in size, both depth and width, that the tonal balance has more weight to it and the sound is more natural, less “hifi”. Increased transparency provides more resolution of detail and a sharper focus of images.

The new Consummate Ground Cable takes this technology to the most advanced level.

Far more effective than passive grounding boxes, wooden or metal, which also require the use of multiple additional cables. No compression of dynamics, or added colouration, which can occur with alternative systems.

An elegant and simple solution; a single cable does it all.

These ground cables only use the earth pin within the mains plug. The live and neutral pins are not used and are safely insulated inside the plug.

Three models available:

Perfect Ground	£399
Ultimate Ground	£599
Consummate Ground	£1400

Audition a cable in your own system; full refund if not completely satisfied.

Alternate Format Discography



PHOTO: BETH SCUPHAM

➔ Live on stage in 1970 at the Florida Presbyterian College

of camaraderie impelled them to continue and Jamoe's friend Lamar Williams was drafted in on bass.

The instrumental 'Jessica' was lighter in mood than much of the band's previous music and was based on ideas Betts had written in homage to Django Reinhardt, which came together when he was trying to capture the mood of his young daughter, Jessica. Both Dudek and Leavell claim to have had uncredited compositional input.

SURPRISE HIT

Another departure, 'Pony Boy' is an acoustic song with Betts playing dobro with a slide in a style inspired by Robert Johnson and Blind Willie McTell. The group needed another track to finish the album and wrote a blues based on an old arrangement of theirs of Ray Charles' 'I'm Gonna Move To The Outskirts Of Town'. Unable to come up with new lyrics, Gregg sang those of the blues song 'Jelly Jelly'. On some of early pressings this song was listed as 'Early Morning Blues'.

'Ramblin' Man' was a surprise hit single, reaching No 2 in the *Billboard* charts, and *Brothers And Sisters* went to No 1. Over time, 'Jessica' has become the song most readily associated with the group.

The band's popularity soared. In 1973 they played at the Watkins Glen Gran Prix Raceway in New York State to a crowd of 600,000, which was then the largest audience recorded at a rock festival. But relationships between the band members soured, and that year was to mark the apex of both the group's commercial success and critical acclaim. ☺

ORIGINAL VINYL LP

Brothers And Sisters was released in the US in August 1973 on Capricorn Records – at that point distributed by Warner Brothers – in a gatefold sleeve [CP 0111]. It came with an insert showing song titles and playing and composing credits. The track 'Jelly Jelly' is not listed on the rear sleeve and the six titles that do appear are listed in the wrong order.

The insert that accompanied the UK version had a misprint with 'Jelly Jelly' miscredited as 'Early Morning Blues' [Capricorn, K47507]. Some US pressings also had this misprint. The back cover of the UK LP was free of mistakes as it carried no tracklisting at all.

On early pressings of the LP the track 'Jelly Jelly' is credited to Trade Martin, based on his 1968 single 'Jelly Jelly Jelly'. However, in some later formats the song is credited to Gregg Allman.

A 1986 US pressing came in a single sleeve with the original front and back cover photos and with the insert credits on the rear, though almost inevitably the tracks are in the wrong order [Polydor CPN 0111, 825092-1].

CASSETTE AND 8-TRACK

The US cassette – a black shell with black labels – was released on Capricorn in 1973 [M5 0111]. In Canada it came out on that label in a cream shell with yellow labels [CPX-0111], while the UK version had red labels and cream shells [Capricorn 3129 102], as did the version released in the Netherlands [3192 630] – pictured top right. All cassette releases of the album had a different running order to that of the LP.



Brothers And Sisters was also available on 8-track cartridge in the US in 1973, with 'Jessica' split across programmes 3 & 4 [Capricorn, WB M8 0111]. Another US-only format that year was a reel-to-reel release, on a 7½ips, ¼in, four-track stereo 7in cine reel. The track listing and credits list 'Early Morning Blues' instead of 'Jelly Jelly' [Capricorn, CST 0111C].

CD AND DELUXE EDITIONS

Brothers And Sisters received its first CD release in 1986, remastered by Dennis M Drake. It came out on Polydor in the US [825 092-2 Y-1] and in Germany in the 'Special Price' series [825 092-2].

Then Mobile Fidelity Sound Lab released a CD based on the George Marino remastering in 1994 [UDCD 617]. One by Atlantic engineer Suha Gur was released in European territories in 1998 on Capricorn [531 262-2].

To mark the album's 40th anniversary in 2013, Mercury/Universal released a 2CD deluxe edition mixed and remastered by Seth Foster at Sterling Sound in

New York. Disc 1 featured the standard album running order. Disc 2 featured nine tracks of rehearsals, outtakes and jams, including the 16-minute 'A Minor Jam' [for European territories 0602537288044-5; and for the US B0018078-02].

In the US, a super deluxe version [pic bottom left] ran to four CDs presented in a limited edition gatefold cardboard box set, the last two showcasing the *Brothers And Sisters* lineup of the band as a live act. Five of these tracks had appeared on the 1976 live album *Wipe The Windows, Check The Oil, Dollar Gas* and the 4CD compilation box set *Dreams* [1989]. But these CDs feature the whole concert, which was recorded at Winterland, San Francisco on September the 26th 1973, with 12 tracks previously unreleased. Both sets came with a booklet detailing the making of the album [Mercury, B0018079-02]. Meanwhile, in Japan this set was released on SHMCD [Universal, UICY-75663/6].



AUDIOPHILE VINYL

In 1994, Mobile Fidelity Sound Lab, in conjunction with Polydor, released a numbered limited edition LP, remastered by George Marino at the Record Plant, New York County, on 200g vinyl. It was part of the ANADISC200TM series featuring half-speed mastering with the 'GAIN System' technology [MFSL 1-213]. This LP was re-released in the USA in 2014 by Mobile Fidelity Sound Lab in conjunction with Universal Music Special Markets [MFSL 1-399; B0016571-01].

Mercury released an LP remastered by Seth Foster, on 180g vinyl in 2013 in a gatefold sleeve – this time with the correct tracklisting on the insert. [Europe, 0602537287987; US B0018076-01].

The most recent audiophile LP was released in 2019 in the US on Mercury/Ume. This 180g disc was pressed on translucent green vinyl with gatefold sleeve [B0018076-01].



Meet the Producers

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

Gus Dudgeon

From David Bowie's 'Space Oddity' to the albums that rocketed Elton John up the charts, this British-born producer was one of the first to fuse orchestral arrangements with the fire of rock 'n' roll. **Steve Sutherland** considers the work and legacy of Gus Dudgeon

In the Spring of 1968, David Bowie, a pop star with a failing career, sat through Stanley Kubrick's trippy masterpiece *2001: A Space Odyssey* at least three times at the Casino Cinerama in Old Compton Street. 'It was the sense of isolation I related to,' he explained later. 'I found the whole thing amazing. I was out of my gourd, very stoned when I went to see it – several times – and it was a revelation to me. It got the song flowing.'

The song in question was 'Space Oddity', a piece that was being cooked up to coincide with the USA's soon-scheduled moon landing. Bowie had recorded a demo of the song in late 1968 for a short promotional film that was canned called *Love You Till Tuesday*. That version wasn't much cop – Bowie mimicked the spaceship sounds himself – but it brokered him a deal with Mercury Records who signed him for an album to include a fuller version of 'Space Oddity'.

CHEAP SHOT

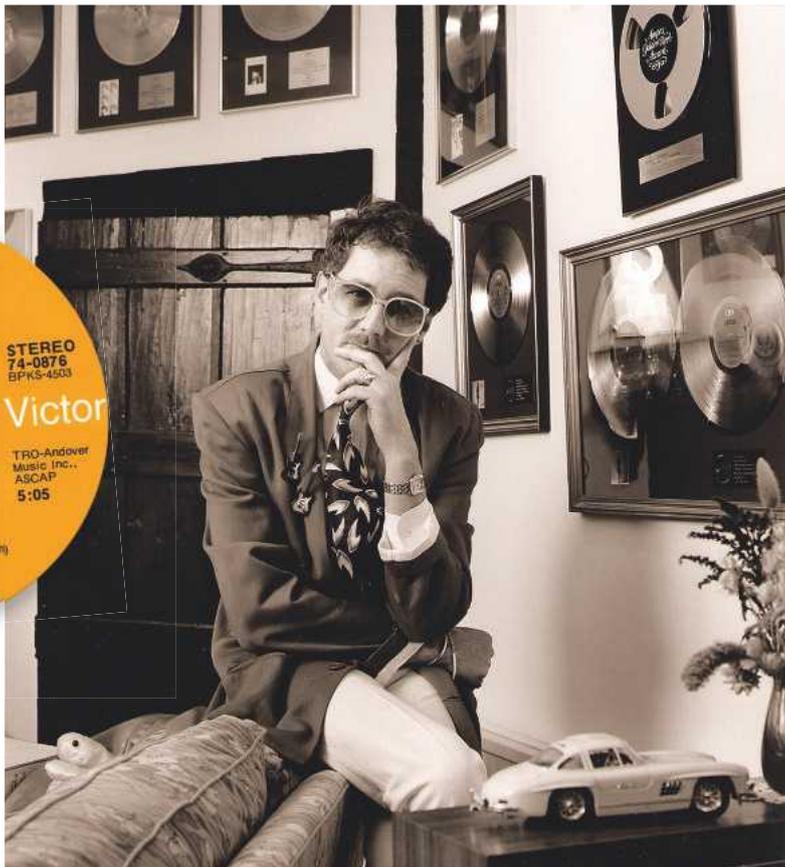
Bowie assumed that he'd be working with his friend Tony Visconti but the producer hated the song, calling it 'a cheap shot – a gimmick to cash in on the moonshot'. Enter Angus Boyd Dudgeon, known as Gus. At the very point that Bowie needed a wiz to craft 'Space Oddity', Dudgeon

Publicity shot of Gus Dudgeon taken at The Mill Studios in the late '70s



Label for 'Space Oddity', the 1969 single that put Dudgeon on the map

The Zombies with Rod Argent and Colin Blunstone (far right, rear)



was assisting Visconti and others in the capacity of studio engineer and fledgling producer and the task was duly tossed in his direction.

Dudgeon had started out as tea boy at Olympic Studios on Baker Street in London in the early '60s, later joining Decca Studios in West Hampstead as a staff engineer. While at Decca in the summer of 1964, he engineered the debut single by a band of young lads from St Albans who'd won a contract via a Beat Group Competition run by the *Evening News* newspaper.

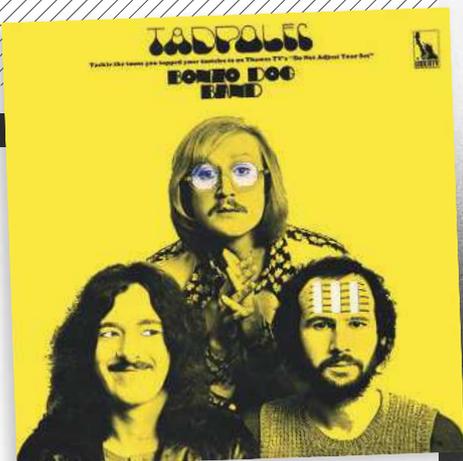
That band was The Zombies and the track, beautifully balanced between jazz and pop, delicately delivered by songwriter Rod Argent and blissfully sung by Colin Blunstone, was 'She's Not There', an immediate Top 20 hit.

He'd also worked as an engineer on John Mayall's *Bluesbreakers* album featuring Eric Clapton which launched the whole UK blues boom in 1966, and with The Moody Blues and Marianne Faithfull among many others. It was the session with The Moody Blues that launched him into producing in his own right.

FIGHT SONG

'I was doing a four-track Moody Blues session that Denny Cordell (the producer of Procol Harum, The Move, Joe Cocker, etc) was producing, and I was really pleased with the sound we'd achieved,' Dudgeon explained. 'It was difficult in those days to get a great sound on every single track. If you put a rhythm track together, you might have as many as five different people





on one track. When you got a great sound and a really good balance, it was really not worth changing – I would fight for it. On this occasion, the Moodys got to the session, and they wanted me to change the EQ and add echo all over the place. I was getting more and more p****d off. And then Denny came in about an hour into the session and said, “Play me what you’ve got”.

PRETTY STUPID

Before I played it to him, I said, ‘Listen Denny, before you hear this, I’ve got to tell you that, since you’ve heard it last week, the guys had me stick all kinds of s**t all over it’.

‘And he went, “Well that’s probably what they want. Let’s have a listen to it”. So I played it, and he said, “Well, it sounds all right to me”. And I said, “Well Denny, can I just play it to you without any of the effects on it?”. He said, “No”. I said, “Why not?”. He said, “That’s what the boys want”. I went, “I think that’s pretty stupid. A week ago when we did the session, you loved it”. And he said, “Well I think it sounds fine now”.

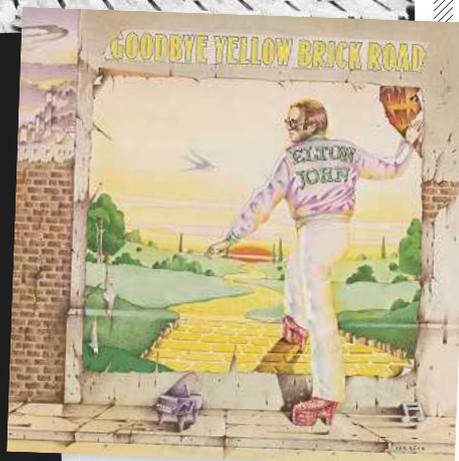
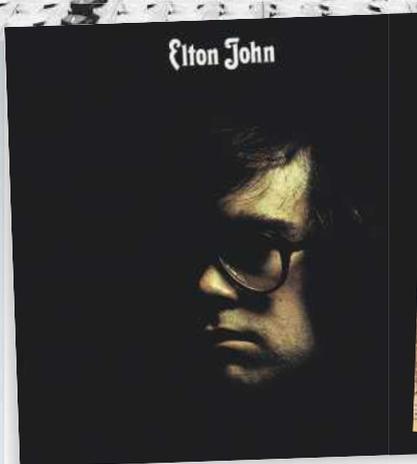
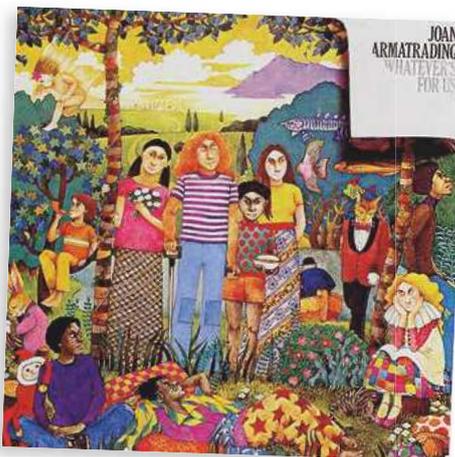
‘So he got p****d off and rang the head office. They called me back and said, “Listen, you can’t talk to Denny like that. We’ve just given



← The Bonzo Dog Band’s *Tadpole* LP from 1969

→ Gus mixing down *Captain Fantastic* with Elton John, 1971’s *Elton John and Yellow Brick Road* from ’73

↓ A 1980 promo shot of Joan Armatrading



him his own label. He’s an important producer”. I said, “Yeah, but surely my opinion isn’t valueless”. They said, “Well, you’ve got to go back into the control room and apologise to Denny”. So I put the phone down with my tail between my legs and went back into the control room, and Denny

said, “Gus, do me a favour. Just let me hear what it is you’re talking about”. So I took off all the EQ and the effects and played it to him flat. And he said, “You’re absolutely right. That’s ten times better. Run it off the way you want to do it”. And I went, “Oh, OK”.

‘As he was leaving the control room, after the end of the mix, he said, “I reckon you should get into production. I think you’d be good at it”. I was amazed.

‘About two weeks later, I did a session with [Rolling Stones producer] Andrew Oldham [HFN Oct ’17]. At the end of

the session, Andrew said, “It’s about time you went into production, isn’t it?”. And I thought, “Christ, you’re the second producer in two weeks to say something to me about that”. I said, “Well, I’m kind of thinking about it”. And he said, “Well, good luck, mate. If you want

any help, give me a call”. As he walked out the door, he stuck his head back in and said, “Oh, and make sure you get a royalty”. This was like ’65 or ’66. I thought, “What

a good idea”. So it was between Denny and Andrew pushing me that I kind of took the bull by the horns.’

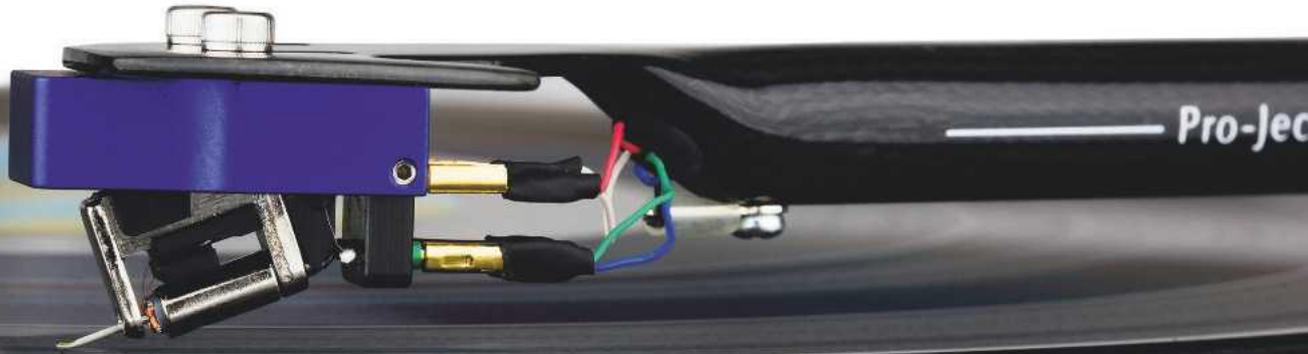
“In those days you might have five people on the one track”

MAKING PLANS

His first production credit came in 1967 when he shared the duties with Mike Vernon [HFN Jun ’20] on Ten Years After’s eponymous debut LP and he’d further cut his production chops on the Bonzo Dog Doo-Dah Band’s *The Doughnut* in *Granny’s Greenhouse* (1968) ↻

SUMIKO

PHONO CARTRIDGES



REFERENCE

Songbird Line

The Songbird line represents the penultimate step in SUMIKO'S cartridge series, elevating overall performance and expectation firmly into the high end arena.

From the Songbird with its exceptional tracking ability and wide compatibility, through to the long-standing Blackbird and its exceedingly low noise levels and wide dynamic range, up to our reference open architecture design, Starling, with its microridge stylus on a Boron cantilever; each model promises to sing as beautifully as its name suggests.



SONGBIRD

The sophisticated and smart Songbird design with its open architecture construction, new aluminium mounting body, low mass elliptical stylus and Alu coated cantilever results in a high end cartridge that lives up to its name.



BLACKBIRD

The classic Blackbird design has a level of performance and clarity that competes with cartridges twice its price. Its been designed for exceedingly low noise levels exceptionally wide dynamic range and the highest possible fidelity.



STARLING

No aspect of the Starling's design was left to chance. Our flagship open architecture cartridge renders the grandeur of an orchestra while still preserving air and space, also delivering responsive dynamics and deep silences.

MEET THE PRODUCERS

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW



1964

Dudgeon takes over the mixing desk after the chief engineer arrives too tired and emotional to work. 'She's Not There' gives The Zombies a Top 20 hit in the UK



1969

Recorded at Trident Studios on the 20th of June 1969, on release 'Space Oddity' goes straight to No 1 and becomes one of David Bowie's signature songs



1970

The first Elton John composition Dudgeon works on is 'Your Song'. He decides to add an orchestral arrangement and Elton enjoys his first hit single in the UK and US



1971

A home-made demo of 'He's Gonna Step On You Again' opens the door to John Kongos working with Dudgeon. The song is an international hit



1972

Dudgeon uses an ARP synthesiser to add a space motif to Elton John's 'Rocket Man'. The single is a Top 10 hit in the UK and US



1974

'I've Got The Music In Me' by The Kiki Dee Band sees the UK singer enjoy her first US *Billboard* hit, the song peaking at No 12



1978

Dudgeon is asked by Chris Rea's label to give the song 'Fool If You Think It's Over' a hit sound. It goes Top 20, though Rea later says he felt the song had been hijacked

and *Tadpoles* (1969). When 'Space Oddity' landed in his lap, he was made. 'I listened to the demo and thought it was incredible. I couldn't believe Tony didn't want to do it. I spent more time planning ahead of the recording than any other I'd done and it became a habit, an approach that proved successful.'

SPACE RACE

The track was recorded on June the 20th, 1969, at Trident Studio in London with only £500 to play with. Dudgeon was meticulous, precisely placing Bowie's primitive use of the cheap-as-chips Stylophone, a mini analogue stylus-operated keyboard, inside the ornate orchestral arrangement of cellist and composer Paul Buckmaster. He then carefully plotted the contributions of session musos Herbie Flowers on bass and Rick Wakeman on mellotron, crafting a dramatic atmosphere which he then mixed in stereo, which was rare at the time.

It was rush-released as a single on July the 11th, nine days ahead of the Apollo 11 Moon module Eagle disgorging Neil Armstrong and Buzz Aldrin onto the lunar dust. Bowie's record soared to No 5 in the UK.

'I don't think it was like anything anybody had done before, and that's why it's still a classic,' Dudgeon said later, while Visconti would confess, 'I wish I'd dropped my peacenik hippie ideals and recorded it.'

Bowie was now on his way to mega-stardom and the success of 'Space Oddity' brought Dudgeon into contact with the artist who would establish his reputation as one of the UK's most successful and respected producers. The artist was Elton John.

The first album Gus Dudgeon did with Elton John was the singer's eponymous second LP, which featured the breakthrough international hit 'Your Song'. He then went on to produce all of John's classic albums from that era, from *Tumbleweed Connection* (1970) to *Goodbye Yellow Brick Road* (1973) and *Captain Fantastic And The Brown Dirt Cowboy* (1975).

His lack of a signature production style allowed him to create wildly different-sounding records to fit John's diverse songs, resulting in one of the most varied yet focused canons of work in pop history.

'Once Elton had done what he had to do, which was play the piano and sing, he left,' said Dudgeon. 'Whatever you hear on the records that's over and above the essential construction of the song is down to myself and whoever else was working in the studio.'

If Dudgeon did have a production hallmark, it was a synthesis of orchestral pop and Americana, much of which goes back to his working



↑ Elton John's *Captain Fantastic*, which was recorded in 1975 at the Caribou Ranch Studios in Colorado

↓ In 1991 Gus Dudgeon worked with XTC on their Top 30 album, *Nonsuch*

relationship with Paul Buckmaster. 'The challenge was to try and marry a big orchestra with a rock 'n' roll section and make it work, and not have one of them lose out to another.'

HEAVEN TO ME

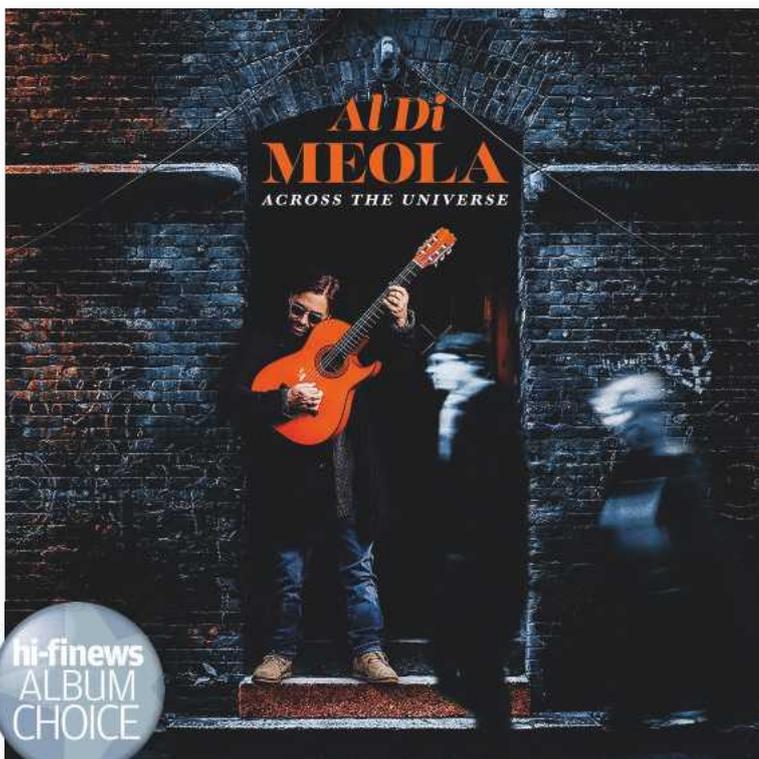
Dudgeon partnered John in the formation of Rocket Records in the '70s and

went on to work with many other artists, including Joan Armatrading and XTC. He died in 2002, aged 59. He was driving home when he fell asleep at the wheel of his Jaguar and came off the M4 motorway, the Jag landing upside down in a storm drain. Dudgeon and his wife Sheila, 60, suffered serious head injuries but both may have drowned in a water-filled drain while trapped in the car.

'All I ever did as a kid was spend all of my money on records', he once said. 'To be suddenly given the opportunity to actually work in that industry and be a part of making music was like heaven to me. I couldn't believe my luck.' ☺



AUDIOPHILE: VINYL



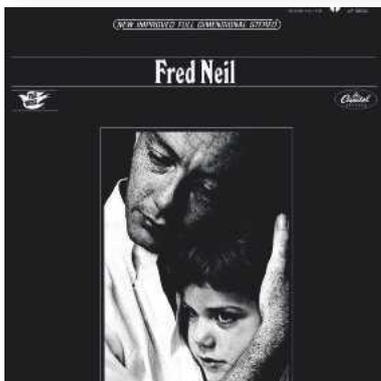
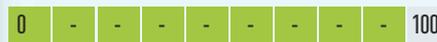
AL DI MEOLA

Across The Universe

E-A-R Music/Edel 0214706EMU (two 180g vinyl LPs; CD: 0214031EMU)

World-class jazz guitarist: check; 180g vinyl: check; small-group instrumental covers of peerless, familiar material: check. This could be either an audiophile LP that's tedious-to-the-point-of-wishing-for-one's-death, or an album so lush, so musically dazzling that you can't wait for the time you can use it as a demo disc at a hi-fi show or in a store. It's the latter. If you know Di Meola's work, then you'll appreciate his virtuosity, speed and impeccable taste, but you might not know he's a devotee of the Fab Four: this is his second set of Beatles tunes. The notes state which make of guitar he's playing, too, for those of you who know their axes. It's also on CD, and that sounds great, too. *KK*

Sound Quality: 90%



FRED NEIL

Fred Neil

Sundazed/Capitol LP550 (clear vinyl)

One area rarely exploited by the reissue labels is 1960s folk artists less familiar than Dylan and Baez. Sundazed has addressed this with another of its sorely-needed Fred Neil releases, the singer-songwriter deserving acclaim beyond his hard-core fan base. His second solo album, issued in late 1966, contains two songs in particular which show how influential he was because of the singers who covered them: 'Everybody's Talkin'', rendered timeless by Harry Nilsson for the film *Midnight Cowboy*, and 'The Dolphins', which memorably opened Tim Buckley's *Sefronia*. Lovingly cut by Kevin Gray, and pressed on clear vinyl at RTI, it's an atmospheric, sonic delight. *KK*

Sound Quality: 90%



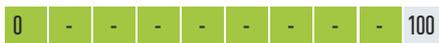
JAMES TAYLOR

Greatest Hits

Rhino/Warner RI3113/603497852543 (180g vinyl)

Last year, we were treated to another remastering of Taylor's milestone, the oft-reissued *Sweet Baby James*. This year, it's the turn of his best-selling hits album of 1976, and it's stunning. There is a caveat, though: two tracks are re-recordings, though I can't imagine why Apple wouldn't allow the inclusion of the originals. But fret not as the redone versions stand up pretty well because Taylor put his heart into them. A sonic stand-out is 'How Sweet It Is', but if you're a fan – and I have been since 1969 – you'll be charmed all over again by the other 11 tracks. Apparently this outsold *Sweet Baby James*, with over 11 million copies out there. Go figure. *KK*

Sound Quality: 90%



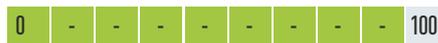
TWISTED SISTER

Stay Hungry

Mobile Fidelity MFSL1-492 (180g vinyl)

This is a glam-rock month for MoFi, although Twisted Sister is to T Rex what Chucky is to Barbie. To be blunt, the only reason this band lands in the glam section is because of injudicious use of make-up, especially by singer Dee Snyder. Get past that, and this 1984 release is hair-metal hard rock of the most joyfully aggressive sort, and macho enough to provide an anthem in 'We're Not Gonna Take It' that's right up there with 'We Are the Champions' for being co-opted by politicians. Guitarist Jay Jay French is an audiophile and hi-fi critic, so I trust he will revel in this edition's spectacular sound, especially the drum salvos, the scale and the attack. *KK*

Sound Quality: 85%



AUDIOPHILE: DIGITAL



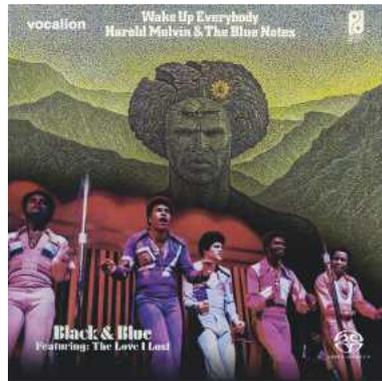
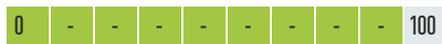
THE BOX TOPS

The Letter/Neon Rainbow, Cry Like A Baby, Non Stop, Dimensions

BGO BGOCD1400 (two discs)

Essential '60s rock: all four of The Box Tops' albums for Bell Records from 1967-69, with bonus tracks and superb sound. If they're unfamiliar to you, you'll know 'The Letter', with various covers including Joe Cocker's, who had a hit with it. Notable for resident genius, the late Alex Chilton, the group has a cult following, especially among indie bands, because Chilton later formed Big Star. The Box Tops were plagued by numerous problems, their biggest hits barely indicating that their LPs were among the earliest examples of 'blue-eyed soul'. This is a revamped version of BGO's earlier set, with revised tracks and new notes. *KK*

Sound Quality: 85%



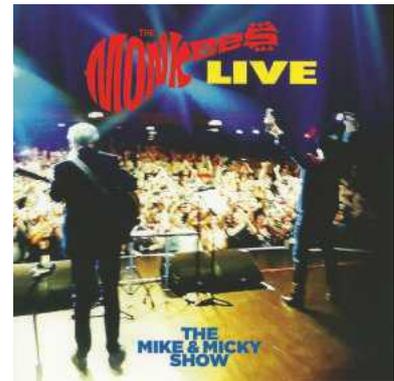
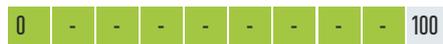
HAROLD MELVIN & THE BLUE NOTES

Black & Blue/Wake Up Everybody

Vocalion CDSML8571 (multi-channel SACD)

Vocalion continues what is tantamount to a public service by releasing hard-to-find 1970s 'quad' recordings on multi-channel/stereo hybrid SACDs – in this case another desirable 'Philly Sound' disco/soul pairing from 1973 and 1975. Classic Gamble & Huff 'smooth funk', *Black & Blue* yielded the hits, 'The Love I Lost' and 'Satisfaction Guaranteed (Or Your Love Back)', plus a sleek cover of 'Cabaret', while *Wake Up Everybody* was the last of the group's releases to feature Teddy Pendergrass before he went solo. Fans of the genre will also appreciate 'Don't Leave Me This Way', released two years before it became a disco smash hit for Thelma Houston. *KK*

Sound Quality: 90%



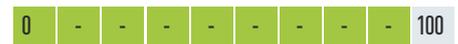
THE MONKEES

Live – The Mike And Micky Show

Rhino R2 625192

With Davey Jones and Peter Tork passing away respectively in 2012 and 2019, the surviving members, Mike Nesmith and Micky Dolenz, have kept the flame burning with a surprisingly satisfying concert album, which is also the band's first official live release. All of their massive hits are here, plus a selection of Nesmith's songs as a solo artist (the only Monkee to achieve any success outside of the band). It's slick, nostalgic and above all fun, which the band's po-faced detractors have finally realised was the whole point. If you're old enough to remember a group derided as 'the Pre-Fab Four', try not singing along to 'Daydream Believer' and 'I'm A Believer'. *KK*

Sound Quality: 85%



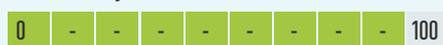
T REX

Electric Warrior

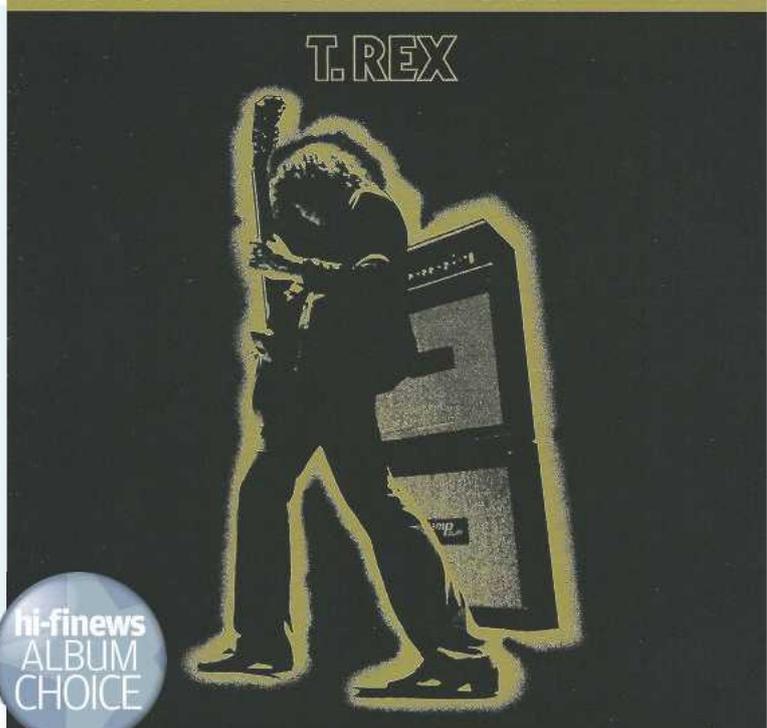
Mobile Fidelity UDSACD2209

It's easy to forget how beautifully-arranged and produced were Marc Bolan's efforts, given that he was, during his lifetime, mere *Top Of The Pops* fodder. The cult following required his James Dean-like demise, and one has to be careful not to rile the fan-boys and girls lest trolling ensue. This LP was the high point of his career, so you ignore the fact that he couldn't get arrested in the USA: it reached No 1 in the UK charts, and stands as an exemplar of both the glam genre and his flaky, hippie-on-steroids, fruit-loop persona. 'Jeepster' and 'Bang A Gong (Get It On)' are enough to qualify this set as irresistible, while the sound will knock you out. Hmm... just realised that Bolan would have loved the idea of 'trolls'. *KK*

Sound Quality: 90%



MOBILE FIDELITY SOUND LAB





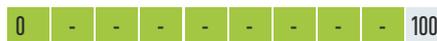
NICOLA BENEDETTI, LPO/VLADIMIR JUROWSKI; PETR LIMONOV

Elgar: Violin Concerto; Salut d'amour, Chanson de Nuit and Sospiri (96kHz/24-bit, FLAC)

www.hi-resaudio.com; Decca 485 0949

Shortly after their Festival Hall concert performance, this recording was made last December at Henry Wood Hall [see 'Elgar with Nicky'/YouTube]. Arranged for violin/piano, the short extras with the sensitive Moscow-born Petr Limonov (with whom Benedetti has recorded before) are from Air Studios in February. The intimacy of these eminently satisfying performances is a feature here. The Concerto opens with a bold introduction but it's when Benedetti starts to play that things become really interesting – that she has thought about and worked upon every detail means that we have a fascinating fresh and unsentimental view of the music (Andrew Walton's recording is well balanced). She responds to Jurowski's accompaniment in a very 'live' spontaneous way, too. **CB**

Sound Quality: 90%



hi-finews
ALBUM
CHOICE

BEHZOD ABDURAIMOV, LUCERNE SO/JAMES GAFFIGAN

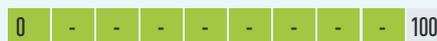
Rachmaninoff: Paganini Rhapsody; Symphony No 3; 'Lullaby' (trans) (96kHz/24-bit, FLAC)

www.hi-resaudio.com; Sony Classical 19075981622

The two main works were completed at the composer's Lucerne home, the Villa Senar, in 1934/39. Correcting the distortion of the cover art, the PDF is in itself valuable as it contains numerous family photographs and portraits, together with a few jottings by Rachmaninoff. What it leaves out is that the Steinway D in this *Paganini Rhapsody* recording is one given to Rachmaninoff to mark his 60th birthday – notably thinner in timbres

than with more modern examples, but very well suited to the extraordinary dexterity of the young Uzbek pianist. His playing is full of subtleties in dynamics and timing and the famous '18th Variation' sounds newly minted. Sony and Gaffigan combine to create a Straussian opulence in the Symphony – a rather unusual if compelling interpretation of the work. The middle section of (ii) is particularly exciting. **CB**

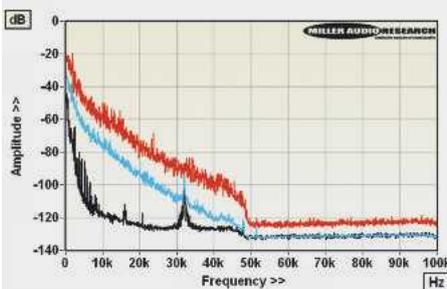
Sound Quality: 90%



OUR PROMISE

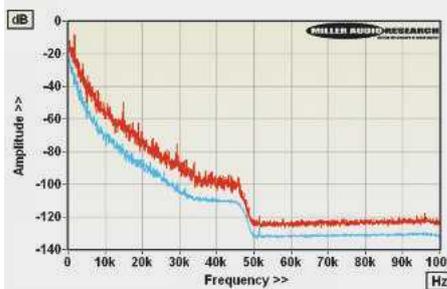
Following our Investigation feature [HFN, Jun '11] in which we examined the claimed quality of high-resolution downloads, *Hi-Fi News & Record Review* is now measuring the true sample rate and bit-depth of the HD music downloads reviewed on these pages. These unique reviews will be a regular source of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

LAB REPORT



Aside from a low-level/ultrasonic clump at 31.95kHz/32.05kHz [black trace] these are well-recorded and produced works, never peaking above -1dBfs and typically enjoying a very wide dynamic range. These are genuine 96kHz files. **PM**

LAB REPORT



The loudest peaks occur in the *Allegro* (-0.3dBfs) and *Adante* (-0.6dBfs) but this true 96kHz rendering is free of digital overload and spurious, and enjoys a wide dynamic range. The orchestra makes full use of the ~45kHz bandwidth. **PM**



COMPACT DISC



SUPERAUDIO



DVD



BLU-RAY



VINYL



DOWNLOAD



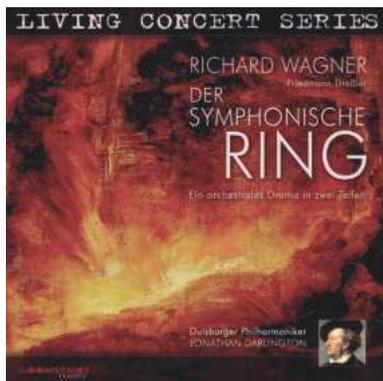
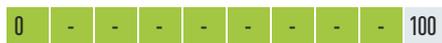
DEREK SMITH TRIO

Plays Jerome Kern (DSD64/128/256)

www.nativedsd.com; 2xHD/Jazzology Records 2XHDIA1172

Originally recorded 40 years ago this jazz trio set of Jerome Kern's tunes written between the late 1920s and early '40s comes up fresh under the attentive ears of 2xHD Mastering's René LaFlamme and André Perry. English-born pianist Smith, who like Kern started out playing the piano in Macy's music department, is ably assisted by Linc Millman on bass and Ronnie Bedford behind the kit, the trio forming a combo that swings it up on tracks like 'Ol' Man River', but just as able to wind it down and smoulder through 'The Folks Who Live On The Hill' with a delicate touch. The three have an enticing rapport, bouncing off each other in 'The Way You Look Tonight', the rhythm section indefatigable behind the piano, and with 'The Song Is You' forming a fitting end-piece to the set. That's just what it sounds like – a live set, captured with all its swing and excitement intact. *AE*

Sound Quality: 85%



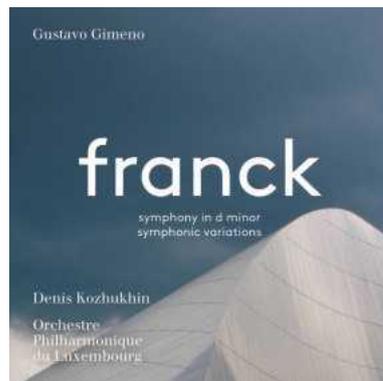
DUISBURGER PHILHARMONIKER/ JONATHAN DARLINGTON

Wagner: The Symphonic Ring (192kHz/24-bit, FLAC)

www.highresaudio.com; Acousence ACO21309

Love Wagner – can't stand all that awful singing? Leopold Stokowski was fond of his 'symphonic syntheses' while conductors of his generation happily recorded Wagner in 'bleeding chunks' (a phrase coined by musicologist Sir Donald Tovey). Lorin Maazel famously recorded his distillation of the *Ring* cycle 'without words' [Telarc] but here the arrangement for a huge ensemble is by the Ruhr orchestra's cellist Friedmann Dressler. While meant for a seamless 93m experience (and this is how I listened) tracks are named, so you could skip to favourites: 'Ride of the Valkyries', 'Siegfried's Funeral March', etc. Darlington matches the dramatic power of the Solti/Decca *Ring* but it was the quiet playing which impressed me equally. The May '09 live recording is from the then new Mercatorhalle and it comes with a fully detailed booklet. *CB*

Sound Quality: 85%



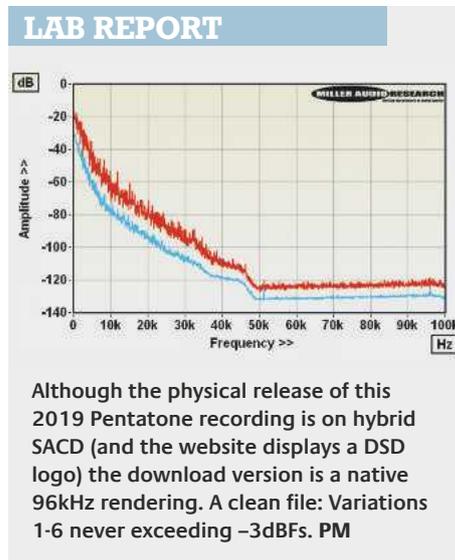
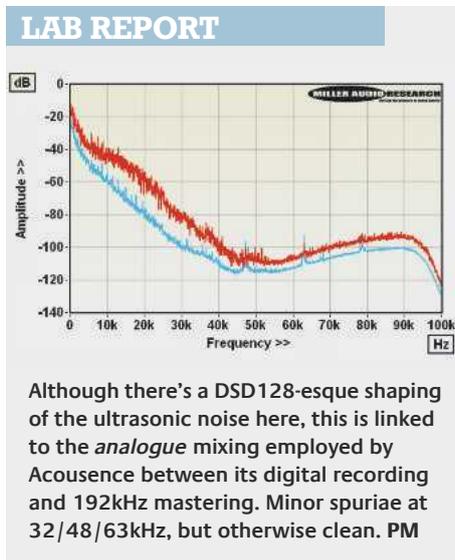
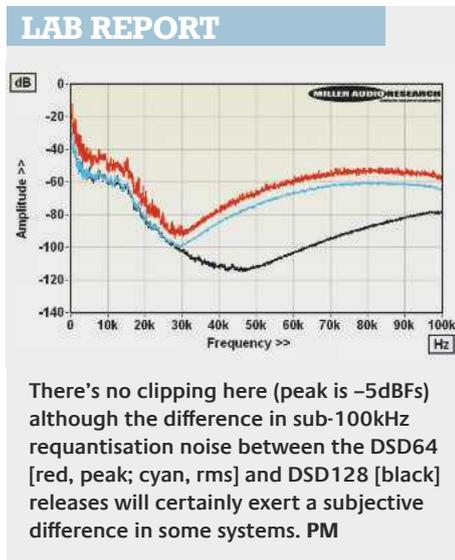
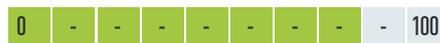
LUXEMBOURG PO/GUSTAV GIMENO

Franck: Symphony & Symphonic Variations (96kHz/24-bit, FLAC)

www.highresaudio.com; Pentatone PTC5186771

A French symphony with German influences – is the Franck D-minor making a comeback? Pentatone's recording comes hard on the heels of one by the Liège composer's namesake Mikko Franck [Alpha] and the fine NBC/Cantelli reissue [Warner] and is coupled – as so often – with another almost forgotten concert piece, where the Russian Denis Kozhukhin is soloist. He brings Lisztian rhetoric to his first extended passage [trk 5], and while his playing is neat, if bland, the shallow upper treble of the unspecified piano is unappealing. Gimeno directs a spacious, beautifully expressive account of the Symphony – the sound is a little cloudy in the Philharmonie acoustic. So not an audiophile version: which the 1959 CSO/Monteux certainly was. RCA now has this as a 176.4kHz/24-bit download. That should still be your library choice. *CB*

Sound Quality: 75%



E X P E R T P R O

A U D I O P H I L E E V O L U T I V E S Y S T E M

The next stage of evolution

ALL THE CORE ELEMENTS OF HI-FI DELIGHTS ENGINEERED INTO ONE ULTRA-COMPACT DEVICE.

Performance : 0,00025% - 2x1000 W / 6Ω

133 dB Signal to Noise Ratio in Dual Mono configuration



S A M

SPEAKER ACTIVE MATCHING

From a mathematical model of your speakers, SAM® Speaker Active Matching enables your Expert Pro to accurately adapt the signal transmitted to them. For the first time, it is then possible to obtain perfect time alignment between the recorded signal and the sound pressure generated by the speaker drivers. The emotional power of music, just as the artist intended.

R A M

RECORD ACTIVE MATCHING

With this exclusive Devialet technology, your Expert Pro's phono stage becomes entirely configurable on-the-fly, and adapts itself dynamically to the exact characteristics of your turntable and vinyl records. With more than 256 combinations for your MM or MC cartridge and 13 RIAA equalization curves available, RAM perfectly tailors the playback of your favorite albums.

C O R E
INFINITY

NEW INTELLIGENT CORE

Core Infinity opens Expert Pro to a whole new world of features designed to heighten current and future streaming capabilities. Complete with the latest Devialet OS operating system, Core Infinity brings a range of streaming protocols to Expert Pro, now ROON READY, including UPnP renderers, AirPlay®, Spotify Connect. In wireless mode and Ethernet, discover a new world, open and future-proof.

D E V I A L E T

INGÉNIERIE ACOUSTIQUE DE FRANCE

TELEPHONE

01865 790 879

E-MAIL

shop@oxfordaudio.co.uk

WEBSITE

www.oxfordaudio.co.uk

OXFORD/
AUDIO
CONSULTANTS

SHOP ADDRESS

Cantay House, Park End Street
Oxford, OX1 1JD

BUSINESS HOURS

Tuesday - Friday: 10am to 6pm
Saturday: 10am to 5pm

Closed: Mondays, Sundays
& Bank Holidays

Sign-up (on website) to our popular newsletter for the latest news and instore events
Ask about our popular buy now pay later scheme with 0% apr and no deposit



COMPACT DISC



SUPRAAUDIO



DVD



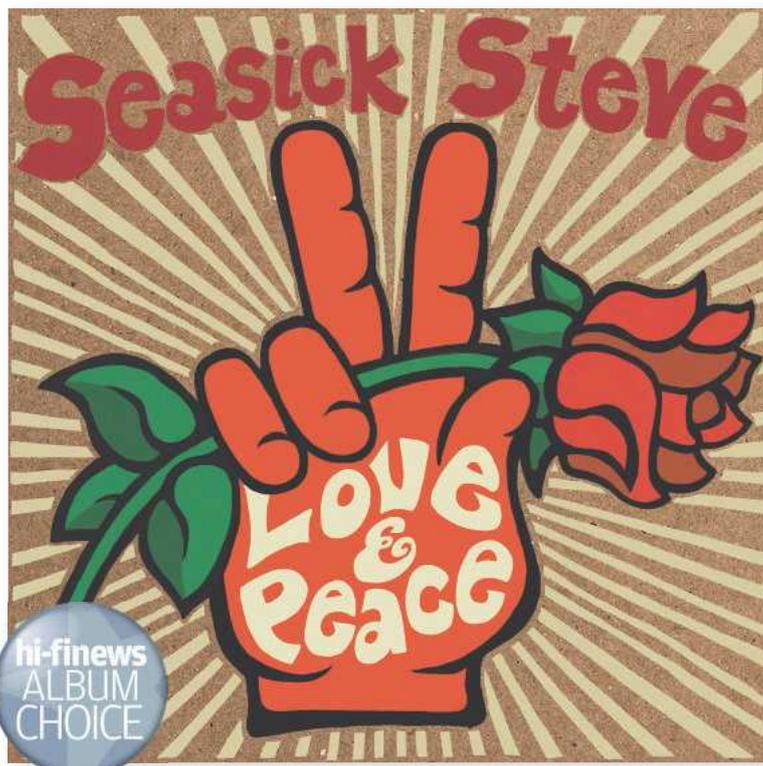
BLU-RAY



VINYL



DOWNLOAD



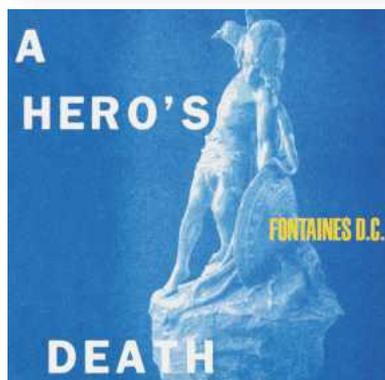
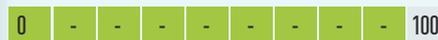
SEASICK STEVE

Love & Peace

Contagious 0190296852275 (LP: 0190296852152)

When on the title track, Steve Wold sings 'Hey man, what's the issue here?/Things have all got tangled up' it feels reassuring, like we are once again in capable hands. This latest instalment of timeless electric blues nods back to Willie Dixon's songs and John Lee Hooker's boogie, but is imbued with his characteristically cool worldview, as exemplified by 'My Woman', a droll paean to his wife. *Love & Peace* is sparse and gnarly, with Steve's raw, imaginative guitar playing backed by Dan Magnusson's clattery, syncopated drumming. It was recorded both at home and in commercial studios and as Steve is an accomplished recording engineer and producer, he has achieved a satisfying mix here of the rough and the smooth. **MB**

Sound Quality: 90%



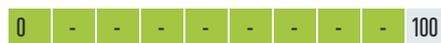
FONTAINES DC

A Hero's Death

Partisan PTKF2182-2 (LP: PTKF2182-1)

The young Dublin-based group admits that relentless touring following their acclaimed 2019 debut *Dogrel* has put a strain on band relationships, and so it's more than coincidental that *A Hero's Death* displays a wider range of moods. Their more typical uptempo songs carry echoes of Joy Division, Wire, Josef K and The Fall, but the way their edgy, melodic guitars mesh together over speedy drum patterns has already created an original sound. Here these are balanced with slower, more introspective tunes like 'I Don't Belong', which finds singer Grian Chatten in casually defiant mood and although it might wrong-foot some of the band's fans, it's a potent combination. **MB**

Sound Quality: 85%



SAM PREKOP

Comma

Thrill Jockey THRILL524CD (LP: THRILL524LP)

Over the last two decades, Sam Prekop has been most closely identified with Chicago guitar band The Sea And Cake. And while few would choose to wear a t-shirt bearing that name, they are acclaimed for their subtle, hypnotic grooves and Prekop's sweet-toned vocals. On this instrumental solo album he evokes a similar atmosphere and sense of space but through the use of electronics. With chiming keyboards and a drum machine, 'Approaching' evokes the spirit of '70s German group Harmonia, while on 'Circle Line' Prekop's lush soundfield and bubbling rhythms nod towards Vangelis and mid '90s 'Intelligent Techno', but with a rock sensibility. **MB**

Sound Quality: 85%



THE PRETENDERS

Hate For Sale

BMG 4050538603569 (LP: 4050538603576)

This release features a new Pretenders lineup with Martin Chambers back on drums, and it showcases the first songwriting collaborations between Chrissie Hynde and guitarist James Walbourne: ten finely-wrought tracks, which all sound like potential singles. And while 'The Buzz' evokes memories of their 1979 single 'Kid', another cautionary anti-drug song 'Junkie Walk' is a tougher proposition, with scorching fuzz-toned lead guitar. They purvey gritty rock on the title track, some skank on 'Lightning Man', and Hynde delivers a moving vocal performance on the piano ballad 'Crying In Public', all of which are captured in vivid detail here. **MB**

Sound Quality: 90%





COMPACT DISC



SUPRAAUDIO



DVD



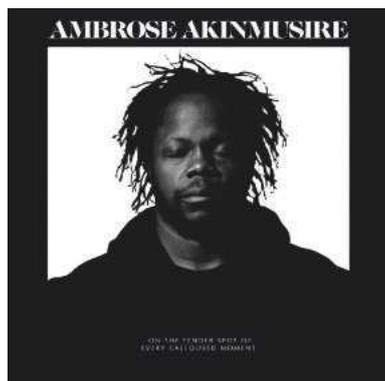
BLU-RAY



VINYL



DOWNLOAD



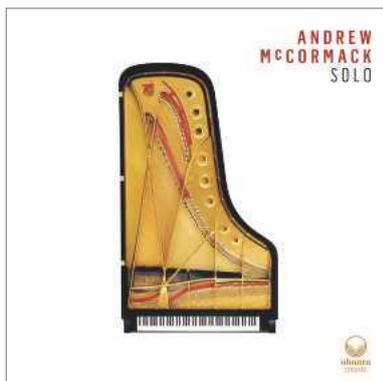
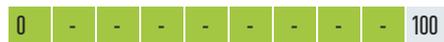
AMBROSE AKINMUSIRE

On The Tender Spot Of Every Calloused Moment

Blue Note 0892619 (LP: 0715001)

This is the trumpeter's fifth album as leader, but it was 2018's *Origami Harvest* that broke all previous moulds, harnessing a string quartet, jazz group, rapping and spoken word to a social-issues agenda that focused on structural racism in America. This time, Akinmusire pursues his themes with just his own quartet, consisting of long-term collaborators Sam Harris on piano, Harish Raghavan on bass and Justin Brown on drums, along with some guest vocals from Genevieve Artadi and Jesus Diaz. But Akinmusire has such great mastery of his instrument that you could say he makes it talk, and he certainly puts the message across. *SH*

Sound Quality: 85%



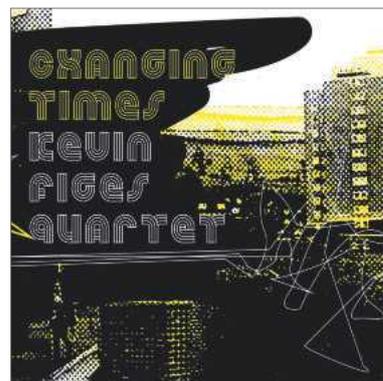
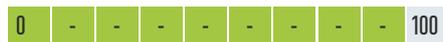
ANDREW McCORMACK

Solo

Ubuntu Music UB0059

Known in recent years for his work with Kyle Eastwood and his own Graviton ensemble, McCormack still loves the challenge of a solo concert – as he puts it, 'You could say I'm addicted'. He wrote some of the pieces here in 2016, and performed them at the London Jazz Festival. But they were put aside until last year, when he dusted them off and added new ones to create this welcome solo album. Never flashy but always communicative, revealing harmonic depths and depth of feeling too, his playing always has a pulse. And he rounds off this absorbing set with a subtly re-harmonised and freshly-absorbing 'For All We Know' that just hits the spot. *SH*

Sound Quality: 90%



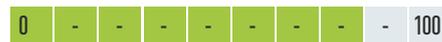
KEVIN FIGES QUARTET

Changing Times

Pig Records PIG 10

Beginning his career in London, saxophonist Kevin Figes soon moved west to work with avant garde pianist Keith Tippett and became a standout figure in the Bristol jazz scene. Here, as on 2012's *Tables And Chairs*, he leads a quartet featuring the spectacular keyboard work of Jim Blomfield and the drumming of Mark Whitlam, though now with Thad Kelly on bass. Figes' forceful flute and agile alto ride the waves of synth sounds as he stirs in dance, trance and rock ingredients. Accomplished singer Emily Wright provides the chorus on the dream-turning-to-nightmare 'Strange Place' and adds substance to Figes' own zany vocal lullaby, 'Soft Escape Bed'. A trip. *SH*

Sound Quality: 75%



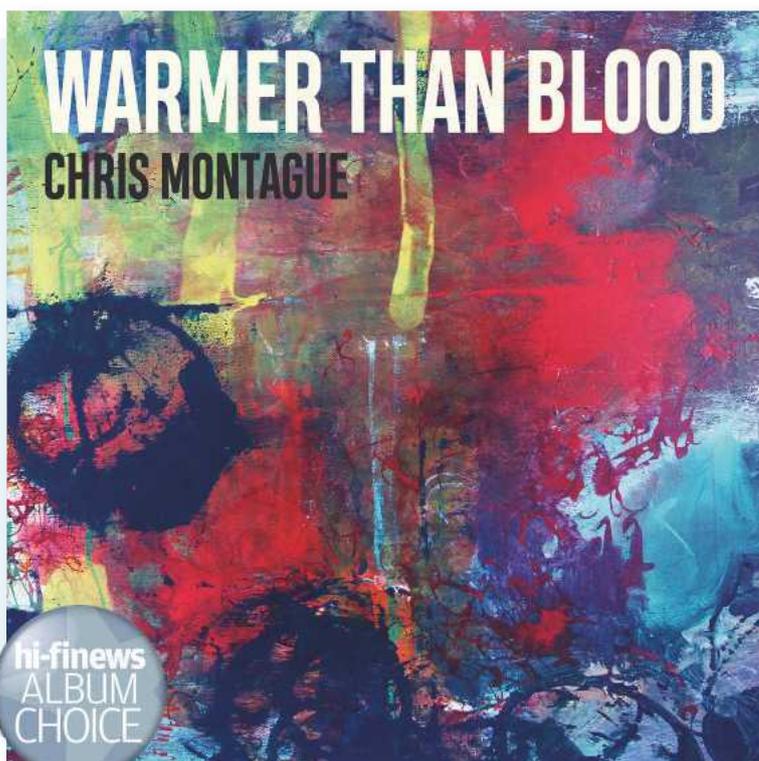
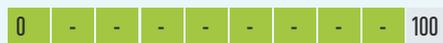
CHRIS MONTAGUE

Warmer Than Blood

Whirlwind Recordings WR4756 (LP: WR4756LP)

Guitarist and composer Chris Montague grew up listening to rock and blues players but then voraciously absorbed the whole jazz guitar canon too. Having toured the world with pianist Kit Downes and drummer Josh Blackmore in Troyka, he's joined again by Downes for his own debut as leader, in a trio completed brilliantly by Ruth Goller, who adds chordal and percussive effects on electric bass. And the absence of drums lets you in more clearly to the interactions of Montague and Downes. With three players who all give out so much energy, the music can be intense, but Montague is lyrical on the almost ballad-like 'Not My Usual Type', with a more conventional chord structure than most of his pieces. *SH*

Sound Quality: 90%



PROTO.

Unique Cable Designs By

Black Rhodium

**Serious about upgrading your music?
PROTO is the ideal choice.**

'WOW! So much more clarity, depth, detail and definition. The whole sound stage has just been redefined and is so flowing and immersive.'

- Adrian (PROTO 1220
Speaker Cable)



'I have really enjoyed the detail, the improved imaging, and what to my ears seems to be new subtle nuances coming from the music I play.'

- Martin (Proto 640 Speaker Cable)

**Our Advanced Research for your Clearer Sound.
When we design a new cable, we test many wires,
materials and connectors.**

**We choose the best for Black Rhodium.
Various cables at various prices - outstanding
value, but limited supply, when sold, it's gone.**

**Buy risk free and at half the price, find out
more on our website at:**

www.BlackRhodium.co.uk



COMPACT DISC



SUPERAUDIO



DVD



BLU-RAY



VINYL



DOWNLOAD

BEETHOVEN

THE PIANO CONCERTOS

STEPHEN HOUGH
FINNISH RADIO SYMPHONY ORCHESTRA
HANNU LINTU



hyperion

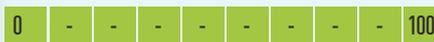
BEETHOVEN

Piano Concertos Nos 1-5
Stephen Hough, Finnish RSO/Hannu Lintu

Hyperion CDA68291/3 (three discs; downloads to 96kHz/24-bit resolution)

These recordings were made last June, after concert performances at the Helsinki Music Centre, Stephen Hough playing a Bösendorfer Vienna concert grand. He uses the composer's cadenzas except in 2(i) – a 1m 45s piece by the pianist himself, more fitting than Beethoven's 'Hammerklavier' one. In No 4 he also lightly arpeggiates the opening chord – but there's no thrilling glissando at the recap. in 1(i). Time and again Hough surprises with his exact dynamic or timing detail yet everything makes sense in this very consistent cycle. And he gets a matching partner in Lintu (comparable to the Kempff/Leitner DG). This set ideally shows the Beethoven's pianistic journey from 2 to 5. **CB**

Sound Quality: 95%



L'HEURE BLEUE

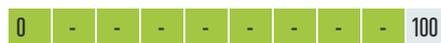
Works by Hartmann, Hersant, Hildegard of Bingen, and Shostakovich

Le Concert Idéal/Marianne Pickety

Evidence EVCD068

The 'fleeting moment between the end of night and the beginning of day' inspired this programme. Karl Amadeus Hartmann's *Concerto Funèbre* is the main work, reduced in scale with just eight accompanying strings. Three of 12th-century abbess Hildegard of Bingen's *Visions* are pungently transcribed, and two movts from teenage Shostakovich's Octet. Philippe Hersant's *Une Vision d'Hildegarde*, commissioned by the group, also quotes the Hartmann concerto. Recorded in Noirlac Abbey at the end of last year, these are performances that crackle with electricity. **CB**

Sound Quality: 90%



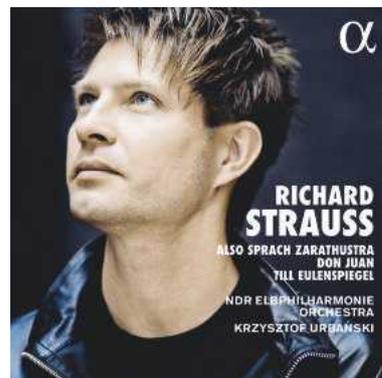
MUSSORGSKY/RAVEL

Pictures At An Exhibition/La Valse
Les Siècles/François-Xavier Roth

Harmonia Mundi HMM905282 (downloads to 44.1kHz/24-bit res)

Most versions of *Pictures* have a heavy, 'Russian' weight. But Roth – discarding score amendments made by Koussevitzky (who commissioned the 1922 orchestration by Ravel) has period instruments, with a more translucent outcome. *Les Siècles'* brass contingent really shines here, in the somewhat *too* reverberant Paris Philharmonie. The lively 'Tuileries', 'Unhatched Chicks' and 'Limoges Market' come off best, though other conductors have brought more character to some of the *Pictures*. Roth emphasises every twist and turn of *La Valse* but does so rather at the expense of a continuous flow, I felt. **CB**

Sound Quality: 80%



R STRAUSS

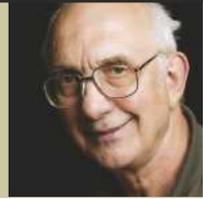
Also Sprach Zarathustra; Till Eulenspiegel; Don Juan
NDR Elbphilharmonie Orchester/Krzysztof Urbanski

Alpha ALPHA413 (downloads to 48kHz/24-bit resolution)

In the two shorter character portraits Urbański has more to say than Petrenko, on his Lawo Strauss disc [HFN Feb '20] – the readings are spacious, brilliantly efficient rather than affectionate. Urbański achieves the same clarity found in his Stravinsky [see Opinion, HFN Aug '20]. He was only 14 when the world went mad to hear the Kubrick *2001: A Space Odyssey* 'Sunrise' opener – Strauss in philosophical mood composing *Zarathustra* after Nietzsche. Urbański's is a version well worth hearing. This is all from live performances given at Hamburg's Laieszhalle in 2016, where it sounds as if the mics were set far back. **CB**

Sound Quality: 80%





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

Dolby dilemma

Digging out some old cassette tapes and his 1980s Sony portable, **Barry Fox** wishes he'd made a careful note about playback for optimum sound now that he wants to digitise them afresh

During the 1970s and 1980s the music industry grew hysterical about 'home taping'. Their trade bodies in the US and UK (the RIAA and BPI) shouted for a tax on blank tape, but shot themselves in the foot by rag-bagging reasonable activities – like compiling party tapes from owned LPs and time-shifting radio broadcasts – with practices such as commercial piracy, counterfeiting and bootlegging.

Roadies at rock and pop concerts came down hard (sometimes literally) on anyone spotted with a cassette recorder. And as for early portable video recorders, these were seen as the Devil incarnate. I borrowed a big and bulky Devil when a jazz pianist friend asked me to record a gig he was playing in a Covent Garden club. I was two minutes into taping when the bass player stopped playing, stormed over and told me that I would have to pay the whole band Union rates.

NICE 'N' EASY

I tried explaining that it was for private use only but to no avail. I humped all the gear out of the club and went home.

Years later the bass player apologised and said how much he wished that he now had a recording of the gig to look back on.

Old habits die hard. I have previously written here about the classical music evenings which an elderly music-lover pays to host for friends in his living room. I recently suggested to the regular pianist that it would be nice to use my tiny Olympus digital recorder to make a souvenir CD as a surprise Christmas present for the host. First she made lame excuses about squeaky floorboards, then angrily refused point blank.

In France there has usually been a more *laissez-faire* attitude. Even in

the 1980s when anti-taping mania was at its peak, the audience area of the open air Nice Jazz Festival bristled with mics and tripods. Organiser George Wein, himself a musician, shrugged his shoulders when I asked him about it. 'What am I supposed to do,' he said, 'point a gun at them?'

I was reminded of this recently, when sorting through old tapes. I found a box of audio cassettes that I'd recorded at Nice during the '80s. I also found the pro Sony TC-D5 I'd been able to use then.

TRIP TO JAPAN

Sony had invited a few journalists to visit the company in Japan at the height of the VHS-versus-Beta video format wars. We had a chat session with Sony's boss Akio Morita and his PR man was horrified to see that most of us were using non-Sony cassette recorders to tape Morita's words. So we were all 'loaned' a portable Sony TC-D5 deck. This came in very handy at Nice.

On YouTube there is a video of one of the concerts I taped with it [www.youtube.com/watch?v=AFOVRgkUYhM]. The audio is pretty poor. Maybe, just maybe, I can sync the two recordings.

Meanwhile I've hit an interesting practical challenge. The Sony TC-D5 had a Dolby B On/Off switch. Set to On when recording, B-circuitry inside the machine boosted some high frequencies, but only

when needed. When it came to playback there was mirror-image attenuation, so tape hiss was reduced, without dulling quiet, high-frequency audio.

Like a fool I did not label some cassettes as recorded Dolby On or Dolby Off. The difference between playback with Dolby On and Off is quite marked, but varies dynamically with content – and all cassettes sound very hissy to digital



ABOVE: The author's original 'Home taping' t-shirt and badge from the '80s BPI campaign

ears. Should I cut the hiss with Dolby On playback and risk degrading the already poor high frequency response, or grab all the top end that's available, complete with hiss? I need to get it right at the point of dubbing because digitising tapes in real time is a tedious business.

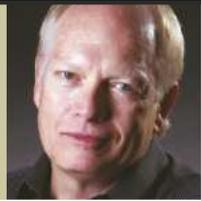
CODING CHALLENGE

It would all be so simple if there were a software program that simulated Dolby decode. My trusted warhorse Audacity doesn't. So I asked the horse's mouth, Dolby Labs: does Dolby know of any software solution for Dolby B decoding?

After several reminders, Dolby Labs finally provided what has become the Dolby stock answer to even vaguely tech queries: 'I'm afraid we're not able to help with this particular request'. Founder Ray Dolby must be rotating in his grave. He was an engineer who cared about audio quality and built a company on it.

Ray's patents on noise reduction are long dead, so there is nothing to stop a smart computer coder developing software that mimics Dolby noise reduction decoding. Who will now rise to the challenge, I wonder? ☹

'I explained that it was for private use only – but to no avail'



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

Phase incoherence

While it may be difficult for the ear to detect when loudspeakers have their midrange drivers connected out of phase, it's virtually impossible where tweeters are involved, says **Barry Willis**

Last month I briefly touched on 'absolute polarity' in the context of playing music recordings. A related issue – one that's understood far less than simple polarity – is phase coherence, the idea that maximum fidelity is attainable only when the playback of a recording matches as closely as possible the complex phase relations that originally impinged on a microphone. In other words, an accurate recreation of an acoustic event occurs only when cascading waveforms emanating from a loudspeaker recreate the cascading waveforms that came from the performing musicians.

HARMLESS BELIEF

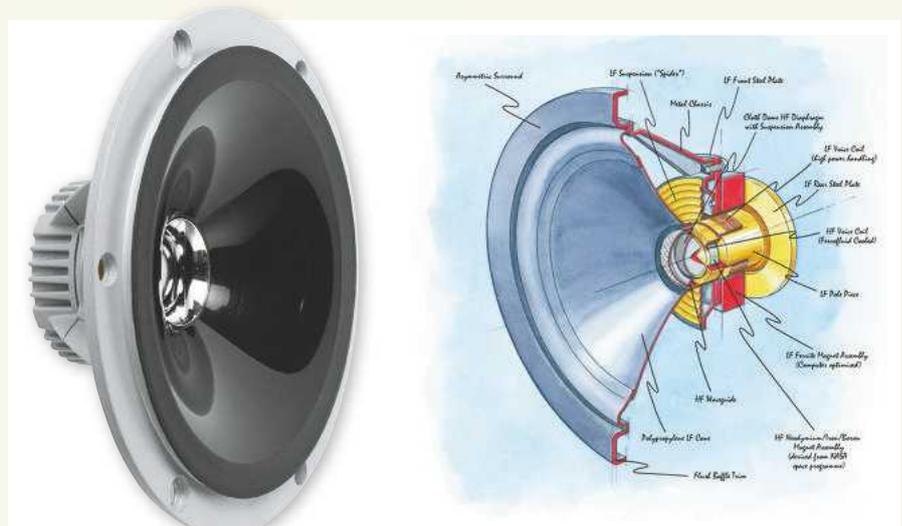
It's a simplistic assumption that on first consideration seems both a reasonable approach to high fidelity and a laudable design goal. It's also one that at various periods has obsessed audio engineers and hi-fi enthusiasts alike, to the point where it was once a recurring marketing ploy, brand names such as Phase Linear and Phase Technology having an implication that meticulous attention to phase coherence yields higher levels of playback realism than might otherwise be possible.

It's still an article of faith for some people in this industry. Until earlier this year I worked with a fellow who fervently

'Every person in that hall hears a different set of phase relations'

believes that only coincident drivers (with tweeter in the throat of the woofer) are capable of launching phase-accurate waveforms into free air. It's a charming, harmless belief that ignores the reality of natural phase relations, recording practices, and the design and construction of loudspeakers.

Imagine a concert in a 300-seat hall. Every person in that hall hears a different set of phase relations. In fact every ear hears a different set. Each ear resides



ABOVE: A typical coincident driver with the tweeter mounted in the throat of the woofer (left) and (right) cutaway illustration of a KEF Uni-Q driver showing the location of the HF voice coil

in the head's acoustic shadow; timing differences between our two ears help us locate events and objects in space – the so-called head-related transfer function (HRTF). Yet even though each ear receives

a different set of phase relations, every listener hears the same music in the same moment – be they ushers walking down the aisles or paying customers seated and motionless.

Given this basic fact of nature, where

is the optimum position for a pair of microphones if you are doing a purist two-channel recording? The slightest change in position yields a differing set of phase relations. More likely is a multi-mic recording whose many tracks will ultimately be mixed down to two channels for vinyl/CD, or possibly to a few more for fringe-element formats.

One US manufacturer of microphones offers a seven-mic array specifically for recording drums: a useful piece of kit,

but does what it picks up accurately depict what you hear as a member of the audience? And what happens to those phase relations passing through who knows how many stages of processing on their way to a final product?

RELATIVELY SPEAKING

Then there's the issue of crossover networks in loudspeakers – which introduce all sorts of phase shifts, even in coincident drivers – and the issue of relative polarity among drivers in a loudspeaker. A midrange driver may be connected in-phase or out-of-phase with its adjacent woofer and tweeter depending on the effect a designer is seeking. Is one way likely to be more accurate than the other?

Almost all audio people can instantly identify a pair of loudspeakers that are out of phase with each other. The bass will self-cancel. Far fewer could spot out-of-phase midrange drivers. And probably no one could identify out-of-phase tweeters, where a slight turn of the head would put them back in phase. ☺



Natural selection.

Atlas cables are designed with clear, consistent objectives in mind, making it possible for us to have ideas and technologies created for our 'high-end' products quickly trickle down through the range – the new Element Mezzo XLR and Equator XLR cables are the latest examples in our evolution.

In recent years there's been something of a resurgence in the popularity of XLR connections, with brands such as Auralic, Chord Electronics and Hegel featuring XLR on their latest products.

It's created an opportunity for interesting original thinking, with some devices having sufficient output to drive 'awkward load' planar headphones or even loudspeakers – and yes, we have XLR cables and adapters to suit those applications and more.

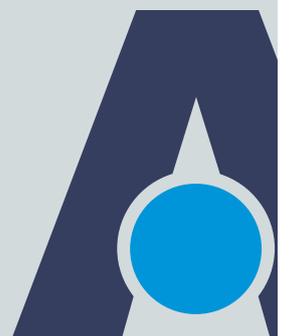
Atlas cables are hand-made, by one person, in Scotland – so to complement our standard XLR configurations, creating custom variants for your needs is usually pretty straightforward. Selecting which of our cables to buy could be the only tricky bit.

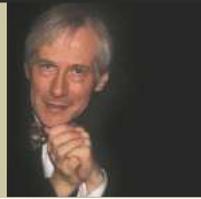
Precision audio
engineering.

Contact your dealer or Atlas direct for more info & advice.

ATLAS[®]
the performance connection
atlas cables.com

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





Christopher Breunig Music Journalist

Christopher Breunig trained as an architect but became won over by music and collecting classical recordings. He was *Hi-Fi News*' Music Editor from 1986-2000

Unicorns are real

The ambitious and artistically successful label venture by the late John Goldsmith had a *HFN* 2LP project link with conductor Jascha Horenstein. **Christopher Breunig** outlines the story

The recent letter from David North [*HFN* Jun '20] reminded me of John Goldsmith's Unicorn record label, which began the 'reinstatement' of that formerly neglected German conductor Wilhelm Furtwängler.

Goldsmith had spent time in the City of London Police but, a passionate classical music lover, he decided to take the risky step of first opening a specialist shop – The Record Hunter, around the corner from Waterloo Station – in 1966 and then starting his own record label. He was importing rare repertoire and then with the help of Elisabeth Furtwängler was able to issue wartime recordings that had been taken by the advancing Soviets.

VOX BACKGROUND

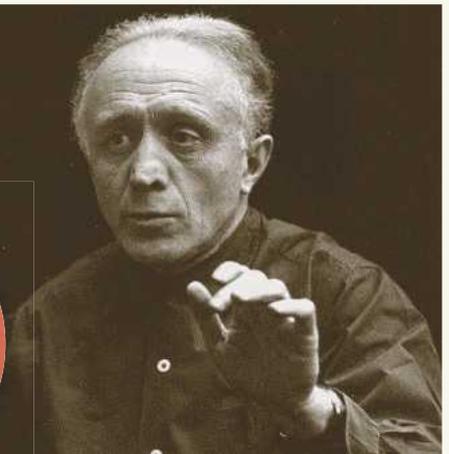
They included the early 1940s Beethoven 'Eroica' and 'Choral' Symphonies, a VPO Bruckner Eighth, a remarkable Sibelius Violin Concerto with Georg Kulenkampff, Edwin Fischer in Brahms's Second Piano Concerto and (from EMI) Tchaikovsky No 4 with *Serenade for Strings* excerpts.

Goldsmith then ventured into producing records. He was deeply impressed by the Kiev-born conductor Jascha Horenstein – who made a series of Vox LPs, some still in the CD catalogue. In the 1920s Horenstein had worked as Furtwängler's assistant – he prepared Nielsen's Symphony No 5 for the premiere under Furtwängler at the 1927 ISCM Festival in Frankfurt.

Horenstein wasn't an easy man to get on with, but he agreed to record that Carl Nielsen Symphony for Unicorn, then Mahler Symphonies Nos 1 and 3. These turned out to be valuable, unvarnished interpretations.

Symphony No 3 was recorded over three days at Fairfield Hall Croydon, in July 1970, with the LSO, Ambrosian Singers, Wandsworth School Boys'

RIGHT: Jascha Horenstein, whose July 1970 recording of Mahler's Symphony No 3 appeared as a quadraphonic 2LP set in Japan – we had Bob Auger's Unicorn stereo version



Choir and contralto soloist Norma Procter. The producer was Harold Lawrence and Bob Auger was his engineer, using a Dolby A multi-track recorder with one-inch tape (a claimed 'first' for a commercial recording). The 2LP set, Unicorn RHS302/3, won a Grand Prix du Disque award and is now on two CDs [Unicorn Kanchana UKCD2006-7].

But if you remember the four-systems quadraphonic LP set masterminded for *HFN* by Mike Thorne, *Quadrafite*,

you'll know that an experimental four-channel recording of Horenstein's Mahler 3 was simultaneously made by the American Mahler specialist Jerry Bruck, using four mics.

The full story of *Quadrafite* can be read at stereosociety.com/quadrafite/. It has just

a 2m 45s excerpt from the Mahler in SQ, QS, CD-4 and UD-4, and this limited edition set was only finalised as interest in these formats had waned. But a bit of Internet digging shows that the complete Mahler recording was issued in 1971 by JVC on two CD-4 LPs [CD4K-7505 ED1], presumably from the Bruck tapes (there are no production credits I could find).

This side of the pond, Jerry Bruck is something of an unknown, except to Mahler specialists. Nowadays he's mostly credited for his argument that the correct sequence for the inner movements of Mahler's Symphony No 6 should be *Andante/Scherzo* (however much some of us hate this!). But he also persuaded Alma Mahler to rescind her ban on completions of the unfinished Tenth Symphony and he was instrumental in getting the original Part 1 of *Das Klagende Lied* performed and recorded; and in 1968 he produced the first recording of Mahler's Symphony No 1 with the 'Blumine' movement [New Haven SO/Frank Brieff; CBS-Odyssey].

EXTRAORDINARY LEGACY

Sadly, John died of a massive stroke during June – he was aged 81. Unicorn had been a remarkable venture, with projects like the Delius recordings with the composer's amanuensis Eric Fenby; a long association with film composer Bernard Herrmann (the complete *Psycho* score, *North by Northwest*); Andrzej Panufnik's *Universal Prayer*, Stokowski conducting; Maxwell Davis's *Eight Songs for a Mad King* with The Fires of London; *Twilight of the Gods* excerpts, Reginald Goodall conducting; Peter Katin in Rachmaninov and much more. ☺

'Bob Auger used a Dolby A multi-track tape recorder'

Quadraspire



X REFERENCE

For your nearest X Reference dealer
please call or email our sales team

+44 (0)1761 452178 | sales@quadraspire.co.uk

Hear the difference.

www.quadraspire.co.uk





Mark Craven Contributing Editor

Mark Craven has been editor of *Hi-Fi News*' sister title *Home Cinema Choice* for nearly a decade and has a passion for music, film and everything in between

Content over quality?

What do you do when a high-end hi-fi system robs some of your favourite music of its enjoyment by revealing the flaws in the way it was recorded? **Mark Craven** offers a solution, of sorts...

Sometimes I wish I had been born earlier. A child of the late '70s, my tastes in music were naturally moulded by the artists of the '80s, a decade in which the idea of recording rock and pop music while paying any sort of attention to sound quality was largely thrown out of the studio window. Spin forward 30-odd years, and I now find myself becoming increasingly annoyed by the fact that my favourite legacy tracks sound... well, awful.

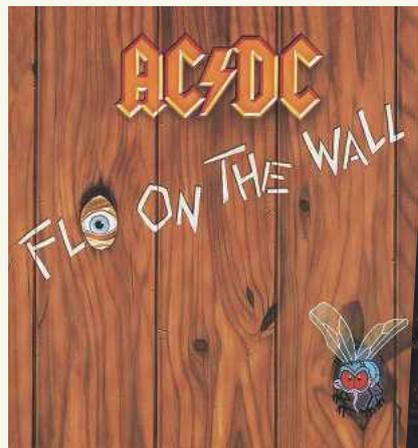
Some will argue this is punishment for having a penchant for hard rock and heavy metal. And that would be fair to a point – the average four-piece guitar combo is never going to sound as tonally varied and nuanced as a full orchestra. But this is less about the compositions, more about their conception.

CALIFORNIA DREAMING

You will all know how hi-fi demos usually work. The music selected to show off the performance capabilities of a speaker or amplifier is chosen with care, which is the reason why you're likely to have heard The Eagles' wonderfully recorded and mixed 'Hotel California' more than once – okay, more than more than once – at any UK audio show. What you'll hear much less of is music from the mid 1980s, when the digital recording boom, allied to many producers losing the plot entirely, saw music being stripped of bass weight and midrange drive, while the treble dominated.

Now, you can't blame the young tyros of the '80s rock and metal scenes for releasing poor-quality records, as they were operating on budgets that wouldn't cover the costs of one of Mark Knopfler's backup guitars, but the trend snared some bigger fish. AC/DC released *Back In Black* in 1980, which is one of the best-selling albums of all time, meaning presumably they had

RIGHT: AC/DC's *Fly On The Wall* album from 1985 (left) and Dave Mustaine with Vic Rattlehead of American heavy metal band Megadeth, who formed in 1983. Neither band will be appearing at the Cambridge Folk Festival next year



money to spend. But in 1985 the band put out the record *Fly On The Wall*, which manages to sound like it's been recorded in an empty biscuit tin. Even Queen, who a decade earlier had been responsible for the sublime *A Night At The Opera*, were guilty, a muddled production reducing the brilliance of the 1986 track 'One Vision' to something almost unlistenable.

RUTHLESSLY EXPOSED

Of course, when you're young and do most of your listening on a Walkman and cheapo headphones, perhaps saving up for a first separates system, this is not such an issue. But when you're older and have finally assembled a set-up comprised of premium hardware – or even well-engineered budget gear – the difference between those good-quality and

bad-quality tracks becomes stark.

Last year I arranged an early doors listening session with a renowned loudspeaker manufacturer at a UK hi-fi show. We began with a few of the company's own choices – probably The Eagles – before I was 'allowed' to put on Megadeth's 1990 release *Rust In Peace*.

And pretty soon as I was asked to turn it off. The floorstanders that were being demonstrated had gone from sounding smooth, articulate and seamlessly blended to harsh, thin and directional. 'Well, that's one way to syringe your ears at 9am', quipped the brand rep. He wasn't wrong. Here was one of my beloved albums being ruthlessly exposed in all its lack of production glory. The solo in 'Tornado Of Souls' still rocked, though.

LOUD AND PROUD

The thing is, there's little that can be done to remedy the situation. Judicious amp and speaker matching can help to soften a brash edge, as can seeking out premium format releases and remastered versions (the latter a process now made easy by the likes of Tidal and Qobuz).

But I've decided you just have to make peace with it. No amount of reverse engineering will change the fact that a favourite song was recorded with a microphone facing the wrong way, or that the producer's finger wound up stuck to the reverb button.

And if the alternative is to stop listening to the music you love, then that's not really an alternative at all. Play those tracks loud and proud. And then put on The Eagles... ☺

“Well, that's one way to syringe your ears at 9am”



DON'T UNDERESTIMATE THE CRITICAL ROLE OF YOUR TONEARM

Thousands of people have experienced dramatic and surprising improvements upgrading to our multi-award winning tonearms. We're so sure you'll love our tonearms, we offer an unconditional One Month Money Back Guarantee:

We've built our reputation by offering astonishing sonic performance & value for over 25 years, contact us today to fall in love all over again with your precious LPs!

From £295 to £9750 our range suits all budgets. Take an in depth look at the benefits of a better tonearm on our website, found above.



Encounter MK3C Arm

Editors Choice Award

— THE ABSOLUTE SOUND

Product of the Year Award

— HI FI +

"One of the truly special products I have reviewed in the last 18 years"

— STEREOPHILE (USA)

Illustrious MK3C Arm

Best Analogue Product Award

— FEDELTA' DEL SUONO" (Italy)

"The value of this arm is off the scale"

— John Stratton (Owner)

Silver MK3A Arm

Most Wanted Component Award "So far ahead of the pack ... looks about to lap them. ...first choice for those looking for ultra musical LP performance"

— STEREO TIMES

Best of Year Award "the Origin Live Silver tonearm is phenomenal and makes me realize what a bargain it truly is at its asking price"

— 6 MOONS

"Design of the decade"

— HI FI WORLD

Enterprise C Arm

"The ultimate real world tonearm"

— HI FI WORLD

Conqueror MK3C Arm

Tonearm of the Year Award

— HI FI WORLD

Most wanted component award

— STEREO TIMES (USA)

Best sound at the show award

— KLANGBILDER (Vienna)

Perfect 10 award "The most addictive product I've heard"

— AUDIO 10 (USA)

"For me Origin Live in the analogue sector is the discovery of the year! ..."

— IMAGE HI FI (Germany)





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

Hands on deck

Steve Harris discovers a new, anonymous, blog at an unexpected source that celebrates the sheer diversity of turntable design in the late '70s. Which deck do you consider to be top dog?

It's more than 50 years since the late E J (Ted) Jordan developed his groundbreaking profiled metal cone, yet his concept still has a loyal following among loudspeaker builders around the world. Ted Jordan passed away in 2016, but the company he left behind continues to supply the Jordan drive units and regularly comes up with new enclosure designs for them. And promised for later this year is the definitive new edition of Jordan's 1962 book *Loudspeakers*.

But an interesting recent departure for the current E J Jordan website is its 'Vinyl Revival Blog', which as I write, extends to three episodes, and is introduced like this:

'The series will look at some of the classic turntables available on the secondhand market – what is worth investigating, what should be avoided and, crucially, what do you need to get the best out of them?'

NO-NAME BLOGGER

The blog, we are told, is written by 'a longtime turntable expert and ex-industry vinyl retrophile'. I was intrigued, as you might well be when you visit www.ejjordan.co.uk, but the author's identity, it seems, is not to be revealed.

Seasoned observers of the hi-fi scene, and oldies like me, will amuse themselves by trying to guess. But the blog isn't written for them, nor for those easily able to splash out big sums on luxury-goods hi-fi.

Instead, it is intended as a helpful guide for newcomers – to those who have become enthused by vinyl perhaps for the first time and want to enjoy it without spending a fortune. And without needing an engineering background, or long experience of setting-up and tweaking.

First to get an affectionate mention is the Goldring Lenco GL75, the archetypal solid-looking 1960s record deck with a



ABOVE: Technics' 'jacket size' SL-10 turntable (left) from 1979 boasted a parallel-tracking arm while the Goldring Lenco GL75 (right), released in 1969, was an idler wheel drive design

beautifully-engineered motor unit but, so to speak, an Achilles' heel in its arm.

As the blog points out, if you buy an old and neglected GL75, it's going to need new V-blocks for the arm's knife-edge bearings, as these will have cut through the ageing rubber. They are certainly easy to buy, with even a choice of hard and soft materials, but it takes a bit of skill in order to fit them.

The Lenco GL75 arm also tends to droop at the back, due to slackening of the internal tensioning wire over time. Unlike the V-blocks it's next to impossible to replace the wire, but many DIYers have found practical ways to get it at least looking right by somehow propping up the sagging counterweight or by bonding it more firmly to the stub.

And in the end, the 'vinyl retrophile' warns, any vintage deck will need at least *some* work, even if, at best, it's only suffering from dried-up oil or grease. For most people, he suggests, it will be better to go for something newer and simpler, and it's likely that a Rega will fit the bill.

But in any case his brief survey, with many a pithy comment, highlights the sheer diversity of turntable design in the

1970s. The decade which saw the rise of Linn and Rega also brought Garrard's attempt to minimise tracking-error distortion with the pantograph-like arm on its Zero 100 [*HFN* Feb '72] and B&O's rather more elegant approach to this problem, with its radial-tracking 4000.

You could also contrast the crude-looking but effective belt-drive Acoustic Research AR77 with the imposing Lux vacuum-platter models and heavyweight Japanese direct drives. One that gets special mention by the blogger is Sony's sophisticated PS-8750, which was in production from 1975 to 1978.

FITTING JACKET

After this, Sony introduced the Biotracer arm, where you could dial in the tracking force (which was applied magnetically) from a front panel control – surely the ultimate feature for those who just had to twiddle while listening to vinyl!

And also, just a few years before the digital deluge, Sony produced some quite exquisite cartridges, while Technics closed the decade with its wonderful 'jacket size' SL-10 [*HFN* Apr '19].

But I won't spoil it for you by revealing the design that is the anonymous expert's 'favourite, favourite' turntable, which is none of the above. So you'll just have to find and read the blog yourself. ☺

'Any vintage deck will need at least *some* DIY work'

KRONOS
TIME FOR MUSIC®



“...the best of all decks with none of the downsides.”

- Alan Sircom, HiFi+

MAGNEPAN
INCORPORATED

“The 30.7s deliver sound quality competitive with (and in some respects superior to) loudspeakers ranging from two to nearly ten times their price.”

- Chris Martens, HiFi+



Life's just better with a **DECENT AUDIO** System

Raidho acoustics

“ Pick an album, play track one, intending to listen to only that track. Five tracks later you are still mesmerised. ”

- Alan Sircom, HiFi+



AUDIO ANALOGUE
soundpleasure



“ More than worthy of an extensive audition... a near ideal performance. ”

- James Parker/Paul Miller, HiFi News

t: +44 (0) 56 0205 4669
e: info@decentaudio.co.uk
www.decentaudio.co.uk

DECENT AUDIO
sound distribution
OFFICIAL UK DISTRIBUTOR

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.

FIRST FORAY INTO HI-FI SPEAKER DEMO SENDS READER BACK TO 1978

It's been enjoyable reading the hi-fi backstory of fellow enthusiasts over the past two months. It was at a show very early on this year when I was reminded of my first foray into proper hi-fi. Following a demonstration of a loudspeaker I was interested in buying, a chap in front of me enquired as to whether it would be compatible with an A&R A60 amplifier. That took me back to 1978, when I bought an ex-demo early production sample of this excellent integrated amp. After many auditions it was paired with another example of classic British hi-fi: the Mordaunt-Short Pageant Series 2 loudspeakers.

A decade later my turntable, a Pioneer PL-112D, was replaced with a Rega Planar 2 and RB250 tonearm, a combination I enjoyed for many years, initially with a Linn K5 cartridge followed by a Goldring 1042. The turntable was subjected to many tweaks and was eventually replaced after nearly 30 years' service by which time I'd moved from MM to MC.



ABOVE: Reader Malcolm's Origin Live Calypso turntable and illustrious arm

A CD player didn't feature until 1991, as what I'd heard didn't impress – at least those models in my price range. But then I was introduced to the Rotel RCD-965BX, something of a landmark player at its price point and subsequently upgradeable too. The RCD-965BX, by then modified to Discrete specification, was eventually retired and gave way to a succession of Cyrus players. The tuner I currently use is also by Cyrus, a venerable FM7 which despite its age still performs well.

So it's predominantly analogue that still rules the roost as far as I'm concerned. My current system continues what is a tradition in comprising a collection of British brands' separates: an Origin Live turntable and tonearm, Sonneteer Orton integrated amp and Graham Slee Accession MC phono stage. The only interloper is the Ortofon Cadenza Bronze from Denmark.

Malcolm Martin, via email

Paul Miller replies: We've all enjoyed hearing our readers' tales from lockdown and, as audiophiles now start venturing out to audition 'that next upgrade', we're just as keen to hear about your next steps on the hi-fi road. So, please all stay safe and don't forget to keep those letters and pictures coming in (address top of the page).



ABOVE: Electronics include a Sonneteer Orton amplifier and Cyrus FM7 tuner

Send in your views to:
Sound Off, Hi-Fi News, AVTech Media Ltd,
Suite 25, Eden House, Enterprise Way, Edenbridge, Kent TN8 6HF
or email your views to: letters@hifinews.com –
please use 'Sound Off' in your subject field

DACS 'n' valves

READER REVEALS HIS 'AFFORDABLE KIT SURPRISE'

Bless you, Ken, for your 'Off The Leash' column in *HFN* May 2020. I am not alone. We are clearly of a similar age and have the same issues with 'Quaditis' and OCD. Mine takes the form of Quad ESL63s, 77 CD player, 77 amp, Vena, Artera and S2 loudspeakers. Mr Sandall, whose letter appeared in the same issue, has 30 cassette decks. My OCD is DACs, 15 at the last count.

Ken, can I suggest that you try to audition the £300 Pro-Ject Pre Box S2 Digital DAC/preamp [*HFN* Aug '17] with any valve amp? It is my affordable kit surprise for 2020. It is currently feeding the Artera and S2s but truly comes into its own with my Prima Luna Dialogue Premium HP valve amp and Monitor Audio Gold 200 speakers. DACs and valves. Who would have thought?

Mike Tartaglia Kershaw, via email

Ken Kessler replies: My fond memories of Musical Fidelity's entry-level DACs chime with Mr Kershaw's observations, while I have many sub-£400 USB DACs designed for headphone use, eg, AQ's DragonFly, Chord's Mojo [*HFN* Jan '16] and Cambridge Audio's DacMagic [*HFN* Feb '09]. I'm constantly and pleasantly surprised at just how good these budget DACs are (including Pro-Ject's!), compared to costlier models.

WhitWorld

OUR HI-FI WORLD THROUGH THE EYES OF WHITWORTH



"THERE WAS SO MUCH HIGH
END I HAD TO MOVE
MY MASK."

Amp to drive Scintilla?

FIND ME A MATCH FOR THE MID '80S RIBBON SPEAKER WITH LEGENDARY 10HM LOAD

From reading *Hi-Fi News* over many years I know that Ken Kessler has used Apogee Scintilla speakers in the past. I would be grateful if he would recommend amplifiers that can be used with them, given that they represent a load of 10hm.

Naresh Kumar, via email

Ken Kessler replies: Aaah, the treacherous Apogee Scintilla! Even 35 years on, this legendary loudspeaker still has the albatross around its neck of a reputation for eating amplifiers – and it is deserved, thanks to the vicious impedance. I no longer have a pair, but during the decades I did own them, I was only ever comfortable with the earliest Krell power amps, eg, KSA and KMA models. And when they were singing, nothing could touch them. That may still be the case.

I felt then, as now, that the KSA-50 was not quite up to the task, but the KSA-100 remains a sensible minimum and I used the KMA-100s for some time. There were plenty of other manufacturers who rose to the challenge, and I did succeed in using early Classé power amps with Apogee Divas, but these were not as ominous a load as the Scintilla. In any case, I would contact the manufacturer of whatever amplifiers you might be considering before even thinking about switching on an unknown quantity with Scintillas.

Users did have a choice of re-wiring them for a load closer to 4ohm, but purists felt that they only sounded their best with the 1-2ohm arrangement. What any prospective buyer must do, as the original company closed years ago, is contact Australia-based Graeme Keet, the keeper of the Apogee flame. He manufactures refurbishment kits, manufactures entirely new Apogee models with numerous improvements, and knows more about the speakers than anyone on the planet. He can be reached via the company website at www.apogeeacoustics.com. The UK representation is www.reality-audio.com.

Were the Scintillas worth the effort? Absolutely. They have properties which I have never found emulated or matched by any other speaker, including the most natural-sounding bass I have ever heard, with transparency that still defies belief.



ABOVE: Review of the Apogee Scintilla that appeared in the Sep '85 issue of *HFN*

But running them? It's like the vintage car experience: if you're hardy enough to maintain and drive a 1930s Bugatti or 1950s Ferrari, then you have an idea of what the Scintilla demands.

Paul Miller replies: *Hi-Fi News* readers are in the unique position to discover which amplifiers possess the *load tolerance* to drive a Scintilla. Every month our reviews include graphs that illustrate just how capable an amplifier is of driving 8, 4, 2 and 1ohm loads. Looking at a brand's 8ohm/4ohm power specifications does not tell us how well an amplifier will cope with a near-short-circuited load.

For example, Musical Fidelity's M8xi integrated [*HFN* Jul '20] delivers a huge 880W and 1.74kW into 8 and 4ohm but falls back to 1.3kW/2ohm and then 720W/1ohm. So this may not be ideal. Contrast this with Chord's Ultima 2 [*HFN* Jun '20] that offers a similar 810W and 1.59kW into 8/4ohm but has the current to support a continued uplift to 2.96kW/4.85kW into 2 and 1ohm under dynamic conditions.

The ultimate 'Scintilla driver' comes from the same pen as those early Krells – D'Agostino's very costly Relentless monoblocks [*HFN* Mar '20]. With 1.74kW, 3.35kW, 6.36kW and 11.325kW (106.4A) into 8, 4, 2 and 1ohm loads, take care those ribbons do not become fusewire!

JITTERBUG

USB Filter



Can a £39 insect make all your CD files sound better than Hi-Res?

Yes and no: Using the same equipment and a quality DAC, a 24/96 file (for example) will always sound better than a CD 16/44.1 file ... but, even a single JitterBug will often allow a CD file to be more musical and more emotionally stimulating than a Hi-Res file without the benefit of a JitterBug.

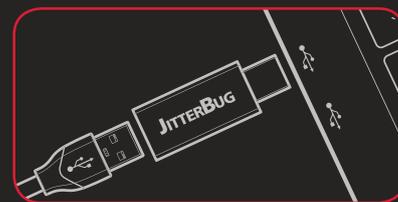
Noise is the problem. Real noise—the kind you can't hear directly. Most often, the word "noise" is used to describe tape hiss or a scratch on a record, but these sounds aren't noise; they are properly reproduced sounds that we wish weren't there.

Problem noise is essentially random, resonant or parasitic energy, which has no meaning. It can't be turned into discrete sounds, but it does compromise signal integrity and the performance of everything it touches.

JitterBug's dual-function line-conditioning circuitry greatly reduces the noise and ringing that plague *both* the data and power lines of USB ports, whether on a computer, streamer, home stereo or car audio front-panel USB input.

A single JitterBug is used in between devices (i.e., in series) as shown below. For an **additional "wow" experience**, try a second JitterBug into another USB port on the same device (such as a computer). Whether the second port is vacant, or is feeding a printer or charging a phone, JitterBug's noise-reduction ability is likely to surprise you. No, the printer won't be affected—only the audio!

While a JitterBug helps MP3s sound a lot more like music, high-sample-rate files have the most noise vulnerability. Try a JitterBug or two on all your equipment, but never more than two per USB bus. There is such a thing as too much of a good thing.



audioquest®



HI-FI WORLD
"OUTSTANDING-
Amongst the best"
August 2019

hi-fines
OUTSTANDING
PRODUCT

Hi-Fi
Choice
RECOMMENDED

Hi Fi World
"Best Valve
Amplifier" NEW Stereo 40 MK IV £2499

New Upgraded Model. Now With Headphone Socket

*designed by
David Shaw*

*Innovative Designs
From Icon Audio*



Bluetooth
option available

NEW HP205D DHT Headphone Amplifier £2999

High Definition With The Relaxing Sound Of WE Vintage Directly Heated Triodes



hi-fines
OUTSTANDING
PRODUCT

60 + 60 Watts Triode
115 + 115 Watts UL
New Tung Sol KT150
£4299 pr

MB90 MK II Monoblock Power Amplifiers many features

HI-FI WORLD
"OUTSTANDING-
Amongst the best"
March 2019

hi-fines
OUTSTANDING
PRODUCT



Stereo 300 MK II £3999

Sublime Sound From Vintage 300B Triodes

HI-FI WORLD
"OUTSTANDING-
Amongst the best"
August 2019



Stereo 25 MKII from £1399

Simplified ST40 30W UL, HQ Headphone Socket

Hi Fi World
"Best Valve
Amplifier"



HI-FI WORLD
"OUTSTANDING-
Amongst the best"
August 2019

Stereo 30se £2499

Single Ended Pure Class A, 28W UL, 18w Triode

HI-FI WORLD
"OUTSTANDING-
Amongst the best"
August 2019

hi-fines
HIGHLY
COMMENDED



PS1 MKII MM/MC £1549

Our fantastic value pure valve phono stage. MC and MM

Hi-Fi
Choice
RECOMMENDED



PS3 MKII MC/MM £2699

Pure Valve Phono Pre-amplification At Its Best!

HI-FI WORLD
"OUTSTANDING-
Amongst the best"
August 2019



HP8 MKII £999

Smooth non-fatiguing Triode Sound, Match 8-600 Ohms

hi-fines
OUTSTANDING
PRODUCT



HI-FI WORLD
"OUTSTANDING-
Amongst the best"
August 2019

NEW ST 60 MK IV £3799

Outstanding Performance 80w UL, 50w Triode

Buy direct from us or through one of carefully chosen dealers or worldwide distributors:

<p>Audio Gold Crouch Eng, London Tel: 0208 341 9007 Web: www.audiogold.co.uk</p>	<p>Wilkinsons Hi Fi Nelson, Lancashire Tel: 01282 612901 Web: www.wilkinsons.tv</p>	<p>Shropshire Hi Fi Shrewsbury SY2 5EF Tel: 01743 232317 Web: www.smcsoundandvision.co.uk</p>	<p>Audio Affair Birmingham, B9 4AA Tel: 0121 224 7351 Web: www.audioaffair.co.uk</p>
<p>Analogue Seduction Whittlesey Peterborough Tel: 01733 350878 Web: www.analogueseduction.net</p>	<p>Lighting Sound & Vision Coleraine, Northern Ireland BT52 1BE Tel: 026703 42354</p>	<p>Canada: Audioarcan Barrie, Ontario, Canada Tel: +1 249 880 5040 Web: www.audioarcan.com</p>	<p>Denmark: High End Sound Vodskov 9310, Denmark Tel: +45 9829 2448 Web: www.highend-sound.com</p>
<p>Germany: TCG Handels GmbH Nordhorn 45831, Germany Tel: +49 (0) 5921 78849.27 Web: www.tcg-gmbh.de</p>	<p>Netherlands: Hi Fi Matters BV Rijswijk 2288EV, Netherlands Tel: +31 (0) 70 3193936 Web: www.hifimatters.nl</p>	<p>Spain: Union Musical Casa Werner Barcelona 08010, Spain Tel: +34 933 021 792 Web: www.werner-musica.com</p>	<p>USA:-Music Direct Chicago IL 60660 USA Tel: +1 800 449 8333 Web: www.musicdirect.com</p>

0% APR Interest Free Credit
Purchases over £1120 ask for a quotation*

Up to 20% off B grade & Ex-demo
Technically perfect Fully Guaranteed. Audition in our
Leicester showroom. Most models available.
See our website, email or ring for availability.
Subject to availability*. Prices vary.

We are open and working normally (as far as possible). Should you wish to visit us please contact first for up to date information.

UK Prices only inc 20% VAT* Limited stock subject to availability UK only. Some models show upgraded valves. E&OE.

www.iconaudio.com sales@iconaudio.com

icon Audio

(+44) 0116 2440593 351 Aylestone Rd Leicester LE2 8TA UK

Dubious pleasures

THOUGHTS ON RECENT *HFN* CLASSICAL COVERAGE, AND A MYSTERY SOLVED...

I very much enjoyed the 'Classical Spectacular' feature by Christopher Breunig [*HFN* May '20] and am familiar with many of the recordings he mentions, especially the Mercury 'Living Presence' releases which often seemed to have an immediacy other labels failed to capture. Sadly I don't have any of the originals, and the only LP in my collection he mentions is the Holst *Planets* with André Previn, in the original EMI pressing from 1974 – though I have the dubious pleasure of owning the SQ quadraphonic version!

John Winterbottom, via email

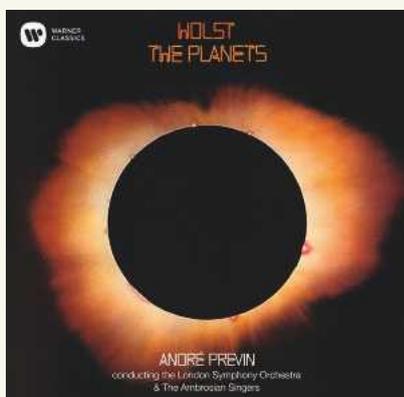
I was pleased that there was so much Christopher Breunig in the May issue – always a thing to be welcomed. However, I did wonder whether his choice of audiophile classical was a little elderly and vinyl based, and whatever he thinks of the Nelsons Shostakovich Boston cycle, the sound is quite glorious – perhaps the best ever by a major, non-audiophile label.

The Alpha label seems to be producing an endless stream of good stuff. CB mentioned a couple of its releases in his May Opinion, and I am also enjoying the Antinoni Haydn cycle, and several fine vocal recitals like the Kate Lindsay *Ariadne* disc. Anyway – just so you know – there are still some of us enjoying the classical coverage in the magazine.

By the way, Johnny Black has been writing for *HFN* for nearly as long as Christopher Breunig but I noticed that from the May '20 issues the rock



ABOVE: On the Alpha label – Krzysztof Urbanski's Shostakovich Symphony No 5



ABOVE: The Previn/EMI Holst *Planets* Suite is now available as a Warner Classics CD

reviews are by MB. I can't see any explanation, or who he or she is. Can you solve the mystery?

Paul Graber, via email

Christopher Breunig replies: To clear up any mystery over the rock review pages first, my colleague Johnny Black felt he'd reached a 'certain age' a month or so ago where he'd rather someone took over the reins and so Mike Barnes has stepped into his shoes. Both continue to write our Vinyl Icon features while Johnny also maintains www.musicdayz.com, described as 'the world's largest online archive of date-sorted music facts'.

As Paul suggests in his back-handed compliment about the May Investigation being 'a little elderly', I was writing in *HFN* as early as 1965 (!) but the recommendations were intended to be mostly current. My original Previn Holst LP was also quadraphonic, but nonetheless very fine and it's a shame the Hi-Q 180g vinyl and SACD both disappeared. Presto Classical has licensed many of the Mercury recordings for own-label reissues and also has 96kHz/24-bit FLAC downloads.

I agree wholeheartedly with Paul about the Alpha label's excellence and it had the good sense to sign up Urbanski [*HFN* Aug '20] – an exciting young conductor. Andris Nelsons was the subject of my Aug '14 Classical Companion but I am less sure about his current interpretative direction. I was more taken with his CBSO recordings than the DG successors I've heard – the Shostakovich 'Leningrad' Symphony, for example.

**New DragonFlies!
£89 Black & £169 Red**

**Powerful, Immersive
Sound from Computers
and Mobile Devices!**



Four years ago, AudioQuest shook the hi-fi world with our first DragonFly DAC-Preamplifier-Headphone Amplifier—the rare audio product that brought more compelling sound to *all* music lovers, playing high-res files to MP3s on perfectionist systems and modest laptops.

Now, the new DragonFly Black and DragonFly Red exceed their predecessor in every way, delivering more beautiful music, boasting software upgradability, and providing compatibility with **Android** and **Apple iOS** mobile devices.

While **Black** offers more clarity, depth and category-defining value than ever before, the take-no-prisoners **Red** provides even more finesse, resolution, torque and more than enough power to drive even the most demanding headphones.

The word is out: DigitalAudioReview.net's John Darko calls DragonFly Red and Black "the finest examples of everyman hifi to ever grace these pages. Their value quotients explode the dial!"

Let the joyful experience begin!

audioquest

Making sense of Mullard valves

PINS, PARAMETERS AND PHASE SPLITTERS AS READER SHARES INSIGHTS GAINED WHILE WORKING WITH '60S TUBES

I'm aware that Ken Kessler needs no help from me, but I thought a letter that appeared in the April Sound Off pages which appeared to be having a mild 'dig' at Ken was a little unfair. The writer implied that Ken only liked highly esoteric or colossal kit, and was fussy about cable copper purity. To my way of thinking, Ken has always been perfectly straightforward in his views and for many years has declared himself a skeptic with regard to the more fanciful claims for cable properties. Also, his liking for ARC amplification, Wilson speakers and a handful of other items has been unequivocally evident.

Secondly, I'd like to add my two-penn'orth to the discussion of valves raised in the letter. I was a young apprentice in the 1960s and my early training was all on valve equipment. The main valve maker of the time in the UK was Mullard and it devised its own nomenclature. For instance, it used E for 6.3V heaters, followed by B for a diode, then C for a triode, F for a signal pentode and L for a power pentode.

This was followed by a number which signified the base type. So, 8 was the 9-pin (or noval) base and 3 was the 8-pin 'octal' base. Thus a Mullard ECC82 was a 6.3V double triode with a noval base while the final letter (in this case 2) identified the valve's parameters.

The Americans mostly used numbers for their nomenclature and the particular format varied with the manufacturer. Most suppliers of valves to the UK adopted the Mullard system and it is very self-descriptive. Mullard published DIY documents, notably the 5-10 that used EL84s and the 5-30 using EL34s. These were seen as modern valve types compared to the M-O Valve Co KT66 and KT88 beam tetrodes.

The EL84 and EL34 were termed 'high gain' pentodes. This

RIGHT: A Mullard EL34 (left) and EL84 flank an original ad for Mullard's '5-10' circuit



ABOVE: A brace of Leak TL12 Plus amps spotted at a recent Audiojumble in Tonbridge. The original was launched in 1948 and the EL84-equipped 'Plus' version made its debut in 1957

was because their 'gm' (the amount of change of anode current for a given change of grid voltage) was much higher than that of the KT series. This made them much easier to drive, and was one of the main reasons they were so readily adopted. Performance was not only good, it was economical.

Probably the brand leader of the day was the Leak TL12. This 12W design owed a good deal to the Mullard 5-10 circuit but as far as I can tell this was

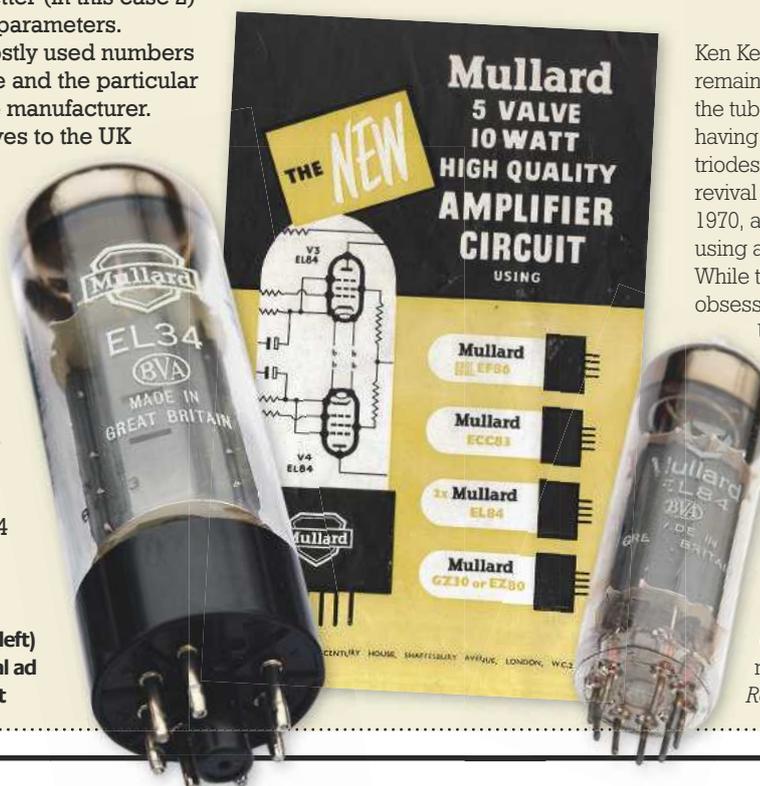
never acknowledged. I can also recall the Dynatron 30W amplifier, which used EL34s driven from a relatively simple single triode phase splitter. Later, Radford (the best ever in my view) used EL34s driven from a sophisticated triode/pentode circuit (ECF82) in its STA25 amp. You have to remember that those earlier times were less prosperous than today and great emphasis was not only placed on minimising the valve count but on using cheaper valves.

Nick Willans, via email

Ken Kessler replies: It amuses me that valves remain controversial some 40-50 years after the tube revival began, Japanese audiophiles having revived low-power, single-ended triodes, Audio Research kick-starting the US revival with the 6550-equipped Dual 100 of 1970, and Michaelson & Austin (and others) using a Tim de Paravicini design with EL34s. While the Japanese tube aficionados were obsessed with Western Electric 300Bs,

US and UK makers were not overly nationalistic: US brands revered British-made M-O Valve Co KT88s and British brands were fond of assorted German valves.

Truth be told, my fave valve amps are all 'mid-level' rather than powerhouses: the Radford STA25, Dynaco Stereo 70, Leak TL12, Marantz Model 8 and McIntosh MC275. Those interested in the early days of the valve revival can find out more in my forthcoming book, *Audio Research: Making The Music Glow*.



Homespun hi-fi shout out

NOTES ON THE DIY SCENE STATESIDE AND A KIT-BUILD PROJECT CLOSER TO HOME....

I was heartened to read the Steve Harris piece about DIY audio still being alive and well [*HFN* Apr '20]. Since my teenage years I have built speakers, pick-up arms and electronics and this has been a real source of enjoyment as well as (perhaps) saving me some money.

As mentioned, HiFi Collective does a great job in the UK, but as an ex-pat living in the US, I'd like to give a shout out to the crew at diyAudio [www.diyaudio.com]. It operates an online store selling components along with kits for building amps and preamps. It ships internationally too.

The company also has a benign relationship with Nelson Pass, the designer of Threshold, Pass and First Watt amps, who makes his designs available to DIYers via the store. I have just finished constructing a Pass F5 power amp and I have also built a number of preamps and headphone amps, some using the Kong NuTube PCB-mounted triode. Hours of fun!

David Weightman, via email

Steve Harris's Opinion column in the April issue about the changing DIY scene made for an interesting read. And then, in the June 'Hi-Fi @ Home revisited' feature, he talked to a reader who was now using an RJM Phonoclone, which is a kit-build copy of the 47Labs Phonocube. It would be good to learn more about this unit.

Martin Perry, via email

Steve Harris replies: You can find RJM Audio's technical description of the circuit at <http://phonoclone.com/diy-pho4.html>. Mike told us that he bought his Phonoclone cheaply on eBay as a



PHOTO: FRED VON LOHMANN

ABOVE: Nelson Pass pictured in 2010 at the Burning Amp DIY event in California

'functioning but noisy' unit. 'It was a risk purchase, but I had a friend who had 47 Laboratory kit and so knew how good it was', he says. 'With a little net surfing I discovered that when working correctly, this copied clone of the 47 Labs Phonocube was well thought of. After discussion with the seller, I was convinced that the problem was mains/earthing-related. When it arrived and I opened it, the birds nest that greeted me confirmed my suspicion – power cables crossing signal cables, etc.

'A couple of hours with the soldering iron had the buzzing eradicated. I did swap some of the cable out, the signal wires are silver foil. It was designed using the Denon 103 and as such makes for a very good combo. As my cartridge needs to go off to be repaired I have time on my hands and think an upgrade to the Phonoclone case is long overdue. I will improve on the wall-wart power supply, which is said to make a huge difference.'



ABOVE: Reader Mark's internally restored RJM Phonoclone – a new case and PSU are next

A vertical stack of several audio cables, likely interconnects, with various connectors. The top of the stack is a white plastic cap featuring a black Apple logo. The cables are arranged in a neat, vertical stack against a dark background.

EXTREME?

IT IS NOW!

audioquest.

Great savings

when you subscribe to *Hi-Fi News* today

**SAVE 75%
ON DIGITAL
SUBSCRIPTIONS***
Offer ends
28th August
2020

SEPTEMBER 2020 WWW.HIFINEWS.CO.UK

hi-finews

THE HOME OF REAL HI-FI
& Record Review

MAMMA MIA!

Franco Serblin's legacy *Ktêma* - ten years on...

The musical bridge

Aqua's 'LinQ' between network storage and DAC

AVID Volvere SP
UK-built skeletal deck sets the sub-£6k standard

EXCLUSIVE
B&W's Statement 702 speaker makeover

MOON 780D v2
Flagship streaming DAC

Emotiva XPA HT-1
Compact amps... huge sound

INVESTIGATION
The reel deal
Our guide to new and cherished open-reel tapes

• **OPINION** 12 pages of letters & commentary • **VINYL RE-RELEASE** Paul Butterfield's debut on 180g
• **FROM THE VAULT** The iconic Carver Cube amplifier • **VINTAGE REVIEW** Leak Stereo 30 Plus amp
• **HI-FI @ HOME** We revisit *HFN* readers' systems • **READERS' CLASSIFIEDS** Hi-Fi bargains galore

UK £5.25 US \$13.00 Aus \$13.50

9 771472 256257 09

22 PAGES of Music Reviews & Features

Hi-Fi @ Home revisited
We revisit our readers' systems from the past year.

Tape: the reel deals
Our guide to new and cherished open-reel tapes.

PHILIPS
The new Philips CD player.

The Brothers And Sisters
A new album from the band.

IN EVERY ISSUE Exclusive high-end equipment reviews, vinyl, CD and hi-res downloads rated, show reports, your letters, in-depth investigations, vintage tests and so much more...

SUBSCRIBE TODAY

SUBSCRIBE SECURELY ONLINE



<http://hfn.secureorder.co.uk/HIFI/HFN0920P/>

**DIGITAL ONLY
SUBSCRIPTIONS
AVAILABLE
ONLINE...**

TERMS & CONDITIONS: Offer ends 28th August 2020. *This digital discount is only available when you subscribe to the print + digital package. You can still get a great discount on the digital package, please visit the URL stated above for more information. Please see www.hifinews.co.uk/terms for full terms & conditions.

Save 34%

PRINT + DIGITAL SUBSCRIPTION £54.05



PRINT + DIGITAL SUBSCRIPTION

13 Issues delivered to your door

Great savings on the shop price

Download each new issue to your device

A 75% discount on your Digital subscription

Access your subscription on multiple devices

Access to the Online Archive dating back to January 2008

Save 34%

PRINT SUBSCRIPTION £45.75



PRINT SUBSCRIPTION

13 Issues delivered to your door

Great savings on the shop price

Never miss an issue

CALL OUR ORDER LINE Quote ref: HFN0920P

0344 243 9023

Lines open Mon - Fri - 8.00am - 8.00pm GMT & Sat - 9.30am - 3.30pm GMT

Calls are charged at the same rate as standard UK landlines and are included as part of any inclusive or free minutes allowances. There are no additional charges with this number. Overseas calls will cost more.

hi-finews SUBSCRIPTION ORDER FORM

DIRECT DEBIT SUBSCRIPTIONS UK ONLY

Yes, I would like to subscribe to Hi-Fi News

Print + Digital: £54.05 annually (Save 34%)

Print Subscription: £45.75 annually (Save 34%)

YOUR DETAILS MUST BE COMPLETED

Mr/Mrs/Miss/Ms..... Initial..... Surname.....
Address
Postcode Country
Tel Mobile.....
Email D.O.B

I WOULD LIKE TO SEND A GIFT TO:

Mr/Mrs/Miss/Ms..... Initial..... Surname.....
Address
Postcode Country

INSTRUCTIONS TO YOUR BANK/BUILDING SOCIETY

Originator's reference 422562
Name of bank.....
Address of bank.....
Postcode
Account holder.....
Signature..... Date
Sort code Account number

Instructions to your bank or building society: Please pay MyTimeMedia Ltd. Direct Debits from the account detailed in this instruction subject to the safeguards assured by the Direct Debit Guarantee. I understand that this instruction may remain with MyTimeMedia Ltd and if so, details will be passed electronically to my bank/building society.

Reference Number (official use only)

Please note that banks and building societies may not accept Direct Debit instructions from some types of account.

CARD PAYMENTS & OVERSEAS

Yes, I would like to subscribe to Hi-Fi News, for 1 year (13 issues) with a one-off payment

UK ONLY:

Print + Digital: £56.05 (Save 31%)

Print: £47.75 (Save 31%)

Inclusive of £2 card surcharge

EUROPE & ROW:

EU Print + Digital: £77.29

EU Print: £68.99

ROW Print + Digital: £88.29

ROW Print: £79.99

PAYMENT DETAILS

Postal Order/Cheque Visa/MasterCard Maestro
Please make cheques payable to MyTimeMedia Ltd and write code HFN0920P on the back
Cardholder's name.....
Card no: (Maestro)
Valid from..... Expiry date..... Maestro issue no.....
Signature..... Date.....

TERMS & CONDITIONS: Offer ends 28/08/2020. AV Tech Media collects your data so that we can fulfil your subscription. We may also, from time to time, send you details of AV Tech Media offers, events and competitions but you always have a choice and can opt out by emailing us at unsubscribe@hifinews.com. Please select here if you are happy to receive such offers by Email Post Phone. We do not share or sell your data with/to third parties. Details you share with us will be managed as outlined in our Privacy Policy here http://www.mytimemedia.co.uk/privacy-policy.

POST THIS FORM TO: HI-FI NEWS SUBSCRIPTIONS, MY TIME MEDIA LTD, 3 QUEENSBRIDGE, THE LAKES, NORTHAMPTON, NN4 7BF

Please visit www.hifinews.co.uk/terms for full terms & conditions

HFN0920P

Leak Stereo 30 Plus amplifier

While a near dead-ringer for the amp it replaced, this '60s integrated saw Leak leverage new technology to boost performance and widen its appeal. How does it sound today?
 Review: **Tim Jarman** Lab: **Paul Miller**

It's not unusual for a successful hi-fi product to be updated with mild revisions during its lifetime. Often the changes are minimal: a tidied-up fascia to match a new model added elsewhere in the range, or an extra function or minor circuit redesign. This was certainly not the case with the Leak Stereo 30 Plus amplifier of 1969, which replaced the Stereo 30 [*HFN* Oct '10] first seen in 1963. Side by side the two looked much the same, but inside the 30 Plus was all new in order to take advantage of improved technology.

THE BIG SWITCH

The Stereo 30 was Leak's first transistor amplifier. The number '30' equated to the sum of the outputs of both channels when measured under the most favourable conditions. Two lots of 15W easily trumped the outgoing Stereo 20 valve model, even before the improvements in reliability and performance due to the elimination of the output transformer (both key claims by Leak at the time) were taken into account.

The Stereo 30 used germanium transistors because that was all that was available at the time. They worked but were noisy and prone to thermal runaway, making it a challenge to design



ABOVE: It looks like a Stereo 30, but the Plus offers more useful facilities and better transistors inside, while the headphone socket is another addition

practical hi-fi amplifier circuits using them. Nevertheless, the Stereo 30 was well regarded and sold successfully until the appearance of silicon transistors in the middle of the decade signalled a step change in amplifier performance. Quieter and more stable, silicon made it possible to build high-gain, high-power circuits with relative ease. The Stereo 30

Plus was essentially the original concept built around a complete lineup of silicon devices. It was the same, only better.

The original amp had been built on a single PCB that carried almost the entire circuit. This was replaced with a hand-wired aluminium chassis onto which four edge-connector slots were mounted, the metalwork also forming the heatsink for the output transistors [see pic p117]. The slots were home to four small PCBs, one preamp module and one power amplifier module per channel. This change certainly makes servicing beautifully straightforward.

ANOTHER HIT

Meanwhile, the output transistors used were the classic RCA 2N3055, the basis for many classic transistor amps of the period such as the Quad 303 [*HFN* Jul '11], B&O Beolab 5000 [*HFN* Oct '13] and Braun Regie 510 [*HFN* Jun '16]. Capable of dissipating up to 115W of heat, these transistors allowed reliable amplifiers of up to around 60W output to be constructed. Rated at just a quarter of this, the Stereo 30 Plus



LEFT: Inputs were better suited to the sources then in use. Being able to connect a complete tape recorder rather than just a replay head kept it relevant as cassettes became popular



hardly stressed them at all [see PM's Lab Report, p119], pointing towards durability.

The controls also better matched a typical user's needs. The complicated filter dial and variable slope selector were replaced with a simple top-cut switch. This allowed the balance control to be made the same size as the other major knobs and simplified operation. The largely pointless tape-head input was replaced by one for a tape machine having built-in amplifiers and the mic input was repurposed to accept a second tuner, although it was possible to convert this back if so required.

Finally, improvements were made to the turntable input too, with proper matching for standard MM cartridge types while the

'Silicon now made it easier to build high-power circuits'

addition of a headphone socket reflected that types suitable for stereo listening had now become widely available.

The Stereo 30 Plus was another big hit for Leak. The company was later absorbed by the giant Rank organisation and the

Stereo 30 Plus was replaced by the Delta 30, a restyled version of what was essentially the same design. What had once been the UK's leading hi-fi brand went into terminal decline shortly after this, being unable to compete

with imports from Europe and Japan.

The Stereo 30 Plus may look reasonably conventional, but since it dates back to the early days of hi-fi there are inevitably some differences between the way it works

ABOVE: A neat styling job and clearly labelled controls make the Stereo 30 Plus an ideal first buy, both when the amp was new and today. Note the blanking plug in the headphone socket

and the way things are done today. This should not be a concern though, as the user manual is among the best I've ever encountered. Clearly written, a full circuit diagram and basic fault finding instructions are also included. Why can't manufacturers produce literature of this quality today?

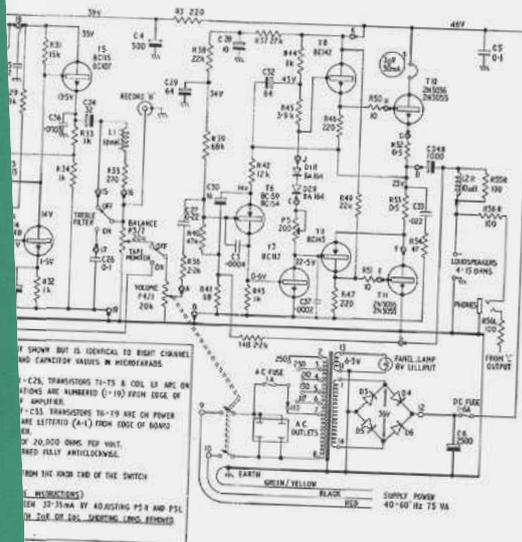
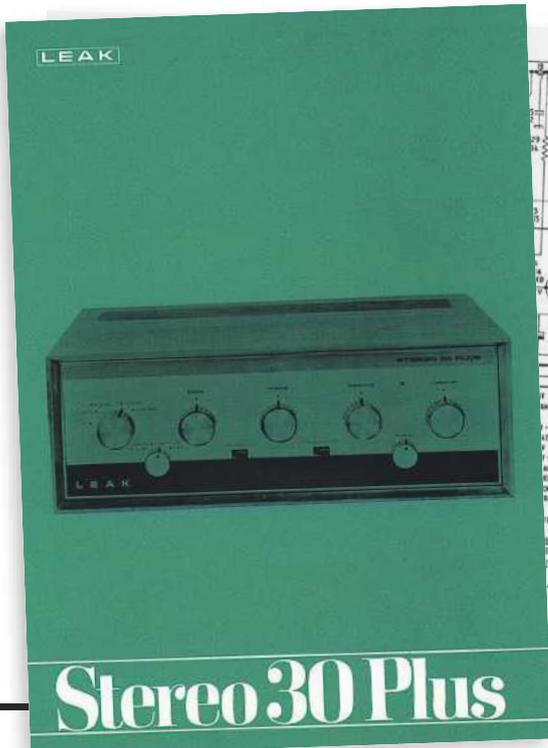
CHOOSING INPUTS

To use the Stereo 30 Plus optimally it is vital to understand how each input operates. The complete preamp circuit comes before the volume control so high-level sources, like CD players, will overload it if the wrong input is chosen. The RIAA stages are always in the signal path but

their response and gain are flattened by the switching-in of different feedback circuits when the tuner and tape inputs are chosen.

For LP listening the most useful input is 'Pickup 1' as this is RIAA equalised and applies the correct loading of 47kohm to the cartridge. The 2mV sensitivity of this input is also ideal. A second RIAA-equalised input ('Pickup 2') is optimised for other cartridges, such as ceramic and variable reluctance types. It offers two sensitivity settings, neither of which suit modern cartridges, so this is best ignored. ☺

LEFT: Could this be the best user manual ever? Clear, well explained, fault-finding tips and a full circuit diagram too. Top marks to Leak...



SoundSmith



We've been designing and hand building the world's best
Phono-cartridges for more than 30 years.

DEALER ENQUIRIES WELCOME

Signature
AUDIO SYSTEMS

Distributed by Signature Audio Systems, call: 07738 – 007776
or by e-mail to: info@signaturesystems.co.uk Web: www.sound-smith.com

Discover a very different
kind of music server

LEP^{EVO}

432 EVO REFERENCE MUSIC SERVER

432?

432 Hz sounds warmer, more pleasing,
more like analog and more relaxing
compared to the sharper 440 Hz.

Expect to listen a lot longer and
rediscover your music in a new way.

Find out more by visiting:

www.wholenotedistribution.co.uk

**“Used in the manner that 432 EVO
intends, it's also the best USB source I've
tested to now...”**

Ed Selley, Hi-Fi Choice
June 2020 Issue



AVAILABLE FROM THE FOLLOWING SPECIALISTS

Audio-Philia
Tel: 0131 2219753
www.audio-philias.co.uk

The Little Audio Company
Tel: 0121 638 0721
www.thelittleaudiocompany.co.uk

Val Hi-Fi
Tel: 0333 577 2005
www.valhifi.co.uk

UK DISTRIBUTOR

Whole Note Distribution
Tel +44 (0)203 9115 549
www.wholenotedistribution.co.uk

Of the tuner inputs 'Tuner 2' offers two sensitivities, the lower one (250mV) being just about suitable for a CD player whereas the high-sensitivity setting (60mV) is useful for portable equipment whose output is typically lower than the nominal 2V CD player standard. 'Tuner 1' was primarily intended for Leak's own Troughline series, which has a low output level and the 25mV sensitivity of this connection is too high for most conventional equipment.

The selector switch is also labelled 'Mic' for this position; a small change to the internal wiring is needed to implement this and creates an input identical to 'Pickup 1' but without the RIAA equalisation.

STRAIGHT TALKING

The 'Tape Replay' input is perhaps the most intriguing. When selected with the main switch this gives a sensitivity of 400mV, similar to that of the amp's 'Tuner 2' input. However, there is also a 'Tape Monitor' switch that routes the same socket straight through to the volume control, bypassing the preamp circuitry entirely. Since the gain of the preamplifier is nominally unity in this mode this action has no effect on the amplifier's output level, but noise obviously falls and overloading the input stage becomes impossible. The amp then essentially becomes a passive preamp driving a fixed gain power amp, as is the modern practice.

A corollary of this arrangement is that the tone controls no longer have any effect, but in all cases they do affect the recording output. Care is therefore needed to return the tone controls to their neutral settings before making a recording.

'The dreamy atmosphere was rendered beautifully'

Compared to the possible confusion over inputs, the output side of the amplifier could not be simpler. There is one set of loudspeaker sockets and a headphone socket. In some early examples, such as our review sample, inserting a headphone

jack does not mute the loudspeakers, the extra switching to do this only being added later. To keep the amplifier looking neat, a blanking plug topped off with a knob to match the stereo/mono selector at the other end of the panel was

fitted to the headphone socket, although these are usually missing by now.

TIM LISTENS

The original Stereo 30 always impressed me with its gutsy and surprisingly powerful sound, which belies its germanium content

ABOVE: Interior view shows the hand-wired chassis and plug-in modules. The left and right channel modules are identical and can be interchanged to aid fault diagnosis

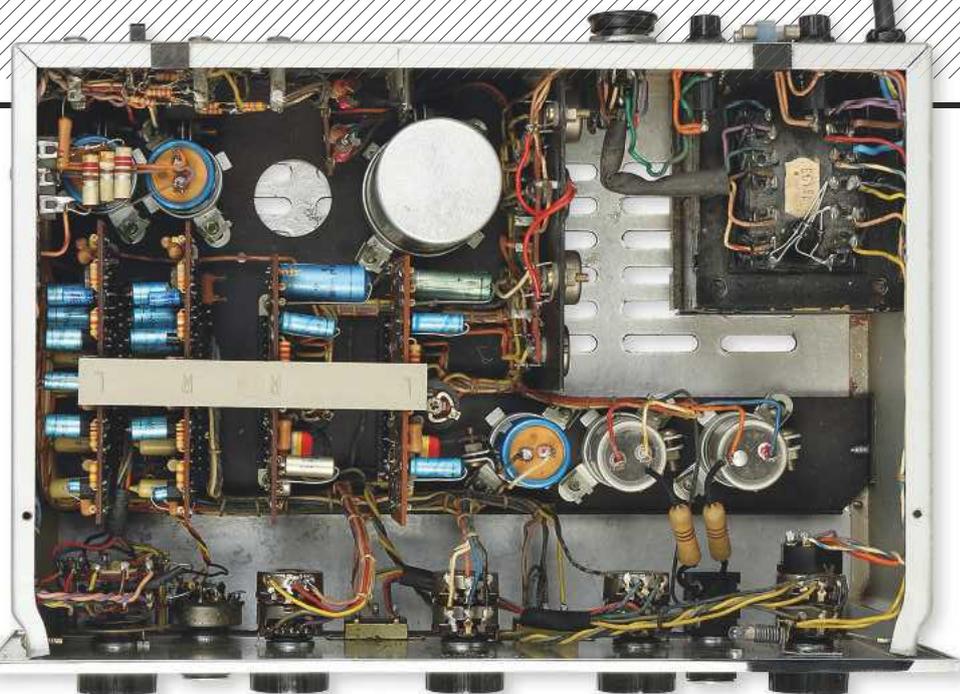
and early '60s origins. I'm glad to say that the Stereo 30 Plus improves on this, the two versions sounding essentially similar with the 'Plus' having a bit more 'go' and a little less noise. Both have me wondering why Stereo 20s are so expensive when either of the '30s can still be had for relative pocket money.

In the end it's a question of distortion. That produced by the Stereo 20 tends to sharpen up the sound while that made by the 30 Plus makes it diffuse around the edges, something which is compensated for by an improved sense of bass accuracy and enough extra drive to make loudspeaker selection less of an issue.

The amplifier also sounds impressively transparent when used in 'Tape Monitor' mode, as one would expect since there are just six transistors in each channel between the source and the speakers when it's set up like this. However, in the spirit of assessing the design as a whole I stuck to the conventional inputs, using 'Tuner 2' and 'Pickup 1' as appropriate.

Listening to a varied selection of orchestral excerpts from a high-quality test disc [*Test Sample 5*; Philips 814 125-2] revealed the Leak Stereo 30 Plus to be a slightly warm-sounding amplifier, yet one capable of good extension in both the bass and treble regions. The low notes are rich and plummy and the highs have greater

LEFT: The big 2N3055 silicon output transistors don't have to work hard to produce 15W as they are capable of four times that. This augurs well for both quality and long term reliability



HOME CINEMA

HIGH-PERFORMANCE SOUND & VISION

Choice

Helping you
make the
most of your
home cinema
OUT NOW!



IN EVERY ISSUE

Kit reviews, movies & TV, accessories, systems, insight, opinion, competitions & more



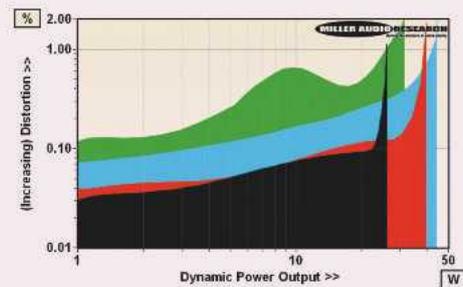
www.homecinemachoice.com facebook.com/homecinemachoice @hccmag

LAB REPORT

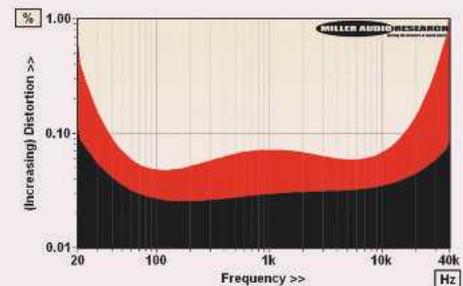
LEAK STEREO 30 PLUS (Vintage)

Five years and over 40,000 Stereo 30 amplifiers later, Leak's original germanium integrated [HFN Oct '10] was replaced with the silicon transistor 'Plus' version we have here, and the uplift in performance was/is significant. Where the Stereo 30 was rated at 15W/4ohm the Plus was boosted to 15W/8ohm and 20W/4ohm, a promise exceeded to the tune of 2x20W/8ohm and 2x23W/4ohm with a little extra – 27W, 37W, 43W and 31W – under dynamic conditions into 8, 4, 2 and 1ohm loads, respectively [see Graph 1, below]. The overall gain (Low, +29.8dB and High, 42.4dB) is broadly unchanged but noise is reduced and the S/N improved from 76dB (Stereo 30) to 87.7dB (Plus). Similarly, with a full 60dB negative feedback operating across the Stereo 30 Plus, distortion is reduced by, typically, a factor of 3x down to 0.025%/1W, increasing gently to 0.04%/5W, 0.06%/10W and 0.075%/15W (all 1kHz/8ohm). Distortion increases at high treble frequencies, as expected, from 0.045%/20kHz/1W to 0.14%/20kHz/10W [see black vs. red traces, Graph 2 below].

Leak also took the opportunity to better engineer the Stereo 30's frequency response in the Plus model. A new subsonic filter was included, operating a third-order slope below 17Hz, and this resolves to ±0.0dB/35Hz, -4.3dB/20Hz and -22dB/10Hz. There's less change at the top-end of the frequency spectrum where the response rolls off above 10kHz to -1.7dB/20kHz, -12.5dB/50kHz and -24dB/100kHz. Switching-in the 'Treble Filter' brings a +1.4dB boost at 3.5kHz before the HF roll-off kicks-in at -3dB/6.5kHz down to -27dB/20kHz. Stereo separation was adequate for the tape, radio and phono sources of the day at 50dB/1kHz and just 30dB/20kHz. PM



ABOVE: Dynamic power output vs. distortion up to 1% THD into 8ohm (black trace), 4ohm (red), 2ohm (cyan) and 1ohm (green) speaker loads. Max current is 5.6A



ABOVE: Distortion vs. extended frequency from 20Hz-40kHz (1W/8ohm, black; 10W/8ohm, red)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	20W / 23W
Dynamic power (<2% THD, 8/4/2/1ohm)	27W / 37W / 43W / 31W
Output imp. (20Hz-20kHz/100kHz)	0.28-0.64ohm / 4.2ohm
Freq. resp. (20Hz-20kHz/100kHz, 0dBW)	-4.3dB to -1.9dB/-23.8dB
Input sensitivity (for 0dBW/15W)	93mV / 375mV (Low Gain in)
A-wtd S/N ratio (re. 0dBW/15W)	87.7dB / 99.5dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.048-0.14%
Power consumption (Idle/rated output)	19W / 65W
Dimensions (WHD) / Weight	343x122x228mm / 6.1kg



ABOVE: Input and output sockets are mounted to the right of the speaker outputs with gain switches for 'Pickup 2' and Tuner 2'. The wing nut at the centre holds the wooden case in place, a refinement that added £6 to the cost of the amp when new

sparkle than one might expect from such a vintage design. Listening to Tchaikovsky's 'Waltz of the Flowers' from the Philips test CD and being critical, one could say that its low-end is perhaps a tad ponderous, but the pleasingly brisk top keeps things moving along and effectively counters this, making for a lively and engaging performance overall.

The amplifier was able to portray a reasonable sense of space and depth too. It isn't class-leading, but it's certainly respectable enough. Rock music failed to highlight any serious shortcomings in the presentation either. REM's delightful but raucous 'Bad Day' from the *In Time* compilation [Warner Bros 9362-48381-2] retained much of its bite and edge through the slightly soft-focus lens of the Stereo 30 Plus.

What's more, reasonable levels could be achieved before the onset of subjectively obvious break-up, something whose effect seemed to build gradually as the level increased rather than appearing suddenly when a threshold was crossed.

Finally, a run through of *Lionheart* by Kate Bush [EMI CDP 7 46065 2] revealed sweet if slightly recessed

vocals. The dreamy atmosphere of the recording was rendered beautifully by the Stereo 30 Plus, the slight coloration which it adds being beneficial on this occasion. This is a surprisingly easy amplifier to live with, an important piece of British audio history that is simple to use and good to listen to.

BUYING SECONDHAND

Finding a Stereo 30 Plus today is not difficult and they remain inexpensive. Therefore, one can afford to be choosy and disregard examples with worn fascias, missing knobs or previous modifications. It is best to choose one with the original wooden cabinet sleeve as the cardboard covers of the chassis model are not nearly so attractive.

Destruction of the output transistors can occur if the edge connectors at the bottom of the power amp modules fail to make good contact or if the bias preset controls fall apart. Excessive noise, rising in level with the setting of the volume control, is normally due to a defective transistor on one of the preamp PCBs. Complete silence from one channel in later models is often due to the speaker muting switch on the headphone socket, but this is easy to dismantle for cleaning. ☺

HI-FI NEWS VERDICT

The Leak Stereo 30 Plus is an ideal introduction to vintage hi-fi being easy to find, cheap to buy and simple to repair. A well preserved example will return an enjoyable listening experience too, with little potential for expensive failure, though do take time to study the manual as doing so will ensure you get the best out of the amp. Partner it with the matching Leak Stereofetec tuner for an ideal way to enjoy BBC Radio 3.

Sound Quality: 75%



ABOVE: Original docket shows amp passed inspection on Oct the 9th 1969

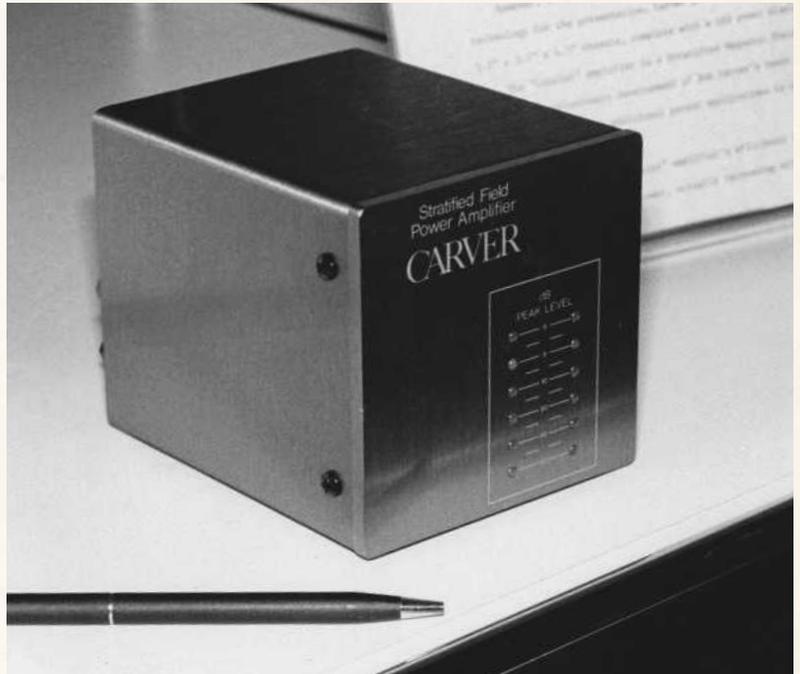
Carver M-400 A Cube

Tiny amp, lashings of power... **Martin Colloms** lifts the lid on a box of tricks

The long awaited Carver Cube power amplifier is at last available in the UK. Bob Carver, its designer, is not a particularly well known figure in the UK but most people have heard of Phase Linear, which was founded by him, and he also designed its range of products. His special interest has been in high-power amplifiers, with the 400 B and 700 B Phase Linear models now audio legends.

Carver does tend to use pseudo-technical jargon when naming the operating functions in his products, which, to jaundiced British ears at least, smacks of commercial showmanship. However, it is clear from his frequent indulgence in pure research, for example into the audibility of crossover distortion, that his technical base is strong, and not flamboyant window dressing.

In its latest form the Carver M-400 A, or 'Cube' as it has come to be known, has been further refined, particularly with regard to its



compatibility with UK mains supply. Taking its most remarkable aspects first, it aims to provide a total of 500W from a 17cm cube, which may be held in one hand as it weighs just 4.4kg (9.8lbs). All this at a price of around £400. There we have it in a nutshell – one of the industry's most powerful amps costing less than £1 per watt, and in terms of both dimensions and mass, about one quarter of conventional rivals!

MYSTERY PLAY

By designing the M-400 A so that one channel is inverted (negative pulse output for a positive pulse input) and the other non-inverting, the simple expedient of mono feed to both channel inputs allows the output to be taken in bridged mode from the two 'positive' speaker terminals. On peaks into 8ohm speakers I found the M-400 A to be capable of 1200W comparing with the continuous bridge specification rating of some 500W. In programme terms we arrive at a figure of a mere 33p per watt in bridge mode!

When first announced much emphasis was laid on its mysterious operating principles, and even those skilled in the art were foxed

ABOVE: Prototype of the Carver Cube M-400 power amp, which was unveiled at the 1979 summer CES held in Chicago

by expressions such as 'Magnetic Field Power Amplifier' – a label that still persists on the faceplate of the M-400 A. However, on the basis of a more conventional interpretation of amplifier principles the circuit can be stripped of its mystique and yet still make for interesting reading.

Some of the more convoluted explanations to have seen print include a representation as a magnetic amplifier arranged as a 'push pull amplitude modulation detector' with negative feedback to increase detector bandwidth and reduce distortion. This is a most cunning reversal of the more conventional representation as, say, a feedback amplifier with auxiliary higher voltage power rails used according to power levels. The supplies are fed from a switched-mode power supply whose regulation is controlled by the predicted load demand.

The M-400 A is claimed to be highly efficient, and the very low heat output even under healthy music drive does confirm this. This

*Hi-Fi
News
Jan 1982*

Each month HFN will bring you an article from our vast archive of features and reviews from yesteryear



efficiency has been achieved by employing a very low idling sliding bias current for the output stage, this representing the main static heat source. If we were to assume that a $\pm 80V$ power supply is required to produce the 250W typical output and that the usual idling current is 50mA (the so called A/B bias), then the static dissipation for two channels is 16W, which would warm noticeably a small box like the Cube.

ON THE RAILS

The latter, however, barely increases in temperature above the ambient, and Carver's solution to this apparent paradox relates to the multiple power supplies. When idling, only the lowest supply rail pair are active (the $\pm 25V$), and in addition, a low bias current is used, which has the effect of bringing the dissipation down to 2W or so per channel (this figure does exclude power dissipation in other sections of the circuit). The amplifier's efficiency is maintained at higher power levels since it only draws the available supply voltage in proportion to the signal demand. If the full 250W equivalent power rails were to be permanently engaged, as occurs in a single supply rail pair conventional amplifier, then the dissipation as waste heat in the amplifier would be nearer 100W.

I feel the expression 'magnetic amplifier' is a misnomer, since the 'magnetic' part of the design does not amplify in the normal sense. Given larger heatsinks, and a beefy 2x80V power supply, the essential

amplifier part of the M-400 A can be made to run conventionally and discussed in straightforward terms.

To understand the Cube it is essential to break down the system [see Fig 1] into its fundamental components. If we temporarily ignore the entire area of the power supply including the multiple rails, we find a fully symmetrical push/pull audio amplifier [see Fig 2].

The input is DC-coupled to the differential input of an IC op-amp and a second differential pair of discrete transistors takes the signal fairly conventionally to a pair of balanced common emitter stages. These are linked via the main bias network. In simplified form the output stage is essentially a complementary emitter follower.

The innermost pair operate from $\pm 25V$ rails and constitute a 20W Class A/B linear output stage, and

stacked on either side of this pair is another pair of output transistors, commutated or switched by catching diodes and some driver circuitry. These are linked to $\pm 50V$ supply rails and accommodate the swing of signal peaks between ± 25 and $\pm 50V$. A third pair, the outermost, are fed from $\pm 80V$ lines, these using additional driver and bias circuitry for clean operation.

For power levels below 20W, the additional transistors and rails are never invoked, and no difference in operation from a conventional

'The term "magnetic amplifier" is a misnomer'



CARVER DELIVERS MAGNETIC FIELD AMPLIFIER
M-400 Shatters Price, Size, Weight & Performance Barriers

ABOVE: Original promo flyer shows designer Bob Carver holding up the previous iteration of the M-400 A power amp – the M-400. He set up the Carver Corp in 1979 after having founded Phase Linear in 1970

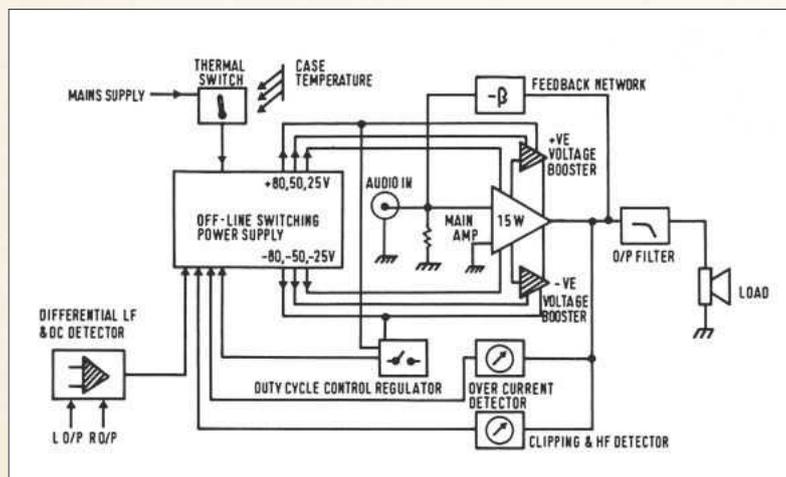
amplifier should be apparent. Only over the upper 10dB or so of the peak full power dynamics will the amplifier almost instantaneously cross over or, more accurately, switch-in the extra transistors and associated supplies required to pass the peak voltage demand without the signal clipping.

When running at full power the 80V supplies feed current to the load via the total stack of series-connected power transistors per half cycle. These – MJ 15015 and its companion MJ 15016 (now NEC equivalents) – have a massive current capacity and form the impressive array of 12 devices visible through the rear grilles, but due to the series connection an increase in the peak power output impedance of the amplifier is inevitable. Other features include the use of an LED array to show power 'on' and give an indication of power delivery, scaled '0', '-5', '-10', '-20' and '-40dB'.

PULSES 'N' SPIKES

The switching speed and input current control to the booster sections of the output stage is fast, and the resultant spikes are fairly narrow and small. Their harmonics are well above the audio range and do not harmonically relate to the audio signal. To reduce radiation of the radio frequency content of the pulses, a fairly large output inductor is installed which dominates the output impedance down to frequencies as low as 15kHz.

Below 20W levels, output switching spikes do not occur but there is another minor source of noise, namely the switching part of the main power supply, and this appears on low level distortion measurements at around -75dB (ref. 0dBW), visible by spectrum analysis



LEFT: Fig 1 is a block diagram for the M-400 A, broken down into its fundamental components. Note the multi-rail switchmode PSU and inductive output filter

Hi-Fi Choice

PASSION FOR SOUND

www.hifichoice.com

Fuel your passion for sound and make your music sing **OUT NOW!**

THE ESSENTIAL GUIDE...

to getting the best possible sound from your hi-fi, whether you're buying, tuning or tweaking



Follow us:



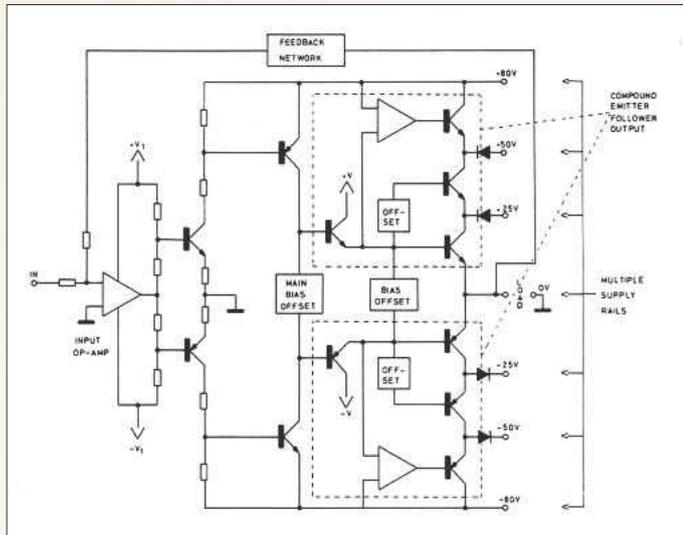
twitter.com/HiFiChoiceMag

facebook.com/hifichoice.com

hifichoice.com



FROM THE VAULT



in the 23-70kHz range. This signal was also found to radiate from the mains supply wiring attached to the amp, particularly in the medium wave band, producing effects on transistor radios akin to a thyristor lamp dimmer at half setting, though with less severity.

POWER SUPPLIES

Returning to the amplifier system itself and in particular the power supply, the three power rail pairs (four if the low voltage op-amp supply is considered) are normal in that conventional reservoir electrolytics are employed, these being fed from bridge rectifiers. These are $\pm 4000\mu\text{F}$ for the 80V and $\pm 4400\mu\text{F}$ for 25V, with an effective $\pm 1500\mu\text{F}$ for the 50V rails. It has been previously implied by some commentators that the main supply responds to the audio signal itself, but this is incorrect, because the time constants of reservoirs such as these are infinitely long by comparison with the programme.

The supply rectifiers are fed from the secondary windings of a transformer whose available magnetic energy is controlled on a duty cycle basis to meet the longer term power demands of the amplifier. At idle the transformer 'ticks over' with very narrow current pulses switched through it. Under load, the duty cycle control to the triac feeds wider and wider current pulses, this energy is stored in the transformer inductance, and upon

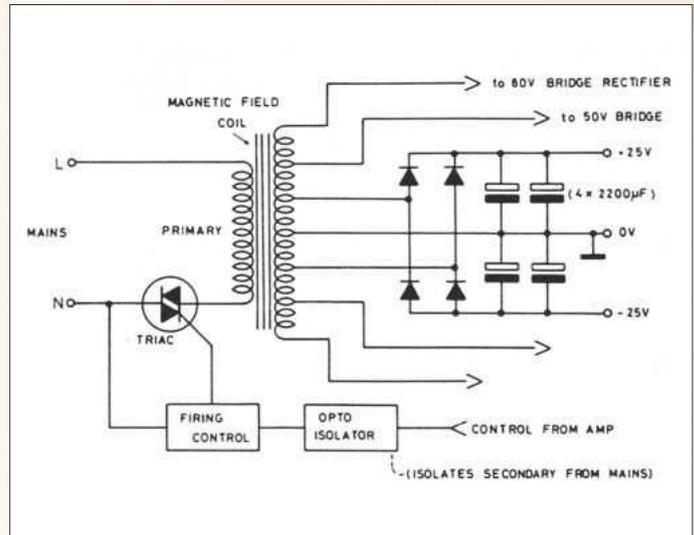
the collapse of the magnetic field, is fed to the secondaries that are running the amplifier rails.

This transformer is Carver's 'magnetic field coil' and with the supply line regulation via input current duty cycle control, it constitutes the basis of his description of the Cube as a 'magnetic amplifier'. Carver's solution permits the use of a very high proportion of the magnetic energy stored in the transformer

inductance, allowing a minuscule 50VA sized transformer core to transfer over 2kW from the mains supply to the power amp, in order to generate peak powers of over

1.5kW of audio. In conventional power supplies a transformer is run at near to full magnetisation, and power is only taken from it in small doses at the peak of the cycle to top up the reservoir capacitors. In terms of magnetic utilisation, a conventional supply is very inefficient and this explains why big amps are so heavy – the major bulk is taken up by the supply transformers.

Carver's off-line switching regulator [see Fig 3] is by no means an uncommon technique (in this instance off-line means it is connected direct to the mains supply without an isolating



ABOVE LEFT: Fig 2 shows the Cube amp's circuit in simplified form. Look beyond the switched, multiple PSU rails, and we find a fully symmetrical push/pull audio design

ABOVE: Fig 3 shows the amp's switching power supply. Note the off-line switching regulator which is connected directly to the mains with no isolating transformer

intermediate transformer). It draws large current peaks from the mains supply and on test it proved easy to blow 8A mains fuses. As this model's link with the mains is rather intimate, I would not recommend plugging it into anything other than a 13A ring/main. Preamp switching or remote 6A connector strips are simply not good enough.

Comprehensive protection, however, is inbuilt. The output stage has a fast current clamp limit against short-circuit or impossible loadings, this set at little under 28A peak. Prolonged overload of around 0.3 seconds activates temporary shutdown of the main regulator.

SUBJECTIVE RESULTS

The Cube supplied all that was asked of it, including full power into very large speakers, the delivery

in bridged mode as monitored by true peak indicating meters being over 1100W into 8ohm systems, with a sound that was clean and powerful. Even under prolonged and arduous use the case did not warm to any significant degree nor did it trip on any speaker we tried.

Following this the Cube was auditioned under more critical conditions and comparisons were made with established references, including the Quad 405. We used three speakers – the KEF R105/4, Celestion SL6 and Quad ELS-63 – and preferences for the amps could be expressed on all three, though to a varying degree. ☞



ABOVE: The earlier M-400 'Magnetic Field Power Amp' with LEDs to indicate power delivery

hi-fi news Dealer Directory

ORANGES & LEMONS



oandlhifi.co.uk
02079242040 - London SW11

bowers & wilkins rega sonos linn naim atc pmc arcam tellurium q chord co neat dynaudio rotel rel sennheiser chord electronics

IAN HARRISON HI FI

HEADPHONES:
SENNHEISER, BEYER, ERGO, GRADO, PSB, AUDIOQUEST, AUDEZE, ULTRASONIC

HEADPHONE AMPLIFIERS:
CREEK, FIDELITY AUDIO, GRAHAM SLEE, ICON AUDIO, LEHMANN, PROJECT, SUGDEN

PLEASE PHONE OR EMAIL ENQUIRIES TO:
ian.harrison@mercian.myzen.co.uk
TEL: 01283 702875

Stockists of:
• Arcam • B&W • Focal
• Linn • Naim • PMC
• Rega • Rotel and MORE

Infidelity
INDECENTLY GOOD HI-FI

9 High Street, Hampton Wick,
Kingston upon Thames,
Surrey KT1 4DA

Tel: 020 8943 3530
Open: Tues - Sat 10am - 6pm
www.infidelity.co.uk

CEDIA CUSTOM ELECTRONIC DESIGN & INSTALLATION ASSOCIATION

hifi lounge here to listen...

Visit us in the Beautiful
Bedfordshire Countryside
for all your Hi-Fi needs

www.hifilounge.co.uk
01767 448121
www.highendheadphones.co.uk

Uk's only dedicated demo facility for high-end headphones

highend headphones
ORDER TO THE MAX...

new location, better facilities,
same people.
hey, two out of three isn't
bad!

arcam | chord | focal | innuos | kudos | linn | levinson
| melco | naim | pmc | rega | russell k | + + +

signals
hi-fi for grown-ups

01394 672464 / 672465
www.signals.uk.com

IAN HARRISON HI FI

HARBETH	£POA	MICHELL	£POA
MONITOR 40.2	£POA	ORBE	£POA
SUPER HL5PLUS	£POA	ORBE SE	£POA
MONITOR 30.1	£POA	GYRO	£POA
HLC7ES-3	£POA	GYRO SE	£POA
P3ESR	£POA	TECNODEC	£POA
40th ANNIVERSARY MODELS	£POA	TECNOARM ACCESSORIES	£POA

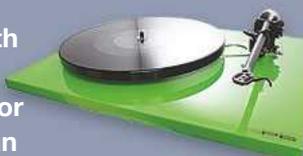
FREE UK DELIVERY!!

ian.harrison@mercian.myzen.co.uk
TEL: 01283 702875

Radlett Audio
Sensible hi-fi since 1973

- Rega
- Harbeth
- Croft
- Spendor
- Luxman
- Michell
- EAR

Saffron Walden www.radlettaudio.co.uk
01799 599080 radlettaudio@hotmail.co.uk



The Audiophiles Clinic
SOUNDING GOOD

REEL TO REEL EXPERTS
ANY • BRAND • MODEL • AGE

www.audiophilesclinic.co.uk
& VINTAGE AUDIO SPECIALISTS
petronel@audiophilesclinic.co.uk

**TO ADVERTISE
HERE
PLEASE CALL**

Sonia Smart
01689 869 919



For over 15 years, Audiography has created hundreds of adverts for Hi-Fi Manufacturers, Distributors and Dealers all over the world.
Why not get in touch to see how Audiography can help you.

audiography

Advert/Brochure/Web Design, Product Photography, Social Media and more

www.audiography.co.uk | 07590 900 320

To advertise in this section
please call Sonia Smart on 01689 869 919

Is this your problem?



loud



too loud



way too loud

It's a common problem. The usable range of the volume control is all down at the bottom end and fine control at low listening levels is either difficult or impossible. The noise floor may be audible, too. There is a simple and effective solution – the **Rothwell In-Line Attenuators**. They can be used with pre/power or integrated amps to cure the problem of excess gain and bring sonic benefits with even the most expensive equipment.

01204 366133

www.rothwellaudioproducts.co.uk

Here's your answer



"this accessory is heartily recommended"
Gramophone

£39/pair

020 7226 5500

www.grahams.co.uk

GRAHAMS

"One of the five best hi-fi shops in the world"

ARENA Magazine

Grahams Hi-Fi
Canonbury Yard
190a New North Road
London N1 7BS

IAN HARRISON HI-FI SALE! UP TO 40% OFF!

TEL: 01283 702875 ian.harrison@mercian.myzen.co.uk

ACAPPELLA	HELLIUS	QUAD	SPECIAL OFFERS!!	
ACOUSTIC SIGNATURE	HIFI RACKS	QUADRASPHIRE	VAN DEN HUL MC10 SPECIAL	£775
ACOUSTIC SOLID	ICON AUDIO	REED	ORTOFON CADENZA BLUE	£950
AIR TIGHT	IKEDA	ROKSAN	ORTOFON 2M BLACK	£445
ALPHASON	INSPIRE	ROTHWELL	ORTOFON 2M BLUE	£160
AMG	IXOS	SENNHEISER	ORTOFON QUINTET BLUE	£299
ANTHEM	KUBALA-SOSNA	SOUNDSMITH	ORTOFON QUINTET RED	£210
ATACAMA	LEHMANN	SOUNDSTYLE	MICHEL ORBE	EPOA
BENZ MICRO	LUXMAN	SRM TECH	MICHEL ORBE SE	EPOA
BEYER	MICHELL	SUGDEN	WHEST AUDIO TWO.2	EPOA
BLACK RHODIUM	MOERCH	SUMIKO	WHEST AUDIO THREE SIGNATURE	EPOA
BLUESOUND	MOTH	SUPRA	WHEST PS40RDT	EPOA
CABASSE	MUNARI	T+A	EAR/YOSHINO	EPOA
CARTRIDGE MAN	MUSIC HALL	TAYLOR ACOUSTICS	BLACK RHODIUM	EPOA
CREEK	MUSIC TOOLS	THORENS	PRO-JECT	EPOA
CUSTOM DESIGN	MY SONIC LAB	TOM EVANS	GOLDRING	EPOA
DECCA LONDON	NAGAOKA	TRACK AUDIO	BEYER	EPOA
EAR YOSHINO	NORSTONE	TRICHORD	LEHMANN AUDIO	EPOA
EMT	OPERA AUDIO	VALVET	SENNHEISER	EPOA
EPOS	ORIGIN LIVE	VAN DEN HUL		
ERGO	ORTOFON	WHEST AUDIO		
FIDELITY AUDIO	PARASOUND	WIREWORLD		
GOLDRING	PEERLESS	ZENSATI		
GRADO	PRO-JECT	ZYX		
GRAHAM	PSB			
GRAHAM SLEE	PURE SOUND			
HANA	Q ACOUSTICS			
HARBETH	QED			

PLEASE PHONE TO CONFIRM PRICE & AVAILABILITY PRIOR TO ORDERING.
ALL GOODS ARE BRAND NEW & BOXED WITH FULL U.K. GUARANTEES.
NO EX-DEM OR EX-DISPLAY GOODS. NO GREY IMPORTS. GOODS ARE NOT
SUPPLIED ON APPROVAL. SORRY NO GENERAL CATALOGUES
PLEASE PHONE OR WRITE FOR SPECIFIC REVIEWS, BROCHURES OR PRICES.
* CALL FOR DETAILS ESTABLISHED 1986

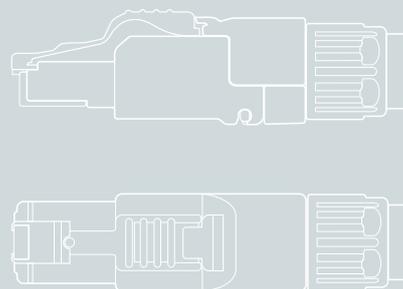
MAIL ORDER ONLY FROM: IAN HARRISON, 7 MILL HILL, REPTON, DERBY, DE65 6GQ
TEL: 01283 702875 9am-9pm INCLUDING SUNDAYS



Mavros
Streaming

DESIGNED & HANDMADE IN SCOTLAND

Precision audio
engineering.



ATLAS[®]
the performance connection
atlas cables.com

hi-finews Dealer Directory

AUDIO DESTINATION

Where Music Matters

Moon | VPI | Esoteric | Entreq

Stillpoints | REL | Audioquest

Totem | Auralic | Hegel

and more....



01884 243584

info@audiodestination.co.uk

www.audiodestination.co.uk

All You Need In One Place

- ▶ Premium Loudspeaker Drivers
- ▶ Highest Quality Crossover Parts
- ▶ Crossover Parts and Assembly
- ▶ DIY Speaker Kits
- ▶ Cable and Terminals
- ▶ Expert Advice

Some of our Brands:

- ▶ Accuton
- ▶ Audax
- ▶ Aurasound
- ▶ Eton
- ▶ Fostex
- ▶ HiVi Research
- ▶ Peerless
- ▶ SB Acoustics
- ▶ Scan-Speak
- ▶ Seas
- ▶ Raal



madisound

Your Worldwide Provider of
High End Loudspeaker Parts

madisound.com



WANT TO ADVERTISE IN HI-FI NEWS?

Print*Digital*Online

Please contact:

Sonia Smart

01689 869919

sonia.smart@hifinews.com

THE HOME OF REAL HI-FI
hi-finews
& Record Review

EDITORIAL TEAM

Editor • Paul Miller

Art Editor • Steve Powell

Features Editor • Patrick Fraser

Reviews Editor • Chris Breunig

Test & Measurement • Paul Miller

PHOTOGRAPHY

Andrew Sydenham

MANAGEMENT TEAM

Group Editor • Paul Miller

Group Art Editor • John Rook

Subscriptions Manager • Beth Ashby

Chief Executive • Owen Davies

ADVERTISEMENT TEAM

Advertising Sales • Sonia Smart

Tel • 01689 869 919

sonia.smart@hifinews.com

SUBSCRIPTIONS

New, renewals and enquiries...

UK: Tel • 0344 243 9023

(Calls are charged at the same rate as standard UK landlines and are included as part of any inclusive or free minute allowances. There are no additional charges with this number)

USA/Canada: Tel • (001) 866 647 9191

Rest of World: Tel • +44(0)1604 828 748

Email: help@hfn.secureorder.co.uk

WE LIVE AT...

AVTech Media Ltd,
Suite 25, Eden House, Enterprise Way,
Edenbridge, Kent TN8 6HF

UK and Overseas:

Tel • +44 (0) 1689 869 840

www.hifinews.co.uk



HI-FI NEWS & RECORD REVIEW, ISSN 2042-0374, is published monthly with an additional issue in October by AVTech Media Ltd, a division of MYTIMEDIA Ltd, Suite 25, Eden House, Enterprise Way, Edenbridge, Kent TN8 6HF, UK. The US annual subscription price is 70GBP

(equivalent to approximately 100USD). Airfreight and mailing in the USA by agent named Air Business Ltd, c/o Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Periodicals postage paid at Jamaica NY 11431. US Postmaster: Send address changes to HI-FI NEWS & RECORD REVIEW, Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Subscription records are maintained at dsb.net, 3 Queensbridge, The Lakes, Northampton, NN4 7BF. Air Business Ltd is acting as our mailing agent.

Audio Venue

bespoke audio visual consultants

Serving Berkshire
& London

Trade ins and interest free
credit available

27 Bond Street, Ealing, London W5 5AS
T 020 8567 8703 E w5@audiovenue.com

36 Queen Street, Maidenhead, Berkshire SL6 1HZ
T 01628 633 995 | E info@audiovenue.com

audiovenue.com

BRANDS INCLUDE Anthem, Arcam, Audeze, Audio Research, Audiophile Base, Audioquest, Auratic, Astell & Kern Dagastino Inc, Bowers & Wilkins, Chord, Classe Audio, Control 4, Devialet, Esoteric, Focal, Hana, JL Audio, Kaleidescape, KEF, Kaetsu, Krell, Luxman, Mark Levinson, Martin Logan, Michell Engineering, Musical Fidelity, Naim Audio, OPPO, PMC, Primaluna, Proac, Project, PS audio, Quadraspire, Questyle, Rotel, Ruark Audio, Sennheiser, SONOS, Sonus Faber, Spectral Furniture, Vertere Acoustics, Wilson Audio, Yamaha, and many more...

studio **AV**

SURREY'S LEADING HI-FI DEMONSTRATION LOUNGE

Listening to music has never sounded so good.



UNRIVALLED BRANDS COUPLED WITH UNRIVALLED CUSTOMER SERVICE

Get in touch to arrange your personal audition of some of the world's most highly respected Hi-Fi products.

Home demonstration and part exchange welcome.

WWW.STUDIOAV.CO.UK
01753 863300 sales@studioav.co.uk

new arrival



signals
hi-fi for grown-ups

tel (01394) 672464
www.signalshifi.com

**DIGITAL
SUBSCRIPTION**



GREAT SAVINGS WHEN YOU SUBSCRIBE TO Hi-Fi NEWS ONLINE...

- Download each new issue to your device
- Access your subscription on multiple devices
- Makes an ideal gift

SUBSCRIBE TODAY!

For the latest subscription offers see **page 112**
or visit **hifinews.com**

Please visit **hifinews.com** for full terms & conditions

OFF THE LEASH!

KEN KESSLER TELLS IT LIKE IT IS...

Noting a recent uptick in the sales of headphones **Ken Kessler** decides to rediscover the joy of Stax



I wrote last month about the solitary rediscovery of long-unused audio components and long-unplayed albums in various formats – it's unfortunate that the necessary isolation rules have kept us from *one-to-one* proselytising of the joys of music in the home. If my paranoia is justified, for decades based on a belief that non-audiophiles really have it in for us, then it's the advertising and feature articles in the mainstream press, prevalent over the last couple of months, that keep me suspicious.

SELLING OUT

When I and all of my audiophile buddies have been over-indulging in tweaking, cleaning contacts and plugs, reinstalling cartridges and other pursuits we enjoy, it seems that every other form of home entertainment *except for hi-fi and music* has been championed. First it was the news in the financial pages that Netflix subscriptions were booming. Box-sets, streamed and physical, were all experiencing binge viewing on a mass scale, coming with the odd press warning about overdoing it.

Then came the knowledge that jigsaw puzzles were selling out on *amazon.co.uk*. Numerous LEGO items were on back-order too. (And try getting the new *Star Wars* or *Harry Potter* sets.) Cookery books were enjoying a boost, especially for home-baking. Novels have been selling in increased

numbers, and not just downloads for Kindle – even print books are back in demand. As for health-related matters, home exercising has become a necessity, not a diversion, so home-gym products were on the up, too.

AUDIO ACTIVITY

It's not all doom-and-gloom for hi-fi, though, because some makers tell me that they are keeping busy. A blip in affordable turntables was unexpected, but no less welcomed for all of that. However, there is no surprise that one area is said to have benefited from these unusual times: headphone sales. And the reason is self-explanatory. When you're living cheek-to-jowl with family members who may not want to listen to Steely Dan or Miles Davis, while they could be watching *Killing*

'Back in the day, Stax 'phones ruled the high-end'

Eve in the family room which houses both your hi-fi and the big screen telly, 'phones become a peacemaker.

While I am unusual in hoarding a lot of hardware, please note that this is not solely the province of reviewers. As I suggested in

July's Off The Leash column, I know plenty of 'civilians' with dozens of pieces of hi-fi kit. That said, I haven't been digging out, say, an old preamp on a daily basis. I still have to review new equipment and therefore need to maintain a stable system.

But what I *have* been doing, because it's so simple, is to revisit old headphones. As with my work system, I try to employ only

items in current production when reviewing. Aside from a couple of venerable pieces, everything I use is still available or only recently retired. For headphones, I have current models from Audeze, Master & Dynamic and AKG, allowing me to assess regular or balanced modes, and in-ear, on-ear and over-ear configurations. My small selection of aged cans includes Beyer DT-48s, Sennheiser HD-414s and Stax Lambda, Omega and semi-in-ear SRM-001s.

It was the Staxes which gnawed at me, as I was always a devotee of the company's cans, with that electrostatic openness, but I have to confess to being mystified by its near-disappearance from the scene just as sales of headphones were booming. Stax has since returned, with a revised range and one key difference. Back in the day, its prices were deemed frighteningly prohibitive. Now they're par for high-end cans.

I have no experience of the current models, but I did fire up the oldies, not knowing what to expect. Back in the day, they ruled the high-end and had no rivals, certainly not with electrostatics. But the past 20 years or so have seen the elevation of headphones from being an accessory to a primary means of listening, and we now have more headphone manufacturers than at any time in the history of hi-fi.

AMAZING RECORD

As expected, the SR-001 didn't cut it by today's standards, as both ear-buds and electrostatics have come a long way since the mid '90s. Audeze, for example, has a number of planar-type earbuds which deliver far more weight, bass, transparency and refinement. The SR-001, however, must be acknowledged as the first-ever, semi-in-ear type to deliver decent sound, and it lives on in the current SR-003 MKII, which I must one day try just to satisfy my curiosity.

And the Lambda and Omega? These fared much better, though there's no doubt that the gains offered by newer designs include more convincing bass and far greater transparency. But this is no indictment of Stax, for those are literally decades old. Rather, they are a testament to Stax's pioneering achievements, as they still sound pretty amazing. ☺

Oct Issue

on sale 28th AUG

EXCLUSIVE TESTS:

- ↘ EAT E-Glo i tube integrated amp
- ↘ T+A HV P 3100 preamplifier
- ↘ Thorens TD 1601 turntable
- ↘ Klipsch Heresy IV loudspeakers
- ↘ Hegel H95 network-attached amp

PLUS:

- ↘ EISA Awards: World's media chooses its fave hi-fi
- ↘ Hi-Fi@Home: Where are they now?
- ↘ Classical Companion: Shostakovich Symphony No 5
- ↘ From The Vault: We crack open HFN's archive
- ↘ Vinyl Icon: Tom Waits' *Blue Valentine*



PS AUDIO

Pioneering world class audio products

**FREE
UPGRADE**
for all DirectStream DACs
from PS Audio Windom
now available!!

PS Audio releases Windom firmware for DirectStream



Windom is the newest upgrade for DirectStream and elevates the DAC's performance way beyond anything yet heard.

If you own a DirectStream DAC.

Go to www.psaudio.com/support/downloads/ and download either the DS or DSJ version of Windom and be prepared for awesome. Instructions for installing Windom on your DAC are there as well, It's that simple.

PS Audio's DirectStream DAC is the only DAC in the world that keeps on giving back to its owners for free. If you haven't yet experienced how great a DS is, it's easy enough to try one in your home.

Signature
AUDIO SYSTEMS

Distributed by Signature Audio Systems, **call: 07738 – 007776**
or by e-mail to: info@signaturesystems.co.uk Web: www.psaudio.com

The Live Music Thrill. Upgraded.

For over 40 years Wilson Audio has perpetuated the traditions of high performance loudspeaker design.

The entire product range remains unrivalled in its desire for the emotive experience of live music playback in the home.

Paying homage to the founder, David A Wilson, Sasha DAW is the latest project designed by his son Daryl, representing all that David learned throughout a life of questioning, exploring and discovering the finest in audio craftsmanship.

Sasha DAW is the newest member joining the Wilson Audio family in its quest for perfection, the thrill of live music has been upgraded yet again.



 **absolute sounds ltd.**

International Distributors & Consultants of Specialised Hi-End Audio & Video Systems

58 Durham Road, London, SW20 0TW t. +44 (0)20 89 71 39 09

absolutesounds.com info@absolutesounds.com

For Your Nearest Dealer Please Contact Absolute Sounds

**WILSON
AUDIO**