

# HI-FI WORLD

AUGUST 2020

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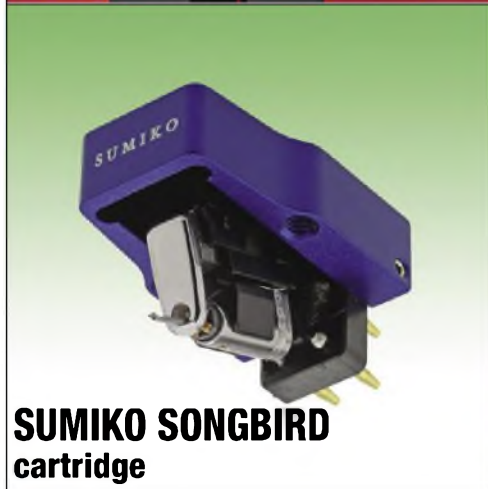
**FREE READER CLASSIFIED ADS IN THIS ISSUE!**



**CHORD ELECTRONICS 2go**  
streamer



**MARTIN LOGAN MOTION 40i**  
loudspeakers



**SUMIKO SONGBIRD**  
cartridge

**ROHDE & SCHWARZ**  
MEASUREMENT



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# WHARFEDALE EVO 4.3

**loudspeakers**

AUGUST 2020

061

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FiiO K5 PRO HEADPHONE DAC  
VERTERE PHONO-1 MkII PHONOSTAGE  
AUDIO TECHNICA ASADA ZAKURA HEADPHONES  
BURSON CONDUCTOR 3 REF. HEADPHONE AMPLIFIER

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## verdicts

●●●●●	<b>OUTSTANDING</b>
●●●●○	<b>EXCELLENT</b>
●●●○●	<b>GOOD</b>
●●○●●	<b>MEDIOCRE</b>
●●○●○	<b>POOR</b>
£	<b>VALUE</b>



**G**reat to be producing another issue of Hi-Fi World, before readers around the world get too perplexed, angry or infuriated about our idleness! Sorry we had to drop two issues. Not nice being idle and very nice to be producing the magazine again.

For no bug related reason, it is a slightly unusual issue. In it you will read about review products that may make you wonder what's going on. To wit, our Martin Logan Motion 40i loudspeakers connected out of phase – see p11. Was it a one-off internal wiring fault?

Or something more awkward like a crossover circuit board error? I doubt we will ever know: in a brief conversation I was assured it was a one-off. As regular readers will know we have tested many Martin Logan loudspeakers in the past without problem. And of course I use their ESL-X hybrid electrostatic as a reference.

Then reviewer Chris Frankland phoned me to say “there’s a socket missing!” of the Burson Conductor 3 Reference headphone DAC – see our review on p59. He hadn’t yet noticed there was no way of selecting the front panel Mic input either! This one had been in for repair, Chris was told, and was I presume used as a sacrificial review sample. Fair enough: it allowed us to validate Burson’s claims for massive dynamic range from the ESS 9038 Pro DAC chip they use, exploited by their custom built output amplifiers. The real problem here for us was lack of useful accompanying info explaining what we had – and of course in lockdown it was difficult to get any response (same with Martin Logan).

Moving back a few paces, that was also the problem with Chord Electronics 2go – see our review on p31. Its instructions, such as they were, and lack of simple guidance on how to use it, were more problematic than the apps themselves, or the circuitous wi-fi control method. Chord Electronics DACs have their own particular dry, punchy sound that’s deeply detailed and revealing, quite different from the “velvet” sound of top AKM and ESS DACs, giving 2go in conjunction with Hugo 2 unique sonic character.

And one small, final unusual issue in an unusual issue: Chris Frankland is now writing for us – the man that started Flat Response then Hi-Fi Review magazines in the 1980s, for whom I wrote and from which Hi-Fi World arose. Chris was and still is steeped in the subject. I hope we’ll hear far more from him in future issues. I welcome back my respected previous employer!

I hope you enjoy this “slightly unusual issue” and that a lovely analogue sun is shining in through your window. We’re happy to be back.

**Noel Keywood**  
*Editor.*

## testing (see [www.hi-fiworld.co.uk](http://www.hi-fiworld.co.uk) for full explanations of all our tests)

To ensure the upmost accuracy in our product reviews, *Hi-Fi World* has extremely comprehensive in-house test facilities, and our test equipment - from big names like Rohde & Schwarz and Hewlett Packard - is amongst the most advanced in the world.

Loudspeakers are measured using a calibrated Bruel & Kjaer microphone feeding a Clio-based computer

analyser, using pulsed and gated sinewaves, in a large room to eliminate the room’s influence. Pickup arm vibration is measured with a Bruel & Kjaer accelerometer.

No other UK hi-fi magazine has in-house testing, and none has access to such advanced tests across all types of equipment. That’s why you can depend on *Hi-Fi World* reviews.



## ELECTRONIC MAGAZINE

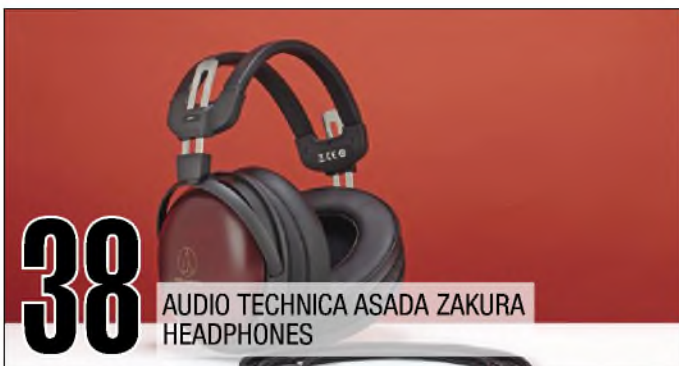
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# audiolab

## 6000 Series

“Best music streamer  
under £500”

6000N Play – What Hi-Fi?

“Hugely capable stereo  
amplifier”

6000A – What Hi-Fi?

“Best-sounding streamer  
under £500”

6000N Play – Hi-Fi Choice

“Haven’t heard anything like  
it under £1000”

6000A – Paul Rigby (The Audiophile Man)

“Great-value modern  
integrated amplifier”

6000A – Hi-Fi News

“Audiophile CD transport  
bargain”

6000CDT – Hi-Fi Choice

“Brilliant integrated  
amplifier”

6000A – Hi-Fi Choice

“Revolutionises budget  
CD play”

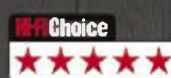
6000CDT – Paul Rigby (The Audiophile Man)

“Superb performer”

6000A – Hi-Fi World

“Class-leader”

6000CDT and 6000A – Hifi Pig



[audiolab.co.uk](http://audiolab.co.uk)



email:news@hi-fiworld.co.uk

# news

## UBER RIDE AHEAD?

The “uber-auditionable” Magneplanar LRS (‘Little Ribbon Speaker’) is claimed to be an “easy and affordable” means of entering the realm of Magneplanar’s flat planar-magnetic loudspeakers. It’s a development of an affordable ‘Maggie’ that would tempt customers to subsequently move up the range.

Their cheaper models, Magneplanar admits, had “some performance limitations” since they were designed to work with relatively-low power amps. The LRS – that, unlike the “appetizers” of old, is available in the UK – takes a different tack. Magneplanar claims that the design of its £995 “two-way full-range quasi-ribbon speaker” is instead more influenced by “the upper end of what Maggies can do”. Indeed, the flagship 20.7 and 30.7 models are name checked. The downside is that if you want “the real Magneplanar sound” from a pair of LRSs, you’ll need a “decent system...and to spend a bit of time on set-up”. See more in our forthcoming September 2020 edition review.

Standing four feet tall, the one inch-thick LRS has a 4 Ohm impedance and quoted 86dB sensitivity (500Hz/2.83V). Power-handling capabilities aren’t mentioned in the brochure or manual, and so it’s perhaps just as well that fuse-protection is fitted; note however that “burned-out tweeters indicate abuse, and are not covered by the warranty”.

Available in “natural or black solid oak, dark cherry trim with off-white, grey or black fabric”, the LRS is already being praised by reviewers for its musicality. But cat-lovers be warned – Magneplanar says that our furry friends are not unknown to mistake its products for scratching posts. Its solution: “Cat repellent from your local pet shop”...

Further details: *Decent Audio (UK distributor), (05602) 054669. www.magneplanar.com/www.decentaudio.co.uk*



## GIOVANNI NASTA, 1955-2020

It is our sad duty to report that, following a long illness, the hi-fi entrepreneur Giovanni Nasta passed away on May 20th aged 65. He owned Unison Research, the iconic Italian firm that helped spearhead the valve revival with the Triode 20 integrated amp designed by its co-founder Giovanni Maria Sacchetti. In the late 1980s Nasta himself founded a company, Opera Loudspeakers, that was to operate from the same premises – in the northern Italian town of Treviso – as Unison. His firm’s products, initially named after legendary operatic figures like Caruso, aimed to fuse traditional Italian cabinet-making craftsmanship with up-to-date acoustic technology.

Nasta, passionate about his chosen industry, started his hi-fi career as a rep for Wharfedale and Hitachi. Selling Wharfedale inspired the young Nasta to manufacture his own speakers; an early prototype, built with the help of a local carpenter, was sent to an English colleague for evaluation. That led to a large order from Taiwan, which he initially put down as some kind of practical joke! Tellingly, the gentleman who placed that order sells Opera loudspeakers to this day.

Originally from Corbara, a town near Salerno, Nasta relocated to Treviso. There he raised a family, while building up his brands. Our condolences to his family - he will be much-missed. Ciao, Giovanni.

Further details: *www.unisonresearch.com, www.operaloudspeakers.com*



## MUSIC 2GO

Those ever-resourceful folks at Chord are at it yet again. The £995 2go is a streamer/server. Described as “revolutionary”, it basically does for the established Hugo 2 DAC what the Poly does for the Mojo. With 2go Hugo 2 is transformed into a “fully-featured Wi-Fi (and Ethernet) enabled network music player/streamer”. Read more in this issue’s review.

Built using “highly-advanced miniaturised electronic engineering”, the 2go features high-resolution streaming capability, a pair of SD card-slots (each accepting media of up to 2TB in capacity, for music storage and playback), a DLNA-compliant server with MPD player functionality, support for gapless audio/DoP/Bit Perfect and the ability to be powered by internal rechargeable batteries thereby “removing the potentially degrading influence of AC mains noise and artefacts”. Among the technologies and services catered for by Chord’s latest are AirPlay, Roon, Tidal, Qobuz and Internet radio playback – we’re advised that others, including Spotify, will follow. The 2go, which is built into one of those Chord-trademark machined-aluminium cases, is available from dealers now.

Further details: *Chord Electronics, (01622) 721444. www.chordelectronics.co.uk*





## AV-FI

Newly off Denon's Far-Eastern production lines is what the Japanese firm claims to be "the industry's first 8K-ready (ultra-high definition) AV receivers...ushering in the next revolution in cinema and gaming".

Needless to say, the press bump concentrates on the video aspects of the AVC-X6700H (£2,299), AVC-X4700H (£1,399), AVC-X3700H (£999) and AVR-X2700H (£599). Armed with an overdose of acronyms, Denon's enthusiastic press officer advised us to ready ourselves for a "future 8K spread-out including eARC and HDR10+, and enjoy 4K/120kHz gaming with VRR, QFT, QMS and ALLM right away".

To facilitate all this, the new X-Series AVRs feature a "dedicated 8K HDMI input enabling 8K/60Hz and 4K/120Hz video pass-through, expanded HDR format support (including HDR10+ and Dynamic HDR) and a new HDMI feature called Quick Media Switching (QMS), which allows a source to instantly-switch the resolution or frame-rate to eliminate screen blackout".

And sound-related matters? eARC (enhanced Audio Return Channel) allows "uncompressed and object-based audio" to be transmitted from TV to AVR via a single HDMI cable, the receiver identifying the "best available surround format for decoding." Among the latter are more DTSs, Dolbys and DSPs than you can shake a (memory) stick at. The app-controlled HEOS feature allows music to be wirelessly-streamed, across compatible components, from a variety of streaming services including Spotify, Napster, Amazon Music HD, Tunes, Deezer, SoundCloud and TIDAL. You could even play, Denon explained, a different song in each connected room if so desired. Also supported are Apple AirPlay 2, DLNA and Bluetooth.

These receivers will also play MP3, WAV, FLAC, ALAC and DSD (2.8/5.6 MHz) files. Denon have however found space for a MM phono stage among the HDMI, HDRs, VRRs, Ethernets and USBs...

Further details: [Denon](http://Denon), [www.denon.com/en-GB](http://www.denon.com/en-GB)



## MORE THAN SKIN-DEEP

Now into its MkIII version is Rega's Aria switchable MM/MC phono stage, as previewed at February's Bristol Hi-Fi Show (seems like an eternity ago now, doesn't it?). The only difference relative to the previous variant is a cosmetic facelift. Described as a "fresh new look for 2020", it allows the £899 Aria MkIII to visually-complement other Rega electronics that the Essex firm hopes you'll also buy – among them the power supply that accompanies the Planar 10 turntable, and the Aethos integrated amplifier. Rega put our minds at rest by making it clear that the Aria's "outstanding musical performance" - made possible by discrete low-noise all-analogue circuitry, screened from any stray RFI signals by an aluminium case – remains the same. It's available now.

Further details: [www.rega.co.uk/aria-mk3.html](http://www.rega.co.uk/aria-mk3.html)

## AFFORDABLE REFERENCE

QED was one of the first firms to recognise the importance of interconnects in a hi-fi system. Now, after forty-five or so years, we have the latest incarnation of QED's "Reference High Resolution" USB cable – that one would use to, for example, connect a PC to a DAC.

Intended to deliver an "enjoyable, musical performance over long listening-sessions" it is claimed to "exceed all the requirements for high-resolution audio...DSD, MQA and PCM beyond 24-bit/192kHz". The new interconnect's high-tech refinements include an "impedance-controlled data-lane" that behaves "within strictly-defined parameters", complete isolation between the USB power and data lanes for "more accurate audio transmission" and a "unique" zinc-manganese floating-ferrite jacket to keep unwanted high-frequency noise at bay.

The Reference High Resolution uses 24 AWG twisted-pair OFC conductors and foamed-polyethylene dielectrics, uniformly-bound by an aluminium/mylar wrap for double-shielding (uncommon in USB cables, QED assures us). Pricing is sensible at £75 (0.6m), £80 (1m), £90 (2m) and £100 (3m).

Further details: [www.qed.co.uk](http://www.qed.co.uk)





## IN THE BAR

Polk Audio, born in the early-1970s heyday of mass-market hi-fi, hasn't – it would seem – forgotten its roots. Polk is these days more into car audio, home cinema and TV sound reinforcement than 'real' hi-fi featured in these pages. Fulfilling the latter role is the S3, the newest addition to Polk's 'Signia Series' soundbars. Featuring an internal complement of four "performance-tuned" drivers, the lower octaves are filled in by a wireless subwoofer. Such an arrangement allows the Signia S3 to be accommodated discreetly by modern living spaces.

Chromecast for Audio is built in for straight forward streaming from the likes of Google Play Music, Amazon Music HD, Spotify, Tidal, Roon and Qobuz. Also supported is Google Assistant, for voice-activated playlisting of music - if, that is, you already have Google Home on one of your devices.

Movies and TV aren't forgotten; the Signia S3 "decodes Dolby Digital 5.1 content for lifelike home-cinema sound with a single HDMI ARC (Audio Return Channel) connection".

Further details: [en.polkaudio.com](http://en.polkaudio.com)



## ELECTRIC AGAIN

Older readers might remember English Electric as more than just the title of an OMD album. To them, it flew the (Union) flag for 20th-century British industry and engineering. Deltics and Lightnings. The Lyons Electronic Office. The white heat of...atomic energy. Ahh, Rule Britannia!

Nostalgia addicts might welcome the news that English Electric, who disappeared in 1968, has now been revived as a brand by "the good people at Chord Company" (specifically, Alan and Sally Gibb). Time to dust off all the traditional clichés - warm draught bitter, cottage rose-gardens and the sound of willow on leather?

Possibly; the new English Electric's first product is a Gigabit Ethernet switch, reflecting where technology is today. Optimised for music, the 8Switch has eight ports (hence the name) and is built into a machined aluminium enclosure. Its features include electrical noise isolation, temperature-compensated crystal-clocking with accuracy rated at 0.1ppm, resonance-damping feet and front-panel indication of power, alarm and link status/speed for each of the eight ports. The 8Switch's £450 asking price also includes a 0.75m Chord Company C-Stream digital streaming cable worth £40. This story was alas spoiled for us after Chord's PR admitted to us that the 8Switch is made not in Preston, but "Asia, to keep the price down". He did however add that "British-built (EE) products will follow".

Further details: [English Electric, \(01980\) 625700. englishelectric.uk](http://English Electric, (01980) 625700. englishelectric.uk)



## WIZARDS OF OZ

Until the original Surround Master appeared a few years back, there hadn't been a hardware product capable of decoding matrix-quadraphonic recordings (most commonly CBS SQ or Sansui's QS) since the acclaimed Tate DES ('Directional Enhancement System') SQ decoder of the mid-1980s. The Surround Master, from Victoria-based Involve Audio, managed to achieve what the big Japanese manufacturers of AV receivers couldn't be bothered to - implement accurate quad-decoding within the digital domain.

Those who bought the Surround Master in its original form (or the variant that Involve optimised for SQ) praised it, making comparisons with the best of yesteryear's all-analogue units. However, the Surround Master looked rather cheap in its plastic case.

No such criticism can be made of its successor, the Surround Master V2, described by Involve as "combining true circular surround-sound with real-time remastering, to produce a completely-accurate sound experience".

This new unit, which retains the analogue stereo input and 4.0/5.1 outputs of the original, also allows users to adjust the levels of the input and each output channel. Best of all, a mode-switch on the front panel informs the world that you no longer need a separate version for SQ - this unit covers everything. At \$659 Australian dollars (approximately £363) including shipping, 'quaddies' will find the Surround Master V2 much cheaper than a second-hand Tate DES (or its QS equivalent in performance terms, Sansui's uber-rare Japan-only QS-D1000).

Further details: [www.involveaudio.com](http://www.involveaudio.com)





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



# Dome Alone



**The mid-range dome of Wharfedale's 4.3 mini-floorstander stands out, bringing unique sound finds Noel Keywood.**

**G**et 'em out of the way. Which means putting the loudspeakers against a rear wall, so as not to occupy hallowed floor space – something I perfectly understand with a lounge just 17ft long. But wall standing isn't ideal if you want a perfectly formed, clear sound stage with a sense of depth to it.

An alternative approach is to work with the limitations and try to counteract them. Enter Wharfedale's new EVO 4.3 mini-floorstander I am reviewing here, price £999.95. Out of the way – but able to project a clear open sound stage.

The EVO 4.3 is a solid little unit but reasonably easy to lift at 22.8kgs. Finished in a real wood veneer with matt lacquer finish – that I mistook for artificial veneer on the smaller EVO 4.2 (whoops!) – it blends in easily. And use close to a rear wall clears floor space that most want for something other than the hi-fi. But into this small and unobtrusive loudspeaker Wharfedale shoehorn an impressive array of drive units to tickle the ear.

Most unusual about the EVO range is use of a dome midrange unit. These things are known to project. I've heard plenty of domes in the past and been impressed at having vocals thrown at me, the singer in my face, as it were. Great imaging too – focussed but airy and spacious.



**Wharfedale's folded ribbon AMT tweeter delivers high treble. AMTs sound more detailed than domes.**

Downside? Edginess.

Found mostly in professional studio monitors, domes throw the info at you but are not the smoothest sounding drive units on this planet. Reason is the dome "breaks up" – meaning it starts to misbehave – at high volume. I looked into all this some years ago for a loudspeaker design because the sound of a dome midrange appealed to me, but the published specs were unacceptable. Break-up problems were obvious. That was in the past. Wharfedale use a modern 2in (50mm) soft fabric dome in the EVO 4.3 that you can see in our pics and it suffers no large peaks or dips, our measurements show – important for a smooth sound at high volume.

The other problem of a dome is that it only covers the mid-band; a bass and treble unit are needed to complement it, meaning the 'speaker must be a three-way design, adding considerably to build cost.

Wharfedale have opted to use a small folded ribbon tweeter (Air Motion Transformer, or AMT) to extend response smoothly up to the human hearing limit of 20kHz. And for bass there are two 5in (130mm) Kevlar cone drivers, loaded by a chamber with slot reflex port in the base.

In all that's four drive units instead of the usual two common in budget floorstanders. Quite a line up and as you'd expect with a sound different to the norm. They are housed in a cabinet standing 875mm high, slightly lower than the usual 1 metre. Width is 210mm and depth 285mm but with terminals that extend it to 295mm. Bare wires or spade terminals will extend this no further, but 4mm banana plugs will add to depth as

always. There are sturdy adjustable feet and bi-wire terminals with links for mono wiring.

**SOUND QUALITY**

I used our Creek Evolution 100A amplifier connected with Chord Company Signature Reference cables to drive the 4.3s. A 48hr run-in prepped them. Sources were an Oppo BDP-205D Universal player to spin CD, as well as process hi-res from an Astell&Kern AK-120 portable player connected by optical cable, making it fully isolated. Connection of Oppo to Creek was through Chord Company Epic balanced cables.

Vinyl replay came from our Timestep Evo modified Technics SL-1210 Mk2 turntable fitted with SME309 arm carrying an Audio Technica VM750 SH (Shibata) moving-magnet cartridge feeding an Icon Audio PS3 Mk2 valve phono stage.

Spinning a rake of high dynamic range (uncompressed) CDs that I rely on to get a basic handle on 'digital' sound quality as most know it, showed the 4.3s gave a result much as my experience with domes and our measurements suggested. John Campbell, singing Down in the Hole, was thrown forward, some words, such as 'Bout (about) being almost lacerative. Reverbs were made obvious, as was their panning across the stage: it was all very vivid. After a few tracks had passed by, featuring strong vocals surrounded by intense detail, I began to appreciate why domes are used in studio monitors: you get to hear it all. Every little nuance and of course a lot of recorded enhancements were made rudely obvious by the 4.3s.

Similar effect with Hans Theessink and the song Mississippi, where his use of the word Mississippi was starkly emphasised. This is a loudspeaker that delivers, but it is more revealing than relaxing. Edge of seat stuff.



**The bottom face carries a port that is acoustically damped by the close mounted plinth plate. This makes it a 'slot port'.**

Much the same with the Pink Panther theme, where the tenor sax intro had a large magnifying glass placed on it, it seemed. Accompanying orchestral brass was sheeny and intensely detailed. Also vivid and gripping, right out in the room. The balance is a bright one, not in terms of high treble but forward midband. The 4.3s make others seem laid back.

Strong bass was handled with aplomb. In our large room (6550cu ft) it was dry, tight and clean. However, the 4.3s are purposed for smaller rooms where they will exploit room gain to give stronger baas, whilst avoiding bass boom.



**The Kevlar cone bass unit reaches up to 1.3kHz, covering a lot of the audio band. The silver parasitic dome delivers highs.**

The AMT tweeters were little obvious until complex highs appeared, for example from maracas where I got to hear just how sweet and internally detailed they are. The 4.3s have superb treble quality but the dome does rather shade them.

Studio style insight wasn't always so easy to take. Playing Fleetwood Mac's Rumours in hi-res (24/96), Second Hand News was hard in quality: not a relaxing listen. Yet the following track Dreams was altogether more natural in balance. I got the impression I was hearing far into what is a very old analogue recording and picking up on intrinsic blemishes, as well as those of an intervening analogue-to-digital convertor. So the 4.3s are forensically insightful but this also means they can be rudely revealing, rather than really relaxing.

Mid-range domes have wide dispersion and as a result there was a strong sense of air and space around the sound stage. This contributes to their forward nature, adding to the



overall milieu.

So on to LP and back to Second Hand News, this time from an original LP and a recent re-master. Both are all-analogue – no digital – and differences to our digital hi-res files were stark. Second Hand News was still a tad muddled as a mix, as I'd expect from a 1976 recording, but there was no hardness. Similarly, Dreams came across as natural and dynamic, and without muddle. Again, no hardness or glare. The aurally prominent mid-range dome was pulling apart the recordings with brutal ability and again I got to better understand why they are used in studios. This does make the Wharfedales more critical of recording quality than most. Give 'em something good and they tell you so; give 'em something bad and you may cringe.

Running through our collection of high quality review LPs was all but a different experience from playing CD or hi-res. With no digital anywhere in, for example, Neil Young's After the Goldrush re-master, nor in the amazing Big Band Spectacular LP that is a recently

produced direct-cut of the Syd Lawrence Orchestra, the Evo 4.3's mid-band revelational abilities made for a riveting listen. Neil Young's plaintive vocal at the start of After the Goldrush was set out in a nicely open space before me, vivid beyond any previous experience. No sign of hardness, because no dodgy-digital in the way. But the close-miked guitar strings had no sharp edge, the AMT tweeter providing an easy rendition.

With the Syd Lawrence orchestra playing Sing Sing Sing saxophones and trumpets pushed forward, whilst the fast drum runs were well defined but in dry balance rather than prominent, something a smaller room would strengthen.

Spinning 2L's glorious LP of Mozart violin concertos, played by Marianne Thorsen backed by the Trondheim soloists, almost changed it all again. Thorsen's wonderful bow work was thrown at me and there was more shimmer than from our Martin Logan ESL-X reference electrostatic loudspeakers, but at the same time the sense of insight

and revelation locked me onto her wonderful ability. With this LP I also got to better appreciate the AMT tweeter. Whilst strings were strongly lit and forward, there was no sharpness in their rasp. Intense high frequency detail was there, exquisitely wrought but easy on the ear.

**CONCLUSION**

Wharfedale's Evo 4.3s are very distinctive in presentational method. Their strongly projective midrange dome has a dominating presence that makes for immediate drama in terms of high intelligibility. Vocalists are thrown at you, saxophones seem 2ft away (OK, 609.6 mm then!). Together with a spacious sound stage, this makes for aural drama. Dodgy recordings have faults brutally revealed and this isn't always so pleasant. However, fed high quality source material the 4.3s will bring music at you like few others and by doing so are literally "impressive". Worth hearing for a sound that few others offer.



The plinth base has four adjustable feet, with spikes and optional protective pads.

**MEASURED PERFORMANCE**

Our third-octave analysis of pink noise shows a broadly flat characteristic from the EVO 4.3, albeit with small plateau lift of the dome midrange unit that works from 1.3kHz to 4.3kHz Wharfedale state – seen in our impedance analysis as dips at the crossover points. The dome midrange output will be subjectively obvious as a forward and detailed sound with projection. However, upper treble from the AMT folded ribbon tweeter falls away gently to -2dB at 16kHz so there will be none of the sharpness that emphasised high treble imparts.

Below 800Hz this analysis, and another using gated sine wave impulses, show output falling away gently to compensate for rear wall enhancement – a typical over-damped response. The EVO 4.3 is designed to be used against a rear wall in a small to medium room (18ft long max) where lower bass will be enhanced by 'room gain' (resonant room modes). Low bass is supplemented by the floor port that peaks at 32Hz (red trace) to give deep bass some heft.

With output strong down to 30Hz the EVO 4.3 will produce low bass, if not with emphasis.

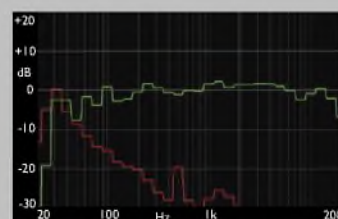
Sensitivity was as expected for a compact loudspeaker, 87dB sound pressure level at 1 metre (quite loud), from 1 Watt input. Amplifiers of 60

Watts or more would suit for high volume in a medium sized room. Impedance measured 6.6 Ohms with pink noise, and the impedance curve clearly shows sharp port tuning (acoustic damping) as a narrow dip at 32Hz with residual peaks either side.

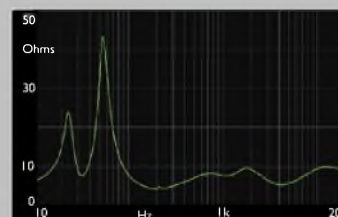
Raised upper midband output will give a bright and forward sound. Bass has been tailored for use close to a rear wall, in a medium sized room. Then the over-damped response will deliver tight bass in good overall balance. **NK**

**FREQUENCY RESPONSE**

Green - driver output  
Red - port output



**IMPEDANCE**



**WHARFEDALE EVO 4.3 £999**



**OUTSTANDING - amongst the best**

**VALUE - keenly priced**

**VERDICT**

Dramatic studio monitor sound that throws the music out – warts 'an all. Worth hearing; unique sound.

**FOR**

- projective mid-range
- firm bass
- vivid insight

**AGAINST**

- mild treble
- glare with bad digital

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"The 8Switch is a high-quality eight-port Ethernet switch designed to deliver high-quality sound from music streamed over a network. Cosseted by a high-quality machined aluminium enclosure offering excellent protection from both acoustic and electrical noise, the 8Switch comprises eight audio-grade 100/1000 Base-T gigabit Ethernet ports, with high and low electrical noise isolation, reducing troublesome

data issues when streaming music over a network.

A discreet LED display on the front panel includes power, alarm and the link status/speed for each of the eight ports. Resonance-damping feet are also featured to help decouple the 8Switch from unwanted mechanical vibration. Each 8Switch is also supplied with a Chord Company C-Stream digital streaming cable (0.75m) worth £40.

With data switches requiring high-speed power supplies, English Electric's engineers used an advanced medical-grade power adaptor for an optimum-quality network signal. Driven by high-accuracy clock technology it has been designed

to reduce electrical noise from AC sources, preventing mains quality issues from affecting network signals.

The 8Switch also boasts high power efficiency, a no-load power consumption of < 0.075 W, plus protection from short circuit, overload and over-voltage.

The 8Switch is driven by a customised TCXO (Temperature Compensation Crystal Oscillator) with accuracy rated at 0.1ppm: far higher than normal crystals and higher than a normal TCXO, allowing the 8Switch to generate higher-accuracy network signals, which in turn, help provide more stable music-data transmission".

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Conlan Street,  
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London W10 5AP**

## QUESTIONS

**[1] How many Ethernet ports?**

- [a] eight
- [b] eighty eight
- [c] one
- [d] none

**[2] Is the display -**

- [a] neon
- [b] incandescent
- [c] LED
- [d] semaphore

**[3] Is the power supply -**

- [a] linear
- [b] non-linear
- [c] steam
- [d] medical-grade

**[4] Is the oscillator -**

- [a] manually controlled
- [b] solar powered
- [c] Crystal
- [d] selenium

## RULES AND CONDITIONS OF ENTRY

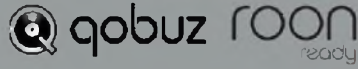
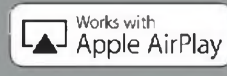
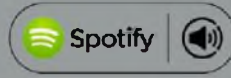
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# Black and blue

Martin Pipe uses Black Rhodium's Operetta 2 DCT interconnects in his system.

Forming part of Derby-based Black Rhodium's intermediate-level "distortion-busting" 'Enhancement' range, the Operetta 2 DCT interconnect is a "much higher performance" revision of the original Operetta model. Sold as a stereo pair, terminated in RCA (phono) plugs, the Operetta 2 DCT is aimed at "customers who seek high-end audio...without a high-end price". Selling for a not-insignificant £600, this buys you a 1-metre pair. These British-made cables certainly look the part with their blue 5.7mm-diameter outer jackets, through which you can see the closely woven braid of the screening, plus custom colour-coded "straight line contact" phono plugs and extended sleeve-encased 'lumps' of a neat and consistent construction.

These 'lumps' – not detailed by Black Rhodium on its website – appear to be enclosed ferrites. They're one element of the

model, DCT is a cold-temperature process that – by altering their molecular structure – reduces the effects of corrosion, wear, fracture and fatigue in metals.

Black Rhodium uses cryogenic treatment because it claims the result is "a more natural and detailed sound". Between the DCT conductors and the braid is insulation that combines low-loss PTFE and air to minimise a form of cable-related distortion that Black Rhodium has identified. This can be attributed to "energy being absorbed in the insulation and released at a later interval of time, to create highly-audible time-smear sound".

At either end of the cable are those unusual 'GN3' nickel-and-nylon phono plugs, which bear the name of Black Rhodium's founder Graham Nalty. Their shrouds embody a clever star cross-section to ensure a snug fit, making contact with the barrels of your equipment's phono sockets with a gold-plated

headphones from Focal (Utopia) and Audio Technica (ATH-AWAS). In all instances, they were used to connect source to amplification. The improvements relative to the midrange interconnects I was using previously were very subtle, but palpable nevertheless. Greater definition could be gleaned from the orchestra and choirs of Britten's War Requiem (a 24/48 LSO Live recording), for instance. Complex rock productions – among them, CD-rips and hi-res transfers of 1970s opii from the likes of Yes and ELO – seemed to gain a tad more clarity, engaging me more with the performance. And I could also distinctly make out a firming-up of basslines.

## CONCLUSION

These high-tech cables are expensive – but not ludicrously so – and can play their part in helping you to wring more out of your music collection. Recommended.



manufacturer's war against external radio-frequency interference; another is the aforementioned braid, which is fashioned from silver-plated copper.

Black Rhodium has applied some other enhancement technologies to the Operetta 2 DCT. The 'DCT' of the name, for instance, stands for "Deep Cryogenic Treatment". Not applied to the original Operetta

rod running down the side (the signal-carrying centre pin is also gold-plated).

I tried a range of equipment with the Operetta 2 DCTs – Cambridge Edge NQ/A streamer/amp, Prism Callia and FiiO K5 Pro DAC/headphone amps, Arcam A49 integrated amplifier, Quadral Aurum Wotan VIII speakers and

**BLACK RHODIUM  
OPERETTA 2 DCT  
£600**

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TERMINATED 1M.  
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**EXCELLENT - extremely  
capable**

### VERDICT

A fine interconnect that can make a positive difference

### FOR

- greater musical involvement
- subtle improvements across the audible spectrum

### AGAINST

- expensive
- system needs to be of a high standard

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# FiiO the force!

Martin Pipe tries the affordable but capable FiiO K5 Pro headphone DAC.

**W**e first met FiiO as a manufacturer of personal music players that represent quite phenomenal value for money. Since then it has widened its portfolio to include headphones, IEMs, Bluetooth adaptors and headphone DACs. We've already examined FiiO's BTR5, a tiny Bluetooth DAC/headphone amp that can also be used with USB sources like PCs and (with appropriate connectivity) mobile devices. We now turn our attention to the Chinese firm's K5 Pro, a more conventional device that's powered by a 15 Volt DC 'wall wart' and thus intended for use at home, not on the move.

Considering it sells for a mere £150, the compact and neatly-styled

K5 Pro is remarkably-flexible. It can be partnered with analogue playback gear: phono stages, FM tuners, tape machines and so on can connect to its unbalanced RCA inputs. USB devices like PCs (FiiO offers a Windows driver on its website) and conventional digital sources (S/PDIF optical and coaxial) can be attached too. The onboard XMOS XUF208 USB digital receiver and AKM AK4493 DAC associated with the latter two are hi-res compatible; the K5 Pro will natively-handle DSD signals (DSD64-512) and PCM all the way to 32-bit/768kHz.

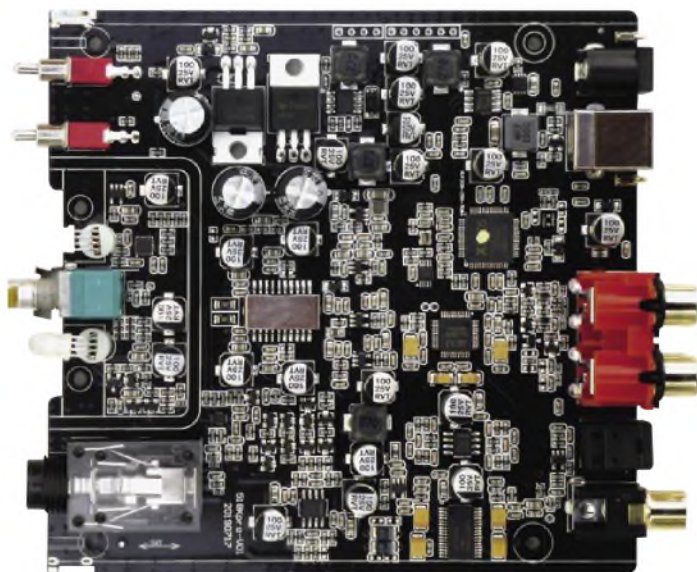
A three-position toggle switch on the front panel selects between the three inputs. Next to it is a second such switch that changes the gain of the amplifier – 0dB (no gain), 6dB

and 10dB. Useful for headphones of varying sensitivity - or when using the K5 Pro's unbalanced line-level outputs to drive a power amp or active speakers. The large volume control affects both headphones – connected via a standard 6.3mm jack – and line-level outputs. Both outputs are active simultaneously. In other words, plugging in headphones doesn't automatically-mute the line output.

I noted that the backlighting colour of said volume control changes. Could that mean something? Nothing about this in the alas frankly-lamentable documentation, but the colour-changes seemed to be influenced by the nature of the source feeding it. Analogue playback, and CD-derived material auditioned







**The neat and professional internal layout of the FiiO K5 Pro. It may be powered by a 15 Volt wall-wart, but DC-to-DC converters provide the supplies needed by the circuitry – most of which is built with surface-mount components.**

via a coaxially-interfaced Cambridge CXN v2 streamer, yielded a stately blue. Switching to hi-res PCM caused the backlight to turn bright yellow. This colour also heralded DSD material played via the CXN, albeit accompanied by silence. Evidently, DoP isn't supported here. However I got the green light (quite literally) when playing DSD files via a PC – thankfully with audio this time.

Subsequently, I discovered the K5 Pro page on FiiO's website - which confirmed that blue, yellow and green respectively-indicate inputs of PCM of 48kHz (or lower), PCM above 48kHz and DSD. Simple, but effective and useful for troubleshooting purposes – especially if you want the best from PC playback. This webpage also goes into some detail about the internal techno-trickery that makes it all happen. The volume control feels like a pot, complete with end-stops, but it actually works in conjunction with an NJRC NW1195A low-noise analogue attenuator chip with a resolution of 0.5dB per step. Good news for long-term reliability and freedom from 'pot-crackle'.

The headphone amp it feeds is based around TI's "flagship" TPA6120 op-amp, and uses "carefully-tuned feedforward amplifier circuit design" to achieve a "total power output of up to 1.5W" into a 32 Ohm load. As a result the K5 Pro, FiiO assures us, can "easily handle any low- or high-impedance headphone". We took the trouble to take apart the K5 Pro so you don't have to

– it's not the easiest of jobs! Great care has been taken with the neat internal construction, right down to the use of a custom heatsink for the TPA6120 and the use of spring-loaded gold-plated pins to connect the groundplane of the circuit board to the casework.

### SOUND QUALITY

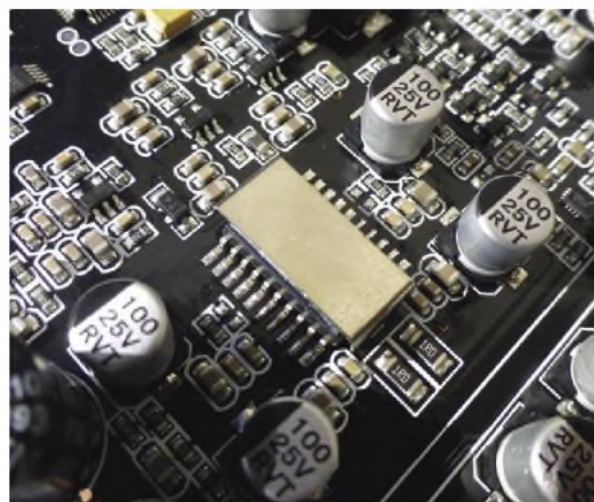
Most of my listening involved the CXN, but I also hooked up a Prism Callia DAC as an 'intermediary' - under these circumstances, the K5 Pro was being used purely as a headphone amp. For analogue playback, I relied on a Technics SL1200 Mk3 with Audio Technica AT440MLb MM cart feeding a Pro-Ject Phono Box S2 Ultra. Headphones included Focal Utopias and the Audio Technica ATH-AWAS reviewed elsewhere in this issue. I also tried Sennheiser HD650s and FiiO's own FH7 IEMs, both of which are more representative of the sorts of transducer with which the K5 Pro would be partnered.

First of all, though, I tried this modest little unit with my Google Pixel 3a smartphone running the versatile VLC Media Player. This phone has only a USB-C socket, which is used for charging as well as accessories. To make the connection to the K5 Pro, a 4-port USB-C hub was pressed into service. The phone's Android operating system immediately recognised the DAC, and music was routed through that as opposed to the phone's own

audio system. The good news is that since the K5 Pro has its own power supply, it won't drain the phone's own battery; you are, of course, tethered to a mains point!

And what a difference it made to the music-playing capabilities of the phone, which was loaded with a variety of losslessly-compressed tracks. For a start, there's no lack of drive. Each and every set of transducers I tried was taken in the stride of the FiiO's headphone amplifier. This equates to poise, immediacy and a lack of audible strain. Even during busy passages, notably orchestral crescendoes, there's no loss of control. Instruments retain their character and place within the image, with no untoward 'blurring' to detract from your enjoyment. A general-purpose smartphone is thereby endowed with some of the musical fulfillment that makes a FiiO player so special.

That's not to say you can't do better. Switching to the Cambridge as a source, I noticed a distinct improvement in bass tightness and depth. Furthermore I discovered that more of the subtleties of a soloist were laid bare, bestowing further believability to, say, Gorecki's third symphony as performed by the Polish National Radio Symphony Orchestra under Krzysztof Penderecki. The sheer emotional impact of Portishead singer Beth Gibbons' pregnant vocal, which follows the melancholy build-up of the massed strings in the first Lento movement, comes as quite a shock. Not even the clearly resolved hubbub of the performers and string noises, as captured on this Domino



**Under this custom heatsink is TI's flagship TPA6120 op-amp, which together with "carefully-tuned feedforward amplifier circuitry design" forms the FiiO K5 Pro's headphone amplifier section.**

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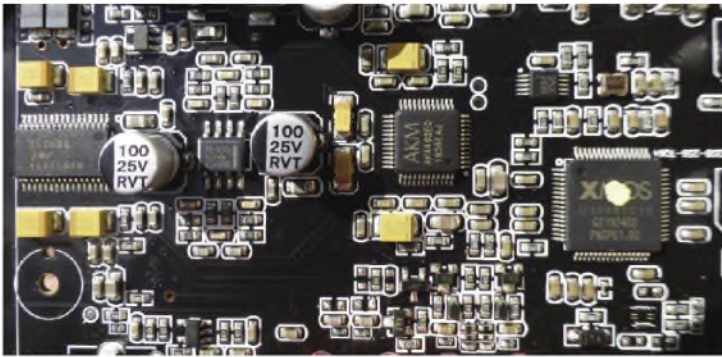
England, the slimline ND5 XS 2, Classic superstar NDX 2 (pictured) and flagship ND 555 players are winning Awards around the world. Hear the difference with your favourite music at your local Naim specialist retailer.

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#### Awards for NDX 2







Here we see three of the FiiO K5 Pro's key chips. From left to right, they are the NJRC NW1195A analogue volume control, AKM AK4493 DAC and XMOS XU208 USB interface.

live 2014 recording, can detract from that.

The K5 Pro can however groove you as well as move you. It conveys well the deceptively sophisticated yet playful production of Sly and Robbie's Boops (Here to Go), while Patrice Rushen's Rhodes-piano improvisation on the joyfully uptempo Haven't You Heard? is a joy to behold.

I then switched the Callia into circuit – which had the benefit of restoring DSD playback via the CXN – as confirmed by the Callia's front-panel indication, as well as a breathtakingly-natural and spacious rendition of violinist Emily Palen's Light in the Fracture.

It must be pointed out that the Callia, manufactured by a firm better-known for its high-end studio converters, is a ruthlessly-revealing DAC. With it I could make out subtleties overlooked with the K5

Pro's converter – but nevertheless it puts up a pretty good fight, considering it sells for less than a tenth of the Callia's asking price.

With the FiiO I could make out the differences between the original 24-bit version of Britten's War Requiem (LSO Live/ Nosedá) and a 16-bit down conversion – specifically, a palpable reduction in space alongside a slight deterioration of bite and attack. That I could hear such a difference, albeit with very high-grade headphones, demonstrates the competence of FiiO's headphone amp – which also proved

itself when listening to analogue sources like vinyl records.

**CONCLUSION**

Given the modest outlay, it's difficult to criticise the K5 Pro. It does plenty – and it does it very well! Its DAC section is more than competent, and will transform the sound of, say, a PC or budget CD player (or an old one, like the Technics SLP-550 discussed in Olde Worlde, which was brought up-to-date with a more revealing and involving presentation of music). It's a pity the 'conventional' digital inputs seem unable to cope with DSD-over-PCM (DoP), meaning a PC is essential to get the best from DSD playback. The headphone amp is however exceptional for a £150 product, and will be able to drive the majority of headphones with comfortable margin. Another winner from FiiO!



FiiO has covered all bases – conventional digital (optical/coaxial), USB and analogue. The analogue output allows the K5 Pro to be used as a simple but worthwhile DAC/preamp. Both line and headphone outputs are active simultaneously; plugging in headphones does not mute the line output.

**MEASURED PERFORMANCE**

Frequency response via digital inputs, with 192kHz sample rate PCM, reached 55kHz (-1dB) before rolling down slowly to the upper theoretical limit of 96kHz, as our analysis shows. Both optical and electrical inputs achieved this, through to Line and Headphone outputs.

Distortion (24bit, -60dB) was low at 0.03% and Dynamic Range (EIAJ) high at 119dB, making the best of hi-res digital, again through both Line and Headphone outputs.

Headphone output measured 2V / 4.2V / 6.4V at gain positions 1, 2, 3 respectively so there's more than enough here to drive all headphones, even the most insensitive.

The preamplifier is a 'pass through' with a gain of x1 from Line in to Line out. If gain is wanted the headphone output can be used to deliver x2 (6dB) and x3 (9dB). The volume control works

on both outputs.

The K5 Pro delivers massive output to headphones with low distortion and high dynamic range. It has a very high standard of performance. **NK**

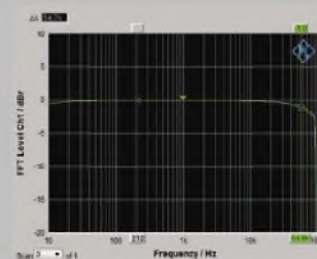
**DIGITAL**

<b>Frequency response (192kHz,-1dB)</b>	
<b>4Hz-55kHz</b>	
<b>Distortion (-60dB, 24bit)</b>	<b>0.03%</b>
<b>Dynamic Range (EIAJ)</b>	<b>119dB</b>
<b>Noise</b>	<b>-118dB</b>
<b>Output (h'phone)</b>	<b>2/4/6V</b>

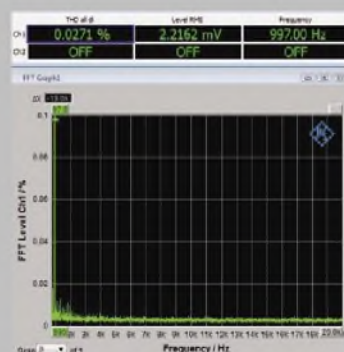
**PREAMP**

<b>Frequency response (192kHz,-1dB)</b>	
<b>3Hz-100kHz</b>	
<b>Gain</b>	<b>(Line in/out)</b>
<b>x1</b>	
<b>Output max</b>	<b>7.6V</b>
<b>Distortion</b>	<b>0.007%</b>
<b>Noise</b>	<b>-112dB</b>

**FREQUENCY RESPONSE**



**DISTORTION**



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**OUTSTANDING - amongst the best**

**VALUE - keenly priced.**

**VERDICT**  
Sensible features, a decent DAC and an outstanding headphone amp. Difficult to better at the price.

**FOR**  
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- potent headphone amp.  
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**AGAINST**  
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- poor instructions  
- volume control backlight distracting in the dark

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McIntosh MA352  
Hybrid amplifier  
£8,495

**0% FINANCE EXAMPLE\***  
Initial 20% deposit of  
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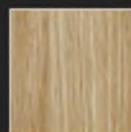
Hi-Fi World (Awarded 5 Globes)



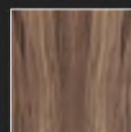
**twenty5i**

PMC has launched the twenty5i series, following a substantial re-engineering of the multi-award winning twenty5 series, to benefit from the research carried out while developing the company's flagship loudspeakers. **The result is the removal of anything that detracts from the music, providing greater realism, transparency and musicality.**

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# ESOTERIC



Esoteric K-01XD  
Super Audio  
CD Player  
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Initial 20% deposit of  
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Esoteric K-03XD  
Super Audio  
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**\*0% Finance examples above are subject to status & conditions**

LETTER OF THE MONTH PRIZE

# Mail



Visit our website at [www.hi-fiworld.co.uk](http://www.hi-fiworld.co.uk) or send your emails to [letters@hi-fiworld.co.uk](mailto:letters@hi-fiworld.co.uk). Letter of the month wins a pair of KEF Q150 bookshelf speaker

Answers by: NK - Noel Keywood; PR - Paul Rigby; MP - Martin Pipe.



## KEF Q150 BOOKSHELF SPEAKER

<https://uk.kef.com/products/q150-bookshelf-speaker>

[subject to availability - Satin Black / Satin White]

A PAIR KEF Q150 LOUDSPEAKERS are on their way to KEVIN HOWLETT, Letter of the Month winner in our May 2020 issue.

### Letter of the Month

#### VINYL STUDIO

In recent issues (February and April) there has been considerable discussion on how to digitise vinyl collections. You (and Mark Eley) point out that to do this whilst exploiting the full resolution and dynamic range of vinyl requires a high-quality device such as the Furutech/ADL GT40a which has an ADC capable of getting superb results.

But there has been no mention in any of the correspondence or your responses of what I think is both the best, and best-value, software available for the purpose of recording the resulting digital stream and then splitting it up into its separate tracks, and that is Vinyl Studio. For readers who are vinyl aficionados but would like to access their recordings when travelling (hopefully we will be able to leave home again soon!), and have a large vinyl collection, here is a quick description of my setup, and then how I use the software, which I hope will be of interest.

While the Furutech does have its own phono pre-amp, I already have the superior World Design Phono3, so



this is fed by my Linn LP12/Trampolin/HerculesII/Akito/Adikt and then into the Line input on the Furutech, with the ADC operating at its highest settings (24-bit/192kHz). This is connected via USB to my dedicated Win10 laptop running Vinyl Studio. The raw recording goes directly onto an attached 8TB HDD, at the end of which I use the Split Tracks option to create the final FLAC version of the LP – the built-in

help functions in Vinyl Studio are context-sensitive and are a real boon for new users.

Now you have frequently commented that you can't hear the difference between 96kHz and 192kHz recordings, and choose the former in order to save disc space. But I see little point in not using the full resolution of vinyl for the smoothest possible representation of the audio

*"The best and best-value software available for the purpose of recording LP then splitting it up into its separate tracks is Vinyl Studio" says Phil Charles.*



signal, especially when you're then going to play it back through a (very) high resolution DAC which will just up-sample it again to at least 192kHz before creating the final output.

And in any case, you can now get 512GB micro-SD cards for <\$100, so you can carry a huge number of your vinyl "studio masters" around with you in your DAP! Plus I was delighted to find that both my old FiiO DAPs (the original X3 and X5II) were able to read these huge discs, provided you had their latest firmware updates.

I obtained Vinyl Studio (online from AlpineSoft) 5 years ago for a very reasonable \$24 (it now comes in Standard and Pro versions for \$30 and \$50 respectively), and cannot recommend it highly enough (I've also just noticed that you can try it out for free for a limited period). I'm running version 1.1.0.7 and it informs you on startup if any updates are available.

Good luck in keeping going through the current pandemic, at least it's giving me time to wash my vinyl (using the Moth RCM Mk2), although I think I'm going to be in trouble when I run out of isopropyl alcohol ...

Best wishes

**Phil Charles (retired professor of astrophysics)**

Hi Phil. Thanks for all the data that I am sure readers will find usefully detailed at a practical level. As you say Vinyl Studio is easy to use and very good at what it does. I default to Audacity as it is a workhorse, but not for everyone. Some of the 'Little and Big Endian' bits are a puzzler until I look them up to remind myself.

When the Isopropyl alcohol runs out reach out for Vodka or White Rum. I'm sure they'll do! **NK**

## HEADPHONES

As with many, I am confined to home and spending most of my time in my office working. This has given me the opportunity to listen to music via Stax SRM600 energizer and 507 electrostatic earphones. The source is an Apple MacBook Pro and Audioquest Dragonfly Red DAC playing lossless music ripped from my CD collection onto good old iTunes.

First the bad news, the 507s are damaged, the righthand side crackles and sound is sometimes quieter, not heard compared to the left-hand side, the energizer has left-right balance but this helps little. I have had them checked and it seems a repair is not



**"Furutech's ADL GT40a has an ADC capable of getting superb results" says Phil Charles.**

cost effective. As such, once funds are available I will compare the Stax SR-L500, SR-L700 and SR-007 to see if additional cost of SR-L700 or SR-007 worthwhile. The SR-009 is out of my price range so please don't recommend :-).

Also, is the energizer capable of showcasing advantages of more expensive headphones? FYI it is a special edition, valve based model, all in black that I believe is a variant on the SRS-006 energizer.

Now to my second point. Even though damaged, and source is not special; the sound quality is significantly better (to my ears) than the set up I have in my main music room. Here I have CD and vinyl played through a Copland DAC215 DAC headphone amp, feeding Audeze lcd2 headphones. Listening via Martin Logan Classic ESL-9 speakers the sound is super so I know that the likely culprit is the headphones. I find all aspects of the Stax setup better, the clarity, the bass, mid and treble; in comparison the Audeze sound heavy, slow and muffled.

So, my ask is: what do you recommend I replace my damaged Stax 507 earspeakers with? Are there other makes I should consider as I do think the build quality of the Stax headphones is not great for the cost (based on the 507).

Is there an alternative headphone I can use with the Copland DAC215 that would give a similar quality to the Stax.

Last point, keep the reviews of cartridges coming, mine is wearing out and will likely need to be replaced next year so using your reviews to shortlist. Thanks in advance

**John Speight**

Hi John. I am no headphone expert. They all sound different to me, none

quite right. The Stax electrostatics I have heard in the past were quite unlike anything else: sublimely light and clear, obviously better. A world apart, albeit an expensive one.

Interesting that you don't like Audeze magnetic planars, because they are better than most I feel, but as you say with a completely different character to Stax electrostatics – and of course your Martin Logan Classic ESL9 electrostatic loudspeakers.

And that is a difficulty you will not easily overcome. Best to try and get the Stax repaired was my initial thought but Dave Tutt has kindly investigated this issue for us – see below. Sounds like a drive unit has started arcing and once this happens it must be replaced.

There is one further option though, the Kingsound range of



**Stax SR-507 electrostatic headphones, used by John Speight to match his electrostatic loudspeakers.**

electrostatic headphones KH-H2/3/4. I have not heard them, but I have reviewed Kingsound electro-



static loudspeakers and came away impressed. Based in Hong Kong, they have a UK designer. Icon Audio handle Kingsound in the UK. Very approachable company and plenty of experience with electrostatics. **NK**

Dave Tutt says – Had a reply from the only UK contact for the Stax parts and he tells me that they are not parts they have in stock nor do they ever change just one unit, they must be done in pairs and the complete job is then for the ear piece, padded cups and the protective grills and the cable is usually all done together so we must be looking at over £600 for a repair here. There is currently no quoted price available for this. They have to be ordered in from Japan and come as a complete renovation set. I am happy to look at them to see if there is a cheaper solution but it seems to me that no matter what, they could end up a scrap pair of 'phones.

I spotted a few working pairs on eBay this morning although how working I can't tell as they might be just as broken as John's pair and at £500 plus it is a risk I wouldn't be prepared to take, given there is no guarantee they won't fail after a couple of hours.

I did wonder how the Stax electrostatic panels actually work and if they are open enough to take in the odd hair or dust or a combination of the two. This would definitely cause them to crackle and track over. Would need a screwdriver on them to see what might be the issue. Can you pass this on to John and see what he thinks?

Just had a price in for the Stax 507 diaphragms at £300 a pair plus

**Kingsound KH-3 electrostatic headphones – little talked about. Made in Hong Kong by Kings Audio who have a great range of electrostatic loudspeakers.**

VAT and delivery and they would have to be direct from the factory. Somehow I can't really see that as a good deal given what headphones you could buy at that price brand new.

**Dave Tutt.**  
**HI-FI SERVICE & REPAIR**  
**+44 (0)7759 105932**  
**dave\_london@hotmail.com**  
**www.tutt-technology.co.uk**

### FORMATIVE YEARS

Dear Uncle Paul. In your Opinion column in the April 2020 issue you did indeed touch on the tip of a very large iceberg when you started comparing the music you chose to listen to in your formative years with that you were forced to listen to via BBC Radio 2 and other music channels. But there is, perhaps, a third category of music you could have confessed to, the music you chose to listen to but were afraid to admit it - or was that just me?

I have to confess that when I read your article's title 'A wretched ditty from the original artist, Lobo', I immediately knew you were referring to 'Me and You and a Dog named Boo' - and I bet I wasn't alone in doing so! And yes, somewhere in a compilation CD I do have that track, along with countless others of a similar ilk which I won't mention to protect the innocent. But most of these songs were well recorded with high production values, a variety of interesting musical arrangements,

a reasonable dynamic range – and not an AutoTuned vocal to hear.

Of course my music collection includes all the albums that had street cred at the time: The Beatles, Pink Floyd, The Eagles, Fleetwood Mac, James Taylor, Carole King et al, but I'm happy they sit alongside Hot Chocolate, Smokie and, yes, Matt Munro.

Whilst BBC Radio 2 must take its share of the blame for exposing us to so-called Bubble-Gum music – those catchy, infectious earworms we all love to hate – it should also be given credit for introducing us to the likes of Mary Black, Katie Tunstall, Eleanor McEvoy and countless others who have certainly enriched my musical experience.

Compare them to today's tuneless, bland offerings that comprise the overwhelming output of daytime BBC Radio 2. Give me The Carpenters.

Regards...

**Julian Reeves**  
**Kinross**

Thanks Julian and, yes, there's a psychiatrist chair of musical confession in that lot. My vinyl and CD collection is full of the cool, the edgy and the essential. But it also features Abba and Leo Sayer and in heavyweight vinyl. Box sets, no less! I won't even go into Barbra Streisand and the Bee Gees.

If I had admitted to liking any of these artists, in my school years, I would have been battered, bruised and hung from the nearest lamp post. I even have an original David Essex buried in a dark corner because I can't get away from the genius of the track, 'Rock On'.

Finally? Well you said it but I had a startling epiphany recently when viewing YouTube. I found myself playing and replaying one particular video, over and over. I found more nuances in the arrangement, delicacies in the vocal delivery and a sense of fragility



"...even Matt Munro" admits Julian Reeves.



in the performance and I sat, shocked, knowing that I was getting to like...Karen Carpenter. A lot. Is it age? I'm not sure I know who I am anymore.

Kind regards,

**Uncle Paul.**

### HERE AND THERE

I'm retired, and have been migrating each year between the Philippines and the UK since 2012. My wife passed away last month. Now, to retain sanity, I've had to re-evaluate priorities, and listening to music is very near the top, after health.

I'm an amateur musician and still playing bass trombone in orchestra and Big and Brass bands (my type of music - forget techno), and a keen listener as well as player. I'm trying now to upgrade a bit, in both places. In addition to internet radio, which is on almost all day, I want to stream Tidal, Primephonic, and have in the Philippines about 2,800 CDs and some 800 LPs, many of which were original purchases in the 1960s and 1970s. I buy new CDs and LPs in the UK, which end up in the Philippines, where I have more space.

In the UK, where I spend about 5 months a year in a small apartment, with ripped FLAC files of my CDs, on hard disc, I have currently the following equipment: Marantz amplifier PM6003; Marantz Network Streamer NA7004 Marantz CD Player CD6003; Sony PS-HX500 turntable; Schiit Modi DAC, and 20 year old KEF Q15 'speakers. The room has laminated flooring, painted walls and ceiling.

I find the KEFs very good, clear and refined, and while the turntable is not the best in the world, it would be fine with a new cartridge, I think: I damaged the stock one. Streaming is more important however. It is the Marantz equipment I was looking at at present. I have a slight preference for a one box solution, if that exists, but for me the most important is clarity of sound. I want to hear three trombones, not just a blanket of noise, and clear bass (it should be easy to distinguish between a string bass and a bass guitar). In addition rather than the soundbar (Panasonic SC-HTE80) I have for a Samsung 49 4K TV, wall mounted above the amp and surrounded by the speakers a capacity to use the new equipment for enhanced stereo sound for the TV would also be good. I can't remember, but I think that the TV has digital connection to the soundbar. Given the size of the room, I think that a subwoofer might be overkill, and not too friendly to my downstairs neighbour.

In the Philippines, I have a house



**The Dual CS-460 we reviewed in our April 2019 issue is an automatic turntable with cartridge that can be upgraded. One of the few automatics with this capability.**

which surrounds a small swimming pool, open to the elements, and at one end a room, with concrete walls, a large sliding glass window to the pool behind the speakers, and a tiled floor, solid wood furniture, including a baby grand piano, and the following Hi fi: Rega Elex-R Integrated Amplifier; Speaker Switch for the two pairs of speakers, internal/external and both; Marantz Network Streamer NA6005; Rega RPI Turntable [upgraded]; Rega Fono Mini A2D phono stage; Cyrus CD T D transport; DAC Schiit Bifrost Multibit; Floor Speakers Acustik-lab System 100W 91dB 8 Ohm 40-19,000 Hz; External Speakers Polk Audio Atrium 7 125W 91dB 8 Ohm 50-20,000 Hz in the pool area.

For the turntable, I would like to upgrade to one with automatic tonearm (as an oldie I keep missing the end of the record!). This I can't buy in the UK as in the Philippines the power is at 60Hz 230V, and perhaps I should replace the phono stage. I don't use headphones at home.

My main problem is again with the streamer. I quite like the clarity of the Cyrus CD transport, and though I haven't heard it, I was wondering if you would suggest the Cyrus Stream XP2-QX, or one of the other cheaper ones: there will be room at the Schiit DAC, if their other choices don't have a good internal DAC. Of course, I'm not blinkered, and if you have other good

suggestions, I'm all ears. At the end of the day this is a machine which will be running most of the day every day, and I might add at a room temperature, which if no aircon is on, can reach 32-35 degrees (this killed the Marantz NA7004, which had been there, but I had to bring back to the UK, where it works well, but with less clarity and punch than I would like).

To recap, I'm looking for a clear crisp sound with good bass definition, rather than a soft woolly noise. Now, the question of Budget. Obviously several thousand pounds would be appropriate, but I am retired!! I'm looking for the best value possible for a reasonable improvement in quality. Your proposals for whatever you think is best would be greatly appreciated.

I look forward to hearing from you in due course. Kind regards in this difficult time.

**Mike San Agustn McCrea  
Eastbourne UK, LosBaos  
Philippines.**

Hi Mike. First point to note is that nowadays most turntables run from a wall-wart d.c. supply, making mains voltage and frequency irrelevant. Both Dual and Audio Technica make semi-automatic (lift and stop) and fully automatic turntables, but they are budget designs. Same with Sony, who do a fully automatic with the PS-

LX310BT but you can't change the cartridge.

The Cyrus Stream XP2-QX would be a good choice or perhaps the S0tM SMS200 we review in this issue. **NK**

### CHATSWORTH CHAT

*Richard Beanes letter in the May edition, resonated (pardon the pun) with me somewhat, talking about the Tannoy Mansfield. I have used the Tannoy Chatsworth loudspeakers since they came out, in around 1973. I have never found the need to change them in all those years. However, there have been a number of changes, which I will mention later.*

*Now the Chatsworth is in the same series as the Mansfield, using the HPD 12 drive unit. There was the Amesbury at one end of range, and at the other, there was the diminutive Chevening, all fitted with the then HPD drive unit which replaced the legendary (to some) Gold driver.*

*This range of loudspeakers to some extent, was trumpeted as space saving, the Amesbury being the exception! As I was using a spare bedroom in a flat, I chose the Chatsworth. The Chatsworth like the Mansfield is a sealed enclosure or infinite baffle design, which I prefer. Compared to a ported design the bass is limited although I prefer the limited bass to waffly ported bass. I considered having another cabinet made, the Mansfield like the Chatsworth is not very deep from front to back and I wondered what if the cabinet was made deeper, but at the end of the day, all this sounded too much hassle.*

*Like Richard's room, our lounge is as long but slightly narrower, so I tried the Chatsworths firing down the room, no real difference, so back to firing across the width of the room, all this seem to point toward enclosure limitations.*

*Then I sent the drive units to Tannoy at Coatbridge for re-coning, amongst other things Tannoy designed ports for the enclosures, I then had to cut new rear baffles for them. After a listen I couldn't wait to get them back to sealed enclosures! So for a number of years, I used the Chatsworths as intended.*

*Like Richard, I thought I would give a sub a go, so to keep to the non ported design I opted for the REL Quake which used an 8in drive unit. Richard doesn't say the option he used to wire the sub into his system. By far the best I found is the high level option, this ensures that the sub sees what the main loudspeakers see.*

*My sub sits between the two main loudspeakers, in spite of bass*

*frequencies having no directionality so some people say! The art involved when setting up a sub is to set it up so it is only heard when called for; this involves the judicious use of the subs gain and roll off controls. When you think that you've found the setting you want, listen to it for at least a week to allow the sound to grow on you; also get a friend in to listen.*

*Now for the list of changes to the loudspeakers, these were suggested by Tannoy.*

*The original cabinets were made from chipboard. Tannoy recommended replacing them with cabinets made from 1in thick veneered medium density fibreboard, taking care to keep the internal volume of cabinet the same. Also to add an internal wooden brace which should be the same measurement as the diameter as the drive unit and positioned centrally, secured to the rear baffle.*

*They also recommended removal of the treble Energy and Roll Off controls, and upgrading the components in the crossover, the crossovers were completely rebuilt by Russ Andrews. They split the crossover so bi-amping could be used.*

*Tannoy also gave me some Van Den Hul cable to replace the internal cable to the drive unit. I made the following changes. Replaced the internal foam cabinet lining with Deflex Panels: this gave life to the overall sound. Added Tannoy ST-50 super-tweeters.*

*Over a period of time I have listened to other loudspeakers at home, but the Chatsworths offered a better connection to the music and still do!*

*If I were Richard, I would contact Tannoy and be guided by them, although Tannoy are now a different company to the one I liased with in the 1980/90s. The HPD drive unit is superb, many enthusiasts preferring it to the legendary Monitor Gold. These websites may be of use:*

*Tannoy Support <https://community.musictribe.com/?careModal=true&brand=tannoy&caseType=General>*



**Mike Bickley's Tannoy Chatsworth loudspeakers. He uses a REL Quake subwoofer with them.**

Lockwood Audio <http://www.lockwoodaudio.co.uk/>

Hans Hiberlink Tannoy Site – a mine of information. <https://www.hilberlink.nl/speaker.htm>

44bx.com more info lots of specs. <http://www.44bx.com/tannoy/>

Russ Andrews <https://www.russandrews.com/>

Regards

**Mike Bickley.**

Hi Mike – and thanks for your insights. Generally a drive unit purposed for a closed cabinet cannot be used effectively in a ported cabinet because the suspension Qts values are different, so I'm a little surprised Tannoy should recommend adding a port in ad-hoc fashion. No wonder you couldn't wait to change back! To re-design the cabinet you would need to find the HPD's Thiele-Small parameters, enter them into a loudspeaker cabinet design programme to plot LF response and see first what you get, then decide afterward what you want. We used to do this by using an over-size cabinet with removable front and rear baffles, reducing volume by inserting bricks. In our case to measure bass response; in your case to listen to the final result. So a lot of faffing around if you wanted to go down this route, but those with a small workshop could enjoy themselves. Falcon Acoustics are always worth speaking to: they may well have useful data and could help, since they know about these things. **NK**



# 2go a go go

To accompany their Hugo 2 DAC, Chord Electronics launch the 2go streamer. Noel Keywood investigates.

**Y**ou've bought a Hugo 2 high technology DAC (£1799) from Chord Electronics, that feeds headphones or a hi-fi. But it needs a digital source. 2go is a new answer from Chord Electronics, price £995. It is a streamer for Hugo 2, one also able to play music from microSD card.

2go turns Hugo into a digital audio player (DAP) of a sort, if not of the portable type we often cover in Hi-Fi World, from FiiO, Astell&Kern et al. Reason being it must have a wi-fi connection to work, where as portable DAPs are self-contained – something that confused me I must admit. 2go will not read the contents of a microSD card without wi-fi.

Because 2go has no screen it relies on control by a mobile phone or tablet. In conjunction with Hugo 2 it is a transportable player for around the home, where it links to phone or tablet through the domestic router. Carry 2go around with Hugo 2 to get music anywhere in the house, over headphones or through the hi-fi.

Why bother to do this when a smaller, cheaper DAP will do? Basically, because 2go neatly links into a Chord Electronics DAC, one that technically out-performs most others (see Measured Performance). It also has a different sound, as I'll explain later.

2go bolts onto Hugo 2 to form a large, solid and heavy (532gm) unit. It won't fit a shirt pocket like my tiny Astell&Kern AK-I20, and I could only just squeeze it into the large leg pocket of my cargo trousers. 2go plus Hugo 2 are tank-like in both dimensions and build quality, but have physical presence like no other.

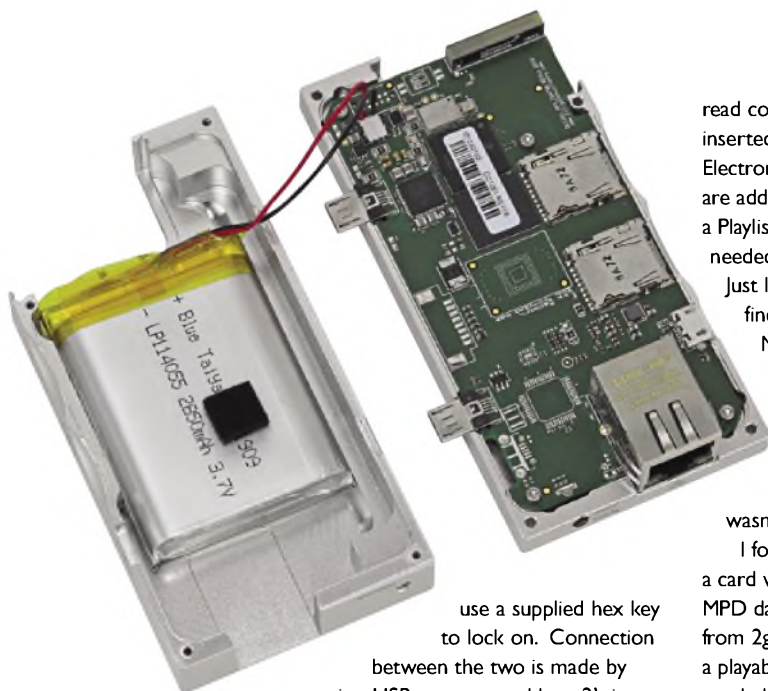
One reason is a prodigious on-board battery power supply with super-capacitors to handle demand peaks.

Chord Electronics warn that ordinary chargers may not do and that's what I found by casually connecting up a weedy 5V USB charger: Hugo's white power LED flashed regularly to warn me this was insufficient. Connecting up their supplied 5V/ 2.1A charger stopped

the flashing and charged the combo in around the 6 hours quoted. The supplied charger carries no identification so it will get lost in the myriads that lie on the floor. A sticker that identifies it would help. The charger can be left connected for mains power.

2go comes as a machined alloy casting, fixing pegs attaching it to Hugo 2. Screw the pegs into the case of Hugo 2, slide 2go onto them and





**The internal battery has a high capacity of 2850mAh. Card slots at right and ethernet socket below.**

use a supplied hex key to lock on. Connection between the two is made by microUSB connectors. Hugo 2's input must be set to see 2go by selecting USB (white light).

2go weighs 155gm and measures 100mm high, 59mm wide and 21mm deep, the combined assembly measuring 100mm high, 181mm wide and 21mm deep. 2go carries a Bluetooth input that works in conjunction with wi-fi (or ethernet) and here is where life gets a little complicated I found.

Chord Electronics say the free-to-download app. Gofigure is used to set up 2go, then any other Control app. able to address "UPnP/DLNA servers etc" is afterwards used to run it. Hmmm... So that's two apps., their often awkward user interfaces, techno lingo and dubious fundamental abilities to cope with.

Gofigure I quite liked, which was a problem. It recognised 2go in easily understood fashion and I got to play radio streams immediately – a promising start. When I elected to play from microSD card however – an available option – it could not



**An ethernet socket for hard wired network connection and green LEDs to signal successful connection.**

read contents of the card I had inserted and asked for a Playlist. Chord Electronics FAQs told me SD cards are addressed by MPD so I assumed a Playlist understood by MPD was needed – but we need not go there.

Just look up MPD on the 'net to find out why. I did in fact get the MPD daemon working on my Mac (Mojave) using command line control (it was like going back to 1983 and my Victor ACT Sirius) but this was a rabbit hole – and Alice wasn't there to help.

I found 2go does indeed scan a card when inserted and load an MPD database text file onto the card from 2go, but it is unable to derive a playable list of content. What is needed, Chord Electronics told me, is an m3u format playlist. So I produced one of these in iTunes and loaded it, but whilst the list header was seen there were no tracks to select.

Chord Electronics then explained that Bluetooth cannot handle large playlists because of its low BLE data rate. Geddit? What I was trying to do was not feasible. So, to conclude, Gofigure cannot be used as a player; it was not designed for that purpose,

in our box-out.

Spec. wise 2go has two microSD card slots, each one able to read a 2TB card, so you get 4TB in all – absolutely massive (4000 GB). This is for DSD files that can come in at hundreds of MBs, so at five per GB you get storage for 20,000 DSD songs. I like microSD cards because they can carry personally compiled dedicated libraries, like all heavy Rock faves, all Reggae faves and so on. Or Piano, to listen to great pianists like Ashkenazy, or the sublime hand of Arkadi Volodos.

From the 'net you get Tidal, Qobuz and Internet radio playback – with Spotify and others in future. 2go is also Roon Ready,

**SOUND QUALITY**

I connected 2go plus Hugo 2 to our Creek Evolution 100A amplifier using Chord Company Epic cables. It fed our Martin Logan ESL-X hybrid electrostatic loudspeakers through Chord Company (no link with Chord Electronics) Signature Reference cables. Music I use for review purposes and know well was sourced from microSD card rather than from files of indeterminate provenance over the 'net.



**2go has two microSD card slots of 2TB read ability each. At left is its microUSB charging socket.**

in spite of having play controls and the apparent ability to address a card file. The contents of a microSD card can only be read via wi-fi and a Control app.

Moving on, I then used Mconnect and 8player apps to run 2go via wi-fi and the former was most stable and consistent. Mconnect did its job well, if tainted by a sombre user interface. So although 2go can in principle play music from a microSD card without wi-fi connection, like a typical portable DAP of the sort we commonly review, it's purposed for use in the home when wi-fi (or ethernet) connected to a router that in turn is wi-fi connected to a phone (or tablet).

For further info see Chord Electronics explanatory e-mail to me

As expected the sound of Hugo 2 set the stage sonically. This is a deeply detailed and fast sounding DAC, quite unlike ESS and AKM alternatives.

Hearing Hugo 2 again after all the ESS and AKM DACs I spend time with was an interesting sonic update to my brain, reminding me just how distinctive it is. Less spacious and fulsome than the aforementioned rivals, it's more like listening to a sonic sledgehammer. Nils Lofgren's Keith Don't Go (CD rip) had his acoustic guitar painted up solid and hard, almost cast in stone: think massive presence. There was also tremendous dynamic power to his frenzied crescendos. With a brighter hue than most DACs, strings cut out of the XStat electrostatic panels at alarming



**CHORD ELECTRONICS SAY -**

"The Gofigure app was developed purely as a configuration app to help setup Poly and 2Go. In particular, it makes the job of connection to your WiFi network easier as you can scan and select the appropriate network.

It is not, however, a music player app and was never designed to be that. Chord always envisaged that its customers would use one of the many MPD/UPnP/DLNA apps/programs that are available (and that they might already be familiar with) to play music to 2go. You can, of course, also use Roon and 2go will be seen as an end point.

However, for convenience, Chord added a very simple playlist function that will look for m3u playlist files on the SD card and play them. It will not display the music contents on the SD card and you are not able to list tracks or albums – only playlists in m3u format will be shown. There is a reason for this: as 2go won't necessarily be connected to a computer network then Gofigure has to use Bluetooth Low Energy (BLE) to make the connection between the app and 2go.

BLE is great for transferring the data needed for the settings and configuration in 2go but it has very limited transfer rates, so using it to show a list of albums or music tracks isn't possible. For instance, to show say, 500 tracks stored on an SD card, would take over an hour to transfer the data to Gofigure so it could be displayed. So we chose to simplify it completely and just allow the display of m3u playlists which will still allow for your music to be played without the huge delay of showing all the tracks or albums on the SD card."

speed, packed with fine detail. In fact, it was all almost too much with the default White filter so I switched to the duller Red filter but somehow wasn't quite happy with losing edge, finally settling on the Orange filter that retained speed whilst reducing sharpness. Giving my eyeballs a rest!

The power of Hugo 2 came over with Safri Duo's Samb Adagio

where synth kick drum had the kick of a mule, all but rocking my head backwards. You get a sense of enormous dynamic power from this DAC, but it isn't romantic, more deeply revealing and rapaciously vivid. A 'take no prisoners' sound for those of strong physiology or sturdy pacemaker.

With a range of high resolution tracks 2go with Hugo 2 delved further into Fleetwood Mac's Go Your Own Way (24/96) than I am used to, magically reducing the confusion that often taints this track. In my head I'm always blaming its dated provenance – 1970s analogue studio recorders and all that, whose heads didn't easily coax high frequencies onto Ampex ferric oxide tape – but 2go with Hugo 2 suggested otherwise, giving a lovely clean punchy sound from what is a classic Rock track.

The ability to seemingly quell

rubbish and noise, as well as lift out instruments and vocalists served to put Renee Fleming in front of me in sturdy form, singing Un bel di vedremo, from Madame Butterfly. Orchestral strings were clear and smooth, with no hint of digital shimmer. Yet there was scale to the performance and visceral push. With classical music I found the sonic qualities of 2go with Hugo 2 lit up performances, giving them vivacity, if not warmth.

**CONCLUSION**

2go in itself was a complex user experience for me. I went down a couple of rabbit holes trying to sort out what was going on. But it worked easily enough in the end, using the Mconnect player. With Gofigure also needed to alter hardware setup, this is not an easy streamer / card player to understand and run. When working however what I heard from 2go and Hugo 2 was a great sound.



**2go (left) plugs into Hugo 2 via two small USB connectors, and is held in place by two pillars (top and bottom).**

**MEASURED PERFORMANCE**

Frequency response with a 192kHz sample rate input reached 43kHz before rolling away to the theoretical upper frequency limit of 96kHz, with either orange or white (shown here) filters. With the red or green filters roll-off was earlier, giving better time-domain damping of impulses, if with slightly curtailed frequency response reaching 21kHz. The roll off is sufficient to give a subtly 'easier' sound.

Fed 44.1kHz sample rate PCM (CD) frequency response ran flat to 21kHz with either orange or white filters or was very slightly softened by the red/green filters, by -1dB at 20kHz.

Dynamic range via both line and headphone outputs measured 124dB with the output level control set to avoid overload (4.7V) – a figure higher than most others in 2017 when we first measured Hugo 2, but now equalled by ESS, AKM and Crystal Semiconductor.

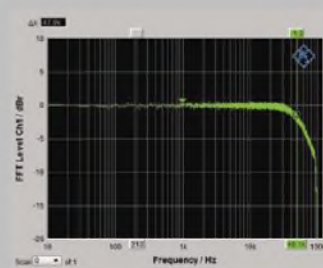
Distortion was negligible at 0.013% with a -60dB, 24bit digital input, as our analysis shows. There are no visible distortion harmonics, even in this high resolution analysis. With CD the figure was 0.2%, limited as always by 16bit quantisation noise.

Output from the headphone and Line outputs measured a very high 4.7V, dynamic range and distortion figures being identical.

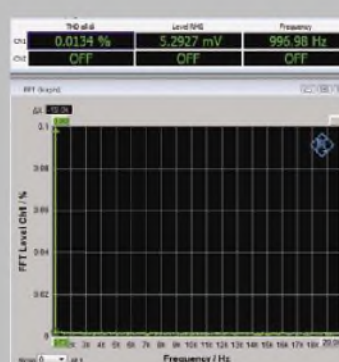
The 2go + Hugo 2 combination produced excellent measured figures in all areas, exceeding most else. Top of the tree transportable streamer/DAC combo. NK

<b>Frequency response (filter white)</b>	<b>4Hz- 43kHz</b>
<b>Distortion (24bit, -60dB)</b>	<b>0.013%</b>
<b>Separation</b>	<b>102dB</b>
<b>Dynamic range</b>	<b>124dB</b>
<b>Noise</b>	<b>-122dB</b>
<b>Output (Line/H'phone)</b>	<b>4.7 / 4.7V</b>

**FREQUENCY RESPONSE**



**DISTORTION**



**CHORD ELECTRONICS 2GO £995.00**



**EXCELLENT - extremely capable**

**VERDICT**

A capable streamer with ability to read microSD cards via wi-fi control. Complex to set up, mainly due to unsatisfactory FAQs and instructions.

**FOR**

- solid build quality
- small size

**AGAINST**

- wi-fi (or ethernet) essential

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# Hugo 2

**2go needs a Hugo 2 DAC from Chord Electronics. We reviewed Hugo 2 in our November 2017 issue. Here is that review, updated.**

**C**hord Electronics Hugo 2 DAC is purposed for a home hi-fi – as an adjunct to a computer, as a hi-res digital preamp with volume control feeding a power amplifier, or perhaps as an upgrade for an ageing CD player with digital output.

Chord Electronics have always made stylistically bold products and

Hugo 2 is all of this. It comes in a bullet proof machined aluminium billet, with contours not found elsewhere – that's why it feels good and looks it too. The Hugo 2 logo and Chord name are deeply engraved in, so no surface graphics that rub off here. The case is bomb proof and beyond easy degradation all round.

Pressing the on-button I was met with a blaze of light! Pull this out

on a bus or train and it will catch attention, since all its many spherical rotary controls light up in different colours. Also, internal sensing logic scans inputs for signal and feeds the data back as a colour light display, both in the spherical buttons and through the central window into an internal light display. Hugo 2 puts up a great multi-coloured and changing display, according to what it is doing







– but you have to read the handbook to interpret!

So Hugo 2 isn't your average dull box, with miserable graphics and low design input. It is audacious in style and its face to the world. It has plenty basic ability too. There are optical and electrical digital S/PDIF inputs, plus a USB input, the only wrinkle being the electrical S/PDIF is through a 3.5mm jack socket

instead of the usual phono socket – and no lead or adaptor is supplied. Also, this is a two channel digital input selected as COAX1 / COAX2 on the remote control and can accept two 384kHz dual-data lines for 768kHz sample rate from

remote control with all functions selectable, including filters and volume. There are four filters, identified as Incisive Neutral – the reference position – and Incisive Neutral with high frequency roll off. Then at a lower multiple of the sampling frequency there's Warm and Warm with roll-off.

The fun volume control, a rolling ball that changes colour with level and remembers its setting at shut down, can also be locked out (fixed output). Volume is adjusted before the output amplifiers and full digital level (0dB) will cause overload if volume is turned right up, an unusual situation. The volume control



**Li-ion rechargeable battery packs at left and right, the volume control sphere at top, and Chord's own DAC on an Artix FPGA.**

button lights up white to warn of this; you can't use full volume with Rock albums compressed up to full level, which most are to sound loud. Because full output is so high, this is very unlikely to happen in real life use, except possibly if running into a preamp with volume turned down, but in this circumstance Hugo 2 should be set to fixed output.

There's a crossfeed (X-PHD) facility to give a more out-of-head loudspeaker listening experience, with four settings: off, light, medium and heavy.

Hugo 2 accepts conventional digital (PCM) up to 768kHz and DSD up to eight times sample rate (DSD512) – ahead of most else.

**For Sound Quality and Measured Performance see 2go review.**



**Illuminated buttons change colour according to setting, whilst the central display changes colour to show sample rate (red for 44.1kHz / CD, for example). It all makes for a great display – but there are lots of colours.**

a suitable source. I used a simple 3.5mm stereo jack-to-phono socket lead to find that on the remote control COAX 1 is left channel and COAX 2 the right channel. The optical input works up to 192kHz measurement confirmed so will work with Astell&Kern players and such like.

Bluetooth with aptX is fitted, allowing wireless connection to a mobile phone or portable player (DAP) similarly equipped.

There are stereo analogue line outputs through the usual phono sockets, and both 3.5mm and 6.3mm (1/4in) jack sockets for headphones.

Hugo 2 comes with a small



**Headphone outputs at left (1/4in and 3.5mm), line outputs to feed an amplifier and electrical and optical digital inputs (S/PDIF).**

# Stream ticket

**The no-frills SMS200 Neo streamer from Korean firm Soul of the Music may be small in size but, as Chris Frankland finds out, it is big on sound quality.**

**T**his is my first review of a product from South Korean manufacturer SOtM, which stands for Soul of the Music. When I asked the importer if this was a deliberate play on words (Seoul and soul), they laughed and rather disappointingly told me they'd never got an answer to that question.

The company certainly makes no bones about sound quality being top priority. It has designed its own dedicated ARM processor board, eliminating what it says are

unnecessary features that degrade the sound.

The SMS200 Neo is indeed minimal. Measuring 48mm high by 106mm wide by 152mm deep, its front panel sports just a logo and two LEDs for power and operational status. The rear panel offers one USB audio output, two USB ports to connect to storage devices, an Ethernet socket and a power supply input. There is also a microSD card in a slot, which contains its operating system. Make sure it's pushed home as it won't work without it.

Having no Bluetooth or wireless, the unit has to be connected to a network – usually your wireless router. To get it to work, you will need a Mac, PC or other connected device. Simply type 'mysotm' into your browser to access the Eunhasu control interface. Once it has found the SMS200, you can choose to control streaming using a variety of DLNA and UPnP protocols, including Squeezelite, Minim, Shairport and Roon. Simply select and activate (play) the one you want. If Eunhasu doesn't display the SMS200 on screen,





just turn it off and on again.

The importer recommends the free app MConnect Lite as a good way to get started. I downloaded it to my phone and, having selected DLNA through Eunhasu, it was then a simple matter of logging in to Tidal. I could then select an album and use the 'Play to' option to select the sMS200, which showed up straightaway.

This may all prove a bit intimidating for the first-timer. The basic user guide lacked detail and the full manual was rather confusing for a beginner. However, importer Elite Audio in Scotland is just a phone call away and they are very helpful.

MConnect Lite allowed me to navigate Tidal with no real problems, so I thought I would check out how easy it was to use Roon on sMS200 Neo.

Roon has gained quite a following and many enjoy how it brings your networked music, streaming and internet radio together while providing album artwork and artist information.

The Neo comes with the code for a 60-day free trial for Roon. You just have to download the Roon Core software it needs to function to any device on your network. Then download the Roon app to your tablet or phone. Go to Eunhasu to activate Roon then to the Audio tab in Roon's settings and add the Neo



**Rear panel is minimalist. A microSD card in a slot (centre, bottom) contains the operating system. Two USBs connect to external disc 'mass storage', whilst a third (bottom left) connects to a DAC.**

main reasons given by SOTM are that a tablet or computer is a very noisy environment with many sources of interference that degrade the sound quality. The SOTM has a dedicated ARM processor board, boasts better quality components, has its own power supply and claims to be better at clocking the signal, resulting in less jitter or phase noise.

So the obvious thing to do was to compare music streams on the Neo to those from my MacBook Pro. And to help with this, I pressed into action the excellent HA500H hybrid valve/solid-state headphone/amp DAC from Korean manufacturer Novafidelity, which is probably best known for its rippers and servers. The HA500H uses ECC82 valves as well as transistor op-amps and the user can choose which they prefer

Neo to the HA500H directly using a high-quality Chord Company USB cable.

I used two pairs of headphones for my listening – Audeze LCD-X and the Focal Clear. Both are excellent – different, it is true, but still both high-quality performers – and these would certainly help show me what the SotM was capable of.

On Tidal, I chose the title track from guitarist Peter White's album 'Groovin'. Immediately noticeable was how much more bite, leading edge detail and dynamics there were on his guitar on the SOTM. Backing vocals were better separated too. By comparison, the MacBook Pro seemed stodgy and robbed the track of its immediacy and rhythmic impetus.

John Mellencamp's Hurts So Good was also a triumph for the Neo. Vocals were more open, articulate and human, while drums were sharper, more incisive and guitar had more presence and inner detail. Again the MacBook Pro seemed to constrict the music, making it slower and less involving.

On a fave album of mine from singer/songwriter Ben Sidran, the sMS200 was sharper, snappier, more dynamic, making his vocals more expressive and intelligible, while piano had more note shape, body resonance and dynamics. We're not talking subtle differences. There was certainly more soul to the music on the Neo.

**CONCLUSION**

The sMS200 Neo may prove tricky for the novice streamer to get their head around, but the improvement in sound quality over using a computer is well worth the asking price. And using Roon, it can also stream MQA hi-res files. It is extremely capable, sounds good and is highly recommended.



**Web-based Eunhasu interface allows you to choose how to access streaming through either Roon or a variety of DLNA and UPnP options, but you'll need an app such as MConnect on your phone or mobile device too.**

as a new device. Roon worked well with the SOTM and of course also allows streaming of music in hi-res MQA format.

**SOUND QUALITY**

So why do you need a separate streamer like the sMS200 Neo? The

– valves for me, please!

It is a great-sounding DAC, which, like the Burson DAC/headphone amp I have reviewed elsewhere in this issue, uses well-respected ESS Sabre32 converter chips, but in this case the 9018K2M as opposed to the Burson's 9038Q2M. I connected the

**SOTM SMS200 NEO £449**

**£**

**EXCELLENT - extremely capable**

**VALUE - keenly priced**

**VERDICT**  
Not for the beginner, but set-up is straightforward enough and sound quality is excellent

**FOR**  
- sound quality  
- Eunhasu web-based control interface easy to use  
- streaming straightforward  
- can play music from network drive

**AGAINST**  
- daunting for the beginner  
- instructions are a bit baffling  
- no interface of its own, so needs an app  
- no wireless

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# Become a Woodentop!

Martin Pipe listens to Audio Technica's Asada Zakura hi-end headphones, boasting exotic wood earcups.





For the best part of a quarter-century, Audio Technica has been selling closed-back dynamic headphones that make use of unusual varieties of Japanese wood in their construction. The first such model was 1996's ATH-W10V7G, key parts of which were made of alpine cherrywood. These natural materials are carefully picked by Audio Technica's acoustic engineers for their excellent tonal properties - their internal structure, for example, is effective at damping unwanted resonances - but they look pretty good too. For similar reasons, you'll also find them in musical instruments like woodwinds and pianos. Hand-made and hand-finished in Tokyo, the 'phones built around them by Audio Technica and form part of a specific Wooden range pitched at the higher end of the market.

Audio Technica's latest models are the £1,700 Kokutan, and the slightly more affordable (£1,300) Asada Zakura that I'll be examining here. These unusual nicknames (model names ATH-AWKT and ATH-AWAS aren't quite as romantic!) come from the specific woods they employ. Kokutan is a distinctive black-brown striped high-density hardwood from the yeddo hawthorn, while asada zakura (also known as ostrya japonica) is a durable hardwood derived from the East Asian hophornbeam tree.

Acoustics apart, one of the selling points is that every pair of Audio Technica's Wooden headphones is as unique as a fingerprint or snowflake, on account of the distinctive patterns of the grain.

But there's more to them than the wood. Audio Technica's proprietary Double Air Damping System (DADS), found in all the firm's closed-back headphones, internally-divides the earcups into two separate acoustic chambers. Doing so, we're told, ensures "smooth bass reproduction".

Joining said cups to the adjustable headband are light but strong magnesium-alloy arms that can be angled to provide optimal ear contact. Also playing a key role in the 395gm Asada Zakura's sonic presentation are 40 Ohm 53mm drivers. Contributing to a sensitivity of 99dB/mV, these "diamond-like carbon-coated" marvels are said to bring to the listening experience "rich overtones, gentle low range, and well-defined middle-to-high frequencies".

The generously-proportioned earpads and headband are covered by a synthetic-leather material for comfort. As one might expect from headphones of this stature, their packaging is suitably luxurious and the natural half-gloss finish of the earcups impeccable.

Audio Technica have also paid attention to the cabling. Two 3 metre sets of high-purity copper cables, which plug into A2DC connectors on the earcup bases, are supplied.

"rich overtones, gentle low range, and well-defined middle-to-high frequencies".

One is terminated in a 6.3mm plug (a cumbersome 3.5mm adaptor, not provided, would be necessary for portables), while the other has a 4-pin XLR plug for headphone amplifiers that make provision for balanced outputs - again, you'll need an adaptor (XLR socket to 2.5mm) for portables with this type of interface. Balanced connections can deliver benefits in terms of dynamic range and channel separation, if implemented correctly. And with headphones like this, the difference should be audible!

## PERFORMANCE

Thanks to the design of their frame and earpads, these 'phones are a good fit and isolate well from external noise. Their half-kilo weight isn't a problem, but over time your ears can get warm on account of the intimacy that aids their performance. I found the sweat that accumulates to be a mild annoyance on occasions. But does the sound compensate for this?

Helping me answer the question was hardware like the FiiO K5 Pro also reviewed this issue, in addition to more familiar headphone DACs like my Chord Hugo TT and Prism Callia. The sources driving these units included a Cambridge CXN (fed with CD and hi-res FLAC material, as well as DSD and 320kbps streams of BBC Radios 3 and 4) and a vinyl playback system comprising a Technics SL1200 Mk3 with Audio Technica AT440MLb MM cart and Pro-Ject Phono Box S2 Ultra. In all cases, I relied on the unbalanced 6.3mm connection.

If you're splashing out more than a grand on a pair of headphones you have every right to expect something

special. The fine detailing and layering are of a very high standard, and it's possible to hear the differences between the three headphone DACs outlined above - the Asada Zakuras played to the strengths of each - for example the Chord's organic flow and the sheer resolving-power of the Callia.

At no time did I detect any fatiguing strain, the tell-tale sign of drive difficulties. In the FiiO review, I noted how good these 'phones

sounded with the Penderecki/Polish NRSO/Gibbons performance of Gorecki's "Sorrowful Symphony" (FLAC CD rip). The strings of the first movement were rich and vibrant - the virtues of Audio Technica's choice of wood, maybe, although Gibbons vocal sounded a tad 'warm' (as did Radio 4 speech).

Emily Palen's solo violin, as heard in the DSD recording Light in the Fracture (DSD64) was imparted with astounding realism and insight, and although imaging isn't quite up to the standards of the world's best headphones - a frequent criticism of closed designs - you're still given a good sense of the performance space. Orchestral composition is also evident, with no 'holes in the middle'.

Electronic (Kraftwerk's Man-Machine, CD rip), dance (a collection of classic '80s house, CD rip) and rock (a CD rip of Steve Hackett's Voyage of the Acolyte, amongst other albums) benefit from the Asada Zakuras' rhythmic snap and punch, tracks being driven along with clarity, verve and pace. The bass synths and/or guitars that you'll usually find in such music were taut and bestowed with the depth they need - no flab here.

## CONCLUSION

These big and beautiful headphones were at home with a wide variety of programme material. Apart from those traces of vocal warmth, the Asada Zakuras are neutral; Audio Technica has, thankfully, restricted sonic character to that unique real-wood finish - no two pairs are the same. They're comfortable, and a good fit, but sweat can be problematic. In all though, an impressive package.

**AUDIO TECHNICA  
ATH-AWAS ASADA  
ZAKURA £1,300**



**OUTSTANDING - amongst the best.**

### VERDICT

Very musical in nature, and with a 'wow' visual factor.

### FOR

- dynamic and responsive across the range
- superb with strings and piano
- a good, comfortable fit

### AGAINST

- traces of warmth
- heavy/sweaty
- not for portable use

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August 2019

## RP-600M

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## NO-NONSENSE GREAT SOUND

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- Bass-Reflex via Rear-Firing Tractrix® port
- Dual binding posts for bi-wire/bi-amp
- Strong, Flexible Removable Magnetic Grill



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# Technics technique

Martin Pipe revisits the Technics SL-P550 CD player, circa 1988.



**B**y the late 1980s the Compact Disc was a mainstream product and destined to become an icon of that decade. No more was CD exclusively for 'millionaires', as I can recall Annie Nightingale describing the pioneering digital format on her student-staple Sunday evening Radio One show. Hell, you could even buy an Amstrad midi-system with a CD player crammed into its garishly-styled enclosure.

More evidence of CD's mainstream acceptance could be witnessed at another '80s phenomenon – the car-boot sale. At such events turntables and entire record collections were changing hands for peanuts, as their owners bowed to consumerist pressure and replaced analogue with digital. What a golden opportunity for those who remained loyal to the unfashionable vinyl cause! Now-valuable LPs, in



*The SL-P550's laser is moved along the rails, and hence to the area of disc corresponding to the track being played, via a linear motor (today's players mount the laser on a toothed rack, driven by a conventional motor, to meet the same objective). The resistive track and wiper arrangement seen here seem to form some kind of feedback mechanism. To ensure reliable operation, it should be kept clean and free of dust.*

mint condition, could be yours for next to nothing. Incredible it may seem now, but the going rate for – say – a Thorens TD160 was £15 or so!

Philips, as Sony’s collaborator in the format’s conception, was by far the biggest non-Japanese source of CD players. At that time, the only British CD players were basically tweaked and re-styled Philips units. Marantz and B&O models were also Philips at heart, but then again Philips had financial stakes in both of these brands at the time.

As regards the mass-market, then, your choice was either a Philips or Philips-derived player, or something from the Land of the Rising Yen. And the industrious Japanese were happy to pander to our every whim; they were responsible for introducing the world’s first in-car and personal CD players. Not much more than half a decade after CD’s launch, most of the bigger brands offered quite extensive ranges of players in their glossy catalogues.

In 1988, for instance, Technics offered no fewer than nine players. They ranged from a budget midi design to the mighty ‘professional’ SL-PI200 top-loader (one of which I spotted, years later, for £25 at a



**A lot going on here, and so it’s not surprising that the SL-P550 sold for £300 – worth nearly a grand today. Lots of components on the circuit board, some of which are surface-mounted chips on the flipside (their outlines have been silk-screened onto the board).**

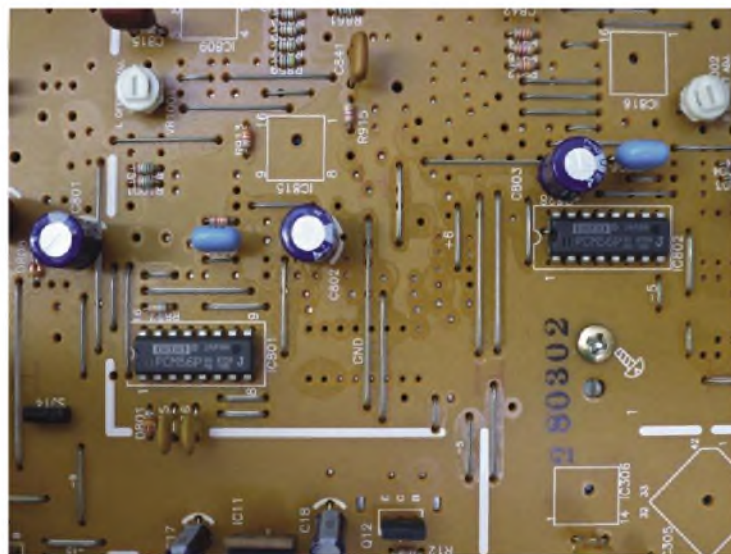
to around £1,000 of today’s cash. Yet its busy bronze-tinged fascia points to the capabilities on offer. Within the grasp of the SL-P550’s owner is a bewildering number of sophisticated track-playback and programming functions, some of which were aimed squarely at those

aiming to record as many tracks built into the SL-P550 the kind of comprehensive front-panel fluorescent display that shames modern CD players. Not only do you get a track number, but there’s also a numerical display for track or disc elapsed/remaining time. The currently-playing track is represented by an icon at the bottom of the display – where there’s a bargraph level-meter that fluctuates in time with the audio content.

Other refinements include infra-red remote control, provision for headphones (with volume control) and – unusually! – an S/PDIF coaxial digital output. Some preamps and integrated amplifiers – mostly from Japanese manufacturers – had compatible DAC sections built in.

Inside the SL-P550, there was a standard of construction that typifies the neatness and professionalism we had come to expect from the era’s mass-market Japanese gear, including use of a conventional transformer-based linear power supply (no switch-mode wall warts back then).

The disc transport is predominantly plastic but despite this is more robustly constructed than modern equivalents. My own SL-P550 is capable of reading CD-R discs, which have a lower reflectivity than mass-produced CDs. A pretty good show, given the SL-P550’s age. No surprise that it won’t, however, recognise the



**To convert digital to analogue, the SL-P550 makes use of two Burr-Brown PCM56P DAC chips seen here – one per channel. These DACs were found in many Japanese players of the era. The circuit board is a low grade compressed cardboard type of the era, that were a miserable brown colour.**

car-boot sale. Like an idiot, I passed it by...).

The player featured here, the SL-P550, sat halfway in this range. It sold for £300, which approximates

onto each side of a cassette tape as possible ('Home Taping is Killing Music' was an industry slogan back then).

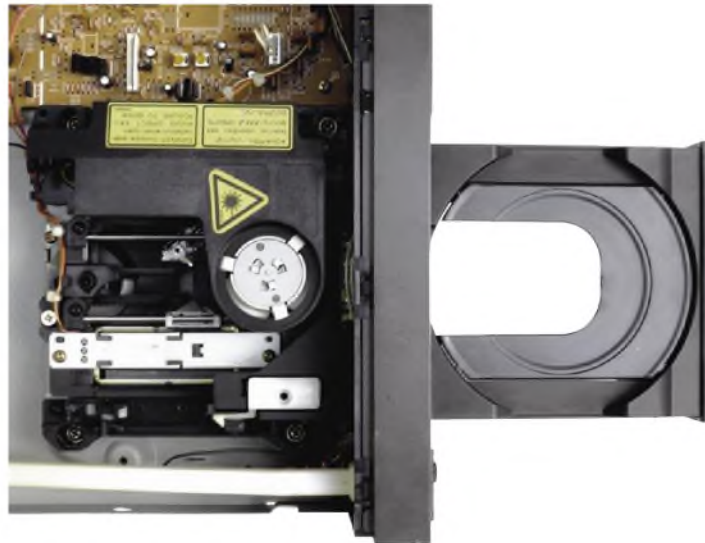
To assist the user, Technics



rewritable CD-RW media that – back in 1988 – would have been a mere pipe dream.

Despite the use of complex application-specific chips – surface-mounted on the underside of the board, and hence not visible in the photos – the SL-P550 still relies on plenty of discrete components to work its magic. Among these are two Burr Brown PCM56P 16-bit audio DAC chips – one for each channel. The ‘monolithic...16-bit current-out’ PCM56P, had a theoretical range of 96dB according to its datasheet, but a practical range of 90dB. More upmarket models, notably those further up the Technics range than the SL-P550, assigned two PCM56Ps per channel in a differential arrangement to reduce noise and distortion.

With a Marantz PM-66SE Ki and a pair of Mordaunt-Short MS3.30 bookshelf speakers, the SL-P550 was, I found, quite laid-back in character (i.e. not aggressive/



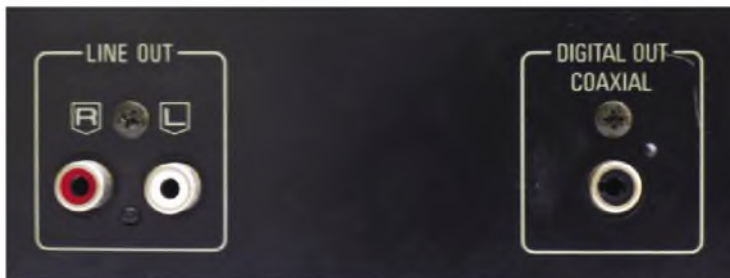
**Plenty of plastic in the transport mechanism - but unlike today's equivalents, construction is not flimsy. The SL-P550 is built to last, as the working state of this specimen demonstrates. Visible here are the guide rails the laser moves along; if a player skips they might need to be cleaned and lightly oiled.**

The SL-P550 is nevertheless an enjoyable listen, and a pretty good transport. Furthermore, it needn't

and lubricating – with a very light oil, of the sort specified for turntable bearings – the guide rails on which the laser moves.

A long fader-like variable resistor running parallel to the rails is coupled to the laser housing, presumably to provide positional feedback. I seized the opportunity to clean its wiper and tracks, whilst the player was still in a dismantled state. After reassembling, all was well and this SL-P550 has behaved itself ever since.

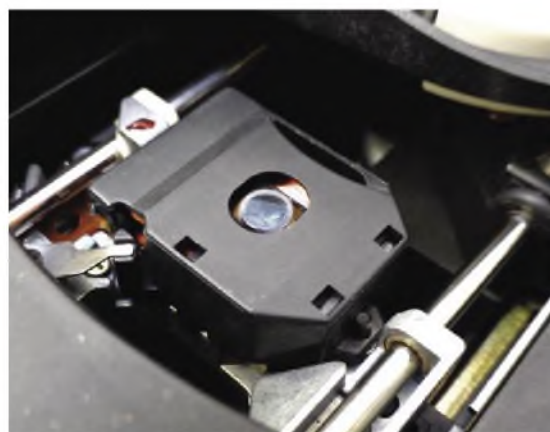
The viability of a CD player of this vintage has to be a personal decision; parts will be almost unavailable nowadays. It's just as well that Technics' all-important laser is evidently built to last – and will outlive that fitted to many a newer disc-spinner.



**As well as the usual unbalanced analogue stereo outputs, the SL-P550 had a coaxial S/PDIF digital output. Unusual for the time, such connectivity is able to future-proof the player. At the time, though, it was intended for the DAT (Digital Audio Tape) decks that were just around the corner, as well as use with amplifiers having inbuilt DACs.**

hard – criticisms frequently made of early consumer digital) but with a solid and well-defined low end. Thirty years on, this modest player continues to communicate key musical details – however, information-retrieval is restricted in comparison to modern players. I connected the SL-P550's analogue and digital outputs to a Fiio K5 DAC/headphone amplifier (as reviewed in this issue), so that an A/B comparison with a more modern DAC could be made through high-grade headphones at the flick of a switch. The improvements wrought by 30 years of progress in technology were obvious in just about every sonic regard.

be expensive. I've seen these players go for well under £100. You might be as lucky as I was, and find a SL-P550 (or another Technics of that range) lurking in a local rubbish skip! My acquisition was presumably thrown away because of its annoying tendency to skip during playback. This was dealt with by cleaning



**A close-up of my SL-P550's laser, which gets full marks for longevity – 32 years is quite an achievement by any standards. It even manages to play 80 minute CD-Rs without problems.**

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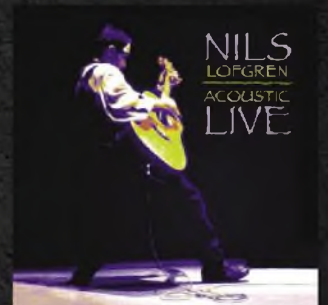
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# No Shock

**Martin Logan's Motion 40i floor standing loudspeaker is smooth and easy, not a shock says Noel Keywood.**

**T**he crowds thronging Martin Logan's demos at the Bristol Show 2020 were keen to hear what an electrostatic loudspeaker offers, but I suspect most will buy a trad. box all the same. Here is one that Martin Logan hope will appeal, bringing listeners into their brand ethos. It is the not-a-shock Motion 40i, price £1995.

Not-a-shock because the Motion 40is are svelte in their sound, approaching the sublime balance of the XStat panel in our Martin Logan ESL-X hybrid electrostatic loudspeakers. A deeply smooth experience. But let me get into finer details of the loudspeaker itself. And also introduce a strange caveat to this review.

Because the "caveat" is major I'll cover it first. Our review sample Motion 40is had, as delivered, their bass and treble sections connected out-of-phase. Measurement picked this up (see Measured Performance). Re-connecting them in-phase gave a flat measured response and one-of-a-piece sound.

I listened to the 40is as delivered (i.e. out-of-phase) and sonically they



had a classic “hole in the middle”. Bass sounded weak and disconnected; the upper mid-band and treble divorced. So this review assumes there is “some sort of mistake here” and that the 40is are meant to be run in-phase, which I did by removing the bi-wire links and using jumper wires to connect positive to negative. With this done they measured properly and sounded correct too.

At time of writing (mid-May 2020) importers PMC and Martin Logan in the U.S. were unable to respond to my enquiries about this,



**The 40i uses aluminium cone bass drive units with a central 'parasitic cone' – in this case a concave cap. It radiates high frequencies. The upper driver has a fixed pole piece cap. of the same shape.**

but at 15th June PMC told me they felt it was likely confined to review samples flown in from the States, suggesting UK mags got out-of-phase 'speakers (!). There wasn't time to provide more detailed info before this issue went to press, but the problem is easily fixable by changing internal connections, something a dealer could do.

The upper section of the Motion 40i contains a 5.5in (140mm) aluminium cone mid-range unit and – above it – ML's Folded Motion tweeter. This operates from 2.6kHz upward, the same range as a standard dome tweeter. Crossover to the lower section is at 500Hz, so the lower two drive units cover an important part of the audio band, not just bass. This extends the vertical image, much like an electrostatic panel. The 40is are not a point source – but more subjectively gripping

because of vertical extent. Think of an aural panorama with height.

The lower bass/mid-range units have slightly larger 6.5in (165mm) aluminium cones loaded by a rear reflex-ported chamber. Cabinet weight is a reasonable 20.4kgs (45lbs) and dimensions just over the current target of 1 metre high, at 1080mm (42.5 in). Width is 192mm and depth 325mm including rear terminals, but 4mm banana plugs will extend this by 10mm or so, especially when using heavy cables, a comment that applies to all loudspeakers.

The cabinet is well made and ours had a deep gloss black finish. Spikes and/or floor buffers screw into the base of the cabinet direct.

## SOUND QUALITY

To drive the Motion 40is I used our Creek Evolution 100A amplifier, connected with Chord Company Signature Reference cables. The bi-wire links were removed and short cable links used to connect bass positive (red) to treble negative (black), and bass negative (black) to treble positive (red), putting the 'speakers into phase.

Sources were an Oppo BDP-205D Universal player to play CD, as well as process hi-res from an Astell&Kern AK-120 portable player connected by optical cable. I also used a MacBook Pro, running on battery for isolation. Connection of the Oppo to the Creek was through Chord Company Epic balanced cables.

Vinyl replay came courtesy of our Timestep Evo modified Technics SL-1210 Mk2 turntable fitted with SME309 arm carrying an Audio Technica VM750 SH (Shibata) moving-magnet cartridge feeding an Icon Audio PS3 Mk2 valve phono stage.

Running through a selection of uncompressed CD tracks with wide dynamic range the Motion 40is were immediately “lovely”. By this I mean smooth sounding and with the sense of a deep, atmospheric sound stage. Quite a dark sound, with chocolatey quality – yet with added bits. Those 'bits' were obvious bass and treble lift, if not at a level I found intrusive; detectable but within acceptability. With Nils Lofgren's Keith Don't Go his vocals were clear and set against a dark background, one from which the audience whooped. Lots of atmosphere and deeply engaging.

The Folded Motion tweeter, a Heil Air Motion Transformer, made obvious contribution. There was a

sharp edge to the close miked strings, making them fast and lacerative. But I didn't wince. There was so much internal detail coming through it was engaging, Martin Logan keeping the tweeter's contribution just in check.

More significant to many listeners I suspect would be the sense of easy heft to the sound. Lofgren's guitar body had presence, weight and power, coming across as generously full bodied.

Firing up our large listening room with the synth drums of Saffri Duo's Samb Adagio showed bass was strong enough to easily fill it. There



**Bi-wire loudspeaker terminals with connecting links, and a port below. In our review samples the links were removed and replaced with heavy wires to reverse phase.**



was tremendous power and slam, and as expected from measurement the 40is were above most else in this area. Quality was superb, but I have to note that this is in a 6550 cu ft industrial space with no dominant resonant modes. It has no influence on loudspeakers under review; we get to hear the 'speaker, not the room. But in real life small-to-medium (up to 17ft long) rooms resonate internally, boosting bass by an effect known as 'room gain'. In such a circumstance bass may become overwhelming; UK designers rarely lift bass in such fashion for just this reason, but Martin Logan are a US company and probably see things differently. The bass bin of their powered hybrid electrostatics similarly produces very strong bass but it can be dialled down. The Motion 40is can be restrained by using a foam bung in the ports. This reduces bass by just the right amount, but such bungs are not supplied. They can easily be cut from a piece of foam, however – better than the trad method of a pair of old socks.

Spinning 2L's LP of Marianne Thorsen paying Mozart violin concertos portrayed her violin work in deep detail and there was good sense of atmosphere in the recorded space, the Trondheim Soloists behind

being faithfully portrayed.

Classical from CD brought out some particular aspects of the 40is. The piano of Arkadi Volodos playing Listz's sublime Vallee d'Obermann was made wonderfully clear but there was a slight hardness of tone from the aluminium midrange unit on crescendos, and Renee Fleming singing Un bel di vedremo from Puccini's Madama Butterfly had similar quality. Apart from this small detail, both performances were wrought large and clear – with engaging atmosphere. I'm getting super-critical here; the 40is deserve a close view. I listen to these performances on Martin Logan's ESL-X hybrid electrostatics and they set an unattainable standard for cone loudspeakers, but the 40is did well for around £1k less.

**CONCLUSION**

A tall three-way floor stander with smooth Air Motion Transformer treble, made prominent. Deep, chocolate smooth sound, big bass



*Martin Logan's folded ribbon tweeter, otherwise known as an Air Motion Transformer, or AMT. They give smooth treble with great internal detail.*

and massive sensitivity, so just a few Watts are needed. A 40 Watt amplifier will be more than enough in most homes, for very high volume. I relaxed with and enjoyed the 40is. Well worth hearing if you want a svelte presentation with big dynamics. Undoubtedly a fine loudspeaker, especially suited to low level listening from just a few Watts.

**MEASURED PERFORMANCE**

Our third-octave, pink noise analysis of frequency response shows an even balance across the audio band with little treble lift, so the Motion 40i will sound smooth and naturally balanced, lacking the forward / bright sound currently popular with designers, to make their 'speakers stand out in a comparative showroom demo.

However, Martin Logan have raised bass by +3dB, quite a large amount, so the 40i will have stronger bass than most. With output down to a low 40Hz, supported by the rear floor port that is tuned to 43Hz (red trace, and dip in impedance trace) there will be plenty of bass rumble. The only drawback here is that placed against a wall in a smallish room bass may well be excessive. Most small floorstanders designed for wall placement roll-off in the bass to compensate for room 'gain' (boom); these do not. Nor are foam port bungs supplied to optionally lower bass, but distributors PMC or dealers may be able to supply. A foam bung reduced low bass by 4dB measurement showed, so is an effective

solution.

Peculiarly for Martin Logan, our loudspeakers came with bass / treble sections incorrectly wired out-of-phase internally. Removing the bi-wire links and using jumpers I got them back into phase for measurement and listening. Our published response shows this, not as delivered.

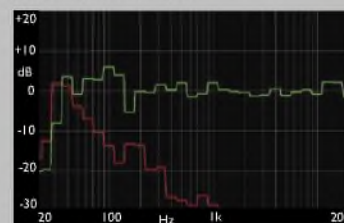
Sensitivity was high for a compact floorstander with small upper cabinet, measuring 90dB for one nominal Watt of input (2.8V). That's very loud. The Motion 40i needs little power and 40 Watts will give high volume in rooms up to 18ft long or so. Few slim floor standers manage the magic 90dB figure as yet, most hovering around 87dB, so the Motion 40i stands out here. However, it is an almost pure 4 Ohm load our impedance analysis shows, so it draws current to achieve this high sensitivity (strong bass also raises measured sensitivity). But modern transistor amplifiers can handle a 4 Ohm load well enough and most valve amplifiers have 4 Ohm taps.

The Motion 40i is well engineered for

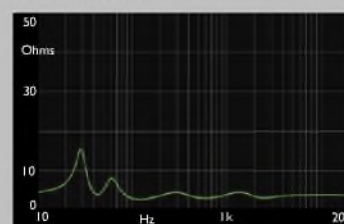
even tonal balance and a smooth sound, albeit one with strong bass; it may invoke boom in some rooms unless the ports are damped with a foam bung. **NK**

**FREQUENCY RESPONSE**

*Green - driver output  
Red - port output*



**IMPEDANCE**



**MARTIN LOGAN  
MOTION 40i £1995**



**OUTSTANDING - amongst the best**

**VERDICT**

Big bass, detailed treble and chocolate smooth.

**FOR**

- clear mid-range
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**AGAINST**

- some mid hardness
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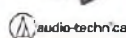
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**ORTOFON CADENZA BRONZE MC** £1,400  
A mid-price MC with a slightly livelier presentation than the super smooth Cadenza Black. High-end sound at midband price – great value.



**ORTOFON CADENZA BLACK MC** £1,800  
Ultra smooth and dimensional moving coil with bass and punch aplenty. Lovely stylus.

**ORTOFON A95 MC** £3,750  
Fast and extremely detailed, this is an MC cartridge that sets standards.

**REGA CARBON MM** £35  
Budget price for a competent cartridge with a fairly unflappable nature. Ideal for beginners.



**GOLDRING 1012GX MM** £250  
A glorious sounding cartridge with solid bass and strong dynamic punch, plus excellent treble from its Fritz Geiger stylus. Fun and affordable.



**SHURE M97XE** £80  
Big warm sound, but great tracking and bullet proof stylus protection from damped guard. A survivor.

**VAN DEN HUL DDT-II SPECIAL MC** £995  
Long-established cartridge from Holland with an open and dynamic sound.

**PHONO PREAMPS**  
**CAMBRIDGE AUDIO 651P** £200  
Clean, concise sound from MM and MC cartridges at a very low price. A real bargain.

**ICON AUDIO PS3 MKII** £2,500  
All valve MM phono stage with MC transformer option, graced by big, spacious and relaxed sound.



**LUXMAN EQ-500 PHONOSTAGE** £4,495  
A fully-equipped phono stage from Japanese manufacturer Luxman that offers comprehensive cartridge matching allied to superb sound.



**LEEMA ACOUSTICS ELEMENTS ULTRA** £1,199  
Smooth and detailed sound with the ability to accommodate most modern cartridges. Exceptional value for money.



**PRO-JECT TUBE BOX DS** £425  
Compact MM and MC phono stage with valve output circuit and a big sound.



**QUAD QC24P** £995  
MM and MC, oodles of gain, a volume control – and valves! Looks superb and sounds even better: smooth, atmospheric and big bass.

**TIMESTEP T-01MC** £995  
New, minimalist phono stage that sonically punches well above its weight.

**PREAMPLIFIERS**  
**ICON AUDIO LA-4 MKIII** £1,400  
Uses early 6SN7 triodes for liquid sound. Has plenty of gain and a remote control into the bargain.



**MF AUDIO CLASSIC SILVER** £4,500  
One of the best preamplifiers we've heard at any price, this transformer-coupled marvel does very little wrong. It's powerful, clean and open, yet delicate. Its sound is unmatched at or near the price.

**MING DA MD7-SE** £1,520  
A valve preamplifier with an open, effortless sound and a big soundstage. It has plenty of gain so will accept any source and drive any power amp. A real beauty.



**INTEGRATED AMPLIFIERS**  
**ARIAND PRO845SE** £1,499  
Pure single-ended valve magic. Low-powered but immediately gorgeous, easy-going yet forcefully dynamic at the same time.



**AUDIO RESEARCH VS160** £3,500  
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**CAMBRIDGE AUDIO AZUR 651A** £350  
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**CREEK EVOLUTION 100A** £1,500  
Superb build and smooth confident sound make this powerful amplifier a benchmark.



**CYRUS 8DAC** £1,400  
Trademark shoebox-sized Cyrus integrated now offering 88Watts per channel, plus DAC. Svelte delivery from a dainty case that fits in anywhere – and isn't Class D!

**EXPOSURE 1010** £495  
Entry-level integrated from Exposure has excellent upper mid-performance with an almost valve-like sound.



**ICON AUDIO STEREO 60 MKIII** £2,800  
Excellent tube integrated with plenty of power and an expansive soundstage, plus KT150 tube option and bias meter for easy adjustment.



**NAIM NAIT 5Si** £925  
Naim's fabled entry-level integrated amplifier is updated to si status. Demos Naim's superbly muscular sound at entry level.

**SUGDEN A21SE** £2,480  
Class A amp with fantastic sound quality producing hard, sculpted images, deep detail and tight bass. Just don't expect disco-like sound levels!



**POWER AMPLIFIERS**

**AUDIO RESEARCH VS175** £7,498  
Powerful, fast valve sound that makes everything else look weak at times. Needs careful matching but well worth the effort.

**AUDIO RESEARCH VS115** £5,000  
Oodles of power with enormous punch. Rafael Todes said it provided "shock and awe" while retaining incredible smoothness and texture.

**ICON AUDIO MB845 MKII** £7,600  
With 120W from big 845 valves right down to low frequencies, this power amplifier has massive dynamics and bass swing, yet is easy on the ear.



**ICON AUDIO MB81PP** £15,000  
Big Russian transmitter valves deliver 200W from these massive monoblock amplifiers. Frightening in every sense.

**MCINTOSH MC-152** £4,995  
Stunningly insightful sound with enormous bass punch from a uniquely designed transistor amp. Amazing audio, a league up, if expensive.



**QUAD ELITE QMP MONOBLOCKS** £2400 PR  
The proverbial iron fist in a velvet glove. Plenty of power but delivered with an assured and confident nature. Smooth on top and easy on the ear but can rock out when needed.

**QUAD II-EIGHTY MONOBLOCKS** £6,000 PR  
Powerful and expansive sound from modern design monoblocks that also look lovely. Superb – used by us as a reference.



**LOUDSPEAKER FLOORSTANDER**

**B&W 803 D3** £12,500  
B&W's updated statement floorstanders deliver depth and definition with breathtaking speed and authority, aided by a diamond coated tweeter. Expensive – but enormously impressive.

**CASTLE AVON V** £1,600  
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**EMINENT TECHNOLOGY LFT-8B** £2,500  
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**FOCAL ARIA 926** £1,400  
Simple, clean, neutral sound – easy going but well engineered and affordable.

**MARTIN LOGAN SUMMIT X** £16,698  
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**QUADRAL DRKAN VIII AKTIVS** £6,200  
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**Q ACOUSTICS 2050i** £480  
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Retro looks but a sound that's hard to match. Spendor's 12" bass unit provides massive low-end grunt with a room-filling sound.

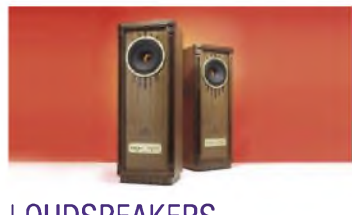


**SPENDOR A3** £1,300  
Fine little floorstander with a smooth, natural midband and even tonal balance. Ideal for smaller rooms.

**TANNOY DEFINITION DC10 Ti** £6,000  
Enormous power with great projection. Glorious subsonics too. Need little power to go very loud and have superb finish into the bargain.



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**LOUDSPEAKERS STANDMOUNT**

**ACOUSTIC ENERGY NEO 1 V2** £225  
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**ELAC BS243** £1,000  
More transparent and spacious than they've a right to be at this price, these refined mid-price standmounters represent top value.



**EMINENT TECHNOLOGY LFT-16A** £1,200  
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**WHARFEDALE DIAMOND 220** £200  
Builds on the success of previous Diamond ranges with better bass, more detail and a greater sense of scale.



**KEF LS50** £800  
Supremely musical mini-monitors which sound much bigger than they look.



**MARTIN LOGAN MOTION 35** £1,300  
Folded Air-Motion tweeter gives a taste of Martin Logan's electrostatic sound in a standmount. Different from the standard mini-monitor and all the better for it.



**PMC TWENTY.21** £1,575  
Transmission line loaded standmount with a big box sound from a compact cabinet. Punches well above its weight.



**Q ACOUSTICS 2020i** £165  
Great little bargain-priced stand-mounts with a friendly, fun yet surprisingly refined sound. Hard to better for a pair of starter loudspeakers

**WHARFEDALE DENTON** £500  
A beguiling mixture of retro looks with modern, high-technology drive units. The Denton has an easy-going, big-hearted sound with a touch of trad warmth that should appeal to many.



## HEADPHONE AMPLIFIERS

**CREEK OBH11** £150  
Designed specifically for low to medium impedance (30 Ohm – 300 Ohm) headphones the little Creek has a marvelously well-judged sound.

**CHORD MOJO** £399  
Class leading portable DAC and headphone amp with ability beyond all else. Big, open spacious sound.



**EPIPHANY EHP-02** £99  
PP3 battery-powered portable gives great sound quality at an almost giveaway price. Happy with the output from an iPod or CD player, the little epiphany is a true bargain.



**ICON AUDIO HP8 MKII** £650  
The HP8 MKII valve-based headphone amplifier brings the spacious sound of valves to headphones. And it matches 'em all.



**FIDELITY AUDIO HPA 100** £350  
Great little headphone amplifier with a lively yet refined and open sound.

**MUSIC FIRST PHONE BOX** £276  
Brings a big stage, plenty of detail and rich, deep colours to the sonic spectrum



**OPPO HA-2** £250  
Remarkable performance and sound from ESS Sabre32 DAC in a slim portable package.



## CD PLAYERS

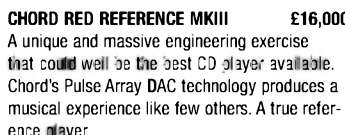
**AUDIOLAB 8200CDQ** £949  
Inspired CD player and DAC with price-performance ratio like no other. Capable of matching designs costing much more.



**CANOR CD2+** £3,100  
Musically coherent and tuneful valve-driven CD player from Slovakia. Lovely liquid sound.



**CAMBRIDGE AUDIO AZUR 651C** £410  
Snappy modern presentation from this budget CD player. Cracking audiophile entry point for any digital fan.



**ESOTERIC K-03** £9,495  
Superb high-end silver disc spinner that is beyond criticism. Devoid of its own character but has a flawless presentation.



**EXPOSURE 101** £395  
Detailed player with fine sense of timing should be an automatic entry on any demo list at this price.

**ELECTROCOMPANET EMP-1/S £4,650**

Epic in scale, lavish in tone and exuberant in its musicality - this is a memorable SACD spinner. Quirky in operation and modest in finish, though.



**OPPO BDP-105D £1200**

Universal player and DAC that makes CD and Blu-ray (+DVD) sound deep, spacious and full bodied. Reference quality that's affordable.



**REGA APOLLO-R £550**

Rega comes up with a fine CD player again. Tremendous detail and an easy, unforced sound at all times. Few bells and whistles but made up for by its superb sonic ability.



**ROKSAN KANDY K2 £900**

A charmingly musical performer at the price - this is a surprisingly sophisticated CD player for the money.

**TUNERS**

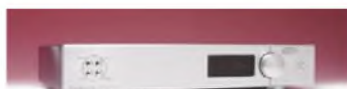
**CAMBRIDGE AUDIO AZUR 651T £299**

Value-packed AM/FM/DAB and DAB+ ready tuner. Precise and detailed with excellent resolution of spoken word.



**CREEK DESTINY 2 £550**

Creek's tuner expertise shines through in the Destiny 2. This AM/FM receiver is wonderfully three-dimensional and smooth.



**MAGNUM DYNALAB MD-90T £1,900**

Exceptionally able, but commensurately priced, audiophile tuner that cannot fail to charm.



**DACS**

**AUDIOLAB M-DAC £600**

Excellent sound from ESS Sabre32 DAC and impressive flexibility with a unique range of filter options make this a stand-out product. Low price is the icing on the cake.



**AUDIOLAB Q-DAC £250**

Stripped-down version of Audiolab's M-DAC loses some features but retains much of the sound, making it a veritable bargain.

**ANTELOPE ZODIAC GOLD/VOLTIKUS £3,095**

DAC/preamp/power supply combination majors on detail but has a remarkable un-digital sound. One of the best at its price.



**CHORD 2QUTE HD £990**

Superb build quality and exceptional sound from this compact unit. Boasts the ability to handle DSD direct via USB and has an exceptional soundstage. One of the best DACs you can buy.



**DCS DEBUSSY £8,000**

DCS's bespoke 'Ring DAC' circuit gives a beautifully-fluid, almost analogue sound that encourages long listening sessions. Not cheap but worth every penny.

**NORTHERN FIDELITY DAC £650**

Packed full of features, including Bluetooth and USB, this ESS Sabre32 equipped DAC offers crisp, insightful sound at low price.



**METRUM OCTAVE £729**

Unique two-box digital-to-analogue converter with great sound at a great price. Cuts upper treble, though.

**NAIM DAC £2,400**

Superb high-end digital converter with a probing, punchy and forensically-detailed sound.



**TEAC UD-501 £699**

Feature-packed DAC with benefit of DSD playback. Superb sound means little to touch it at the price.



**RESONESSENCE INVICTA MIRUS £4,499**

One of the most highly spec'd DACs available, with a smooth yet entrancing presentation. Few approach it.



**NETWORK PLAYERS**

**CHORD DSX100 £7,500**

Chord's proprietary DAC circuit shines in their top-of-the-range streamer. Hear-through clarity with a sound rich in detail, dynamics and soundstage.



**CAMBRIDGE AUDIO NP30 £399**

Budget offering from Cambridge offers a great introduction to network streaming.

**CYRUS STREAM X £1,400**

Gorgeous sound quality even from compressed digital music. New control app makes everyday operation a doddle.



**CONVERT TECHNOLOGIES PLATO £2999.00**

A network player with amplifier that does it all, including turn LP to hi-resolution digital, and add cover artwork from the 'net.



**NAIM NDX £2,995**

Clean, incisive and very detailed sound with Naim's traditional pace and timing make this one of the best network music players around.

**NAIM ND5XS £2,175**

Great sound quality with traditional Naim heft. A wonderful DAC with full 24/192 handling. Only the display could be better.



**NAIM NAC-N172 XS** £1,650

A pre-amp/DAC/streamer package provides a taught, rock-solid presentation with a tonally rich midband and a superior sense of rhythm.



**PRO-JECT STREAM BOX RS** £1,095

Unusual valve-based streamer/preamp with variety of inputs and a lovely liquid sound. Not the most detailed but compensates with sheer musical verve.

**QUAD PLATINUM DMP** £2,500

Combined CD/network player has all the usual Quad elements but with added zest and detail that brings life to everything you care to play.



**DIGITAL SOURCES**

**ASTELL&KERN AK100 MKII** £569

Portable high-definition digital player with superb sound quality. Punchy and fast.



**FiiO X3** £150

Fabulous value player with nice easy sound and full range of abilities. Small and light. For newbies.

**LOTOO PAW GOLD** £1,500

Reference quality sound; it's like carrying your hi-fi in your pocket. Equivalently large too, but stunning headphone quality.



**NAIM HDX** £4,405

Interesting one-box network-enabled hard-disk music system that gives superb sonics together with impressive ease of use.

**NAIM UNITILITE** £1,995

A 50W amplifier with traditional Naim heft, a CD player and vhf/fm radio, plus network input and Bluetooth make this a great all-in-one.



**PORTABLE SPEAKERS**

**BAYAN SOUNDBOOK** £149.99

Superb design and great sound make for one of the best portable Bluetooth speaker/radios on the market. Not the cheapest – but worth every penny.



**IRIVER IBA-50** £69

Big, warm sound with plenty of volume and clean at high levels. Muscular sound compared to many rivals.

**CABLES**

**BLACK RHODIUM TWIST** £71/3M

Twisted to fight off radio frequency, the Black Rhodium speaker cable is easy on the ear with a fine sense of clarity and focus. A remarkable performer at the price.



**MAINS CABLES R US NO.27** £95

Offers a sprightly pace with a precise nature. Fast performance enhance frequencies and beautifully etched detail.



**CHORD SIGNATURE REFERENCE** £900

Majors on timing, detail and openness. Capable of getting the best from most systems and a recommended upgrade.



**TELLURIUM Q BLACK** 280/3M

A deep, dark, velvety performer that's nevertheless highly musical, it represents excellent value as mid-price cables go.

**TELLURIUM Q SILVER DIAMOND** £804/M

An open, natural and transparent sound that is difficult to beat, from these great loudspeaker cables.



**HEADPHONES**

**AUDEZE LCD-3** £1,725

A planar magnetic 'phone that offers monitor quality. Strong sound with silky, dark quality that others struggle to match.



**B&W P3** £170

Beautifully presented headphones from the loudspeaker specialists. Feed them a good quality source signal and they reward with excellent sound.

**JAYS V-JAYS** £49

Wonderful little budget over-ear portable 'phones with a clean, clear sound to beat the best of the rest at the price.



**NOBLE K10 INC. FITTING** £1,279

Custom fit in-ear phones with 10 drivers deliver a sound that is out of this world. Personal and perfect.



**OPPO PM-1** £950

Planar magnetic phones with a warm, easy but big bodied sound that draws you in. Need a lot of drive, but deliver superb bass.



**SENNHEISER HD700** £599

Tremendously fast with a strong, focussed, lower-frequency range and a firm bass punch.



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# Music maestro

**Burson's Conductor 3 Reference headphone amp/DAC uses the mighty ESS9038 chip. But will its interpretation of music satisfy Chris Frankland?**

**S**triking in appearance and boasting some interesting technology, this headphone amp/DAC from Burson of Australia intrigued me from the start. Founded 20 years ago, the company specialises in headphone amp/preamp/DACs. The Conductor 3 Reference is second from top of a range of four that starts with the Conductor 3 Performance at £1,100 and is topped off by the 3X Reference at £2,200.

The Conductor 3 Reference tested here sells for £1,799. Its striking ribbed aluminium case measures just 70mm deep by 250mm wide and 270mm deep and is said

to keep it five times cooler than its predecessor. It has five power lines – two for the analogue channels, one for the display and one each for the Sabre32 ESS9038Q2M DAC and XMOS USB receiver chips.

The 9038 chip is its secret weapon, being widely regarded as one of the finest available. The C3 Reference also features Bluetooth 5 (Qualcomm CSR8675) with aptX HD audio, which Burson says boosts its Bluetooth performance beyond CD quality. It also handles DSD512 (SACD) discs.

Burson is proud of making its own dedicated discrete-component op-amps “designed specifically to

optimise audio performance”, as opposed to using general-purpose IC-based op-amps. In its op-amps, Burson uses close-tolerance, matched metal-film resistors and silver mica capacitors.

The headphone amp has a Class A output stage rated at 7.5W into 16 Ohms, 5W into 32 Ohms and 1.75W into 100 Ohms. The Audeze LCD-X headphones I used for my listening are rated at 20 Ohms.

Using the Conductor 3 Reference was easy thanks to its user-friendly interface and display. A row of buttons underneath the display allow you to select the input, comprising USB, optical and



**Neat remote control, but battery was flat as supplied and replacement CR1220 proved difficult to track down locally.**



coaxial (S/PDIF), Bluetooth, two analogues. Separately, you must select output (headphones, preamp or DAC out) and also adjust the settings for each.

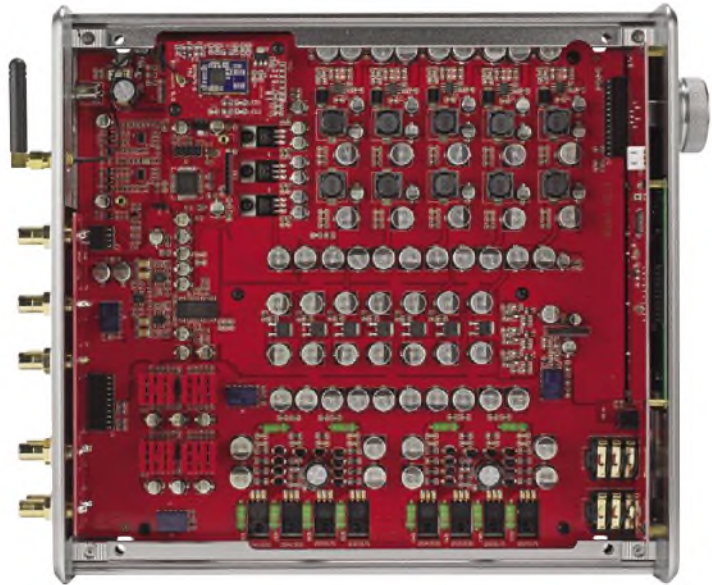
Settings include headphone output, which I found best set to 'Low' with the Audeze LCD-X, plus a set of digital filters and also adjustments of the feedback level in the phase lock loop (DPLL) circuit.

Deep breath! There were three oddities. First

was that the USB input socket was missing. The importer told us that this unit had been damaged in transit and was in their repair pipeline when the lockdown was announced and was sent out without final checks.

Secondly, there is a microphone input but no way to select it. The importer is still trying to get an answer from Burson on this.

And finally, there is a set of op-amps supplied with the unit that the manual suggests can be used to customise its sound, but the importer said they were just "for trouble-



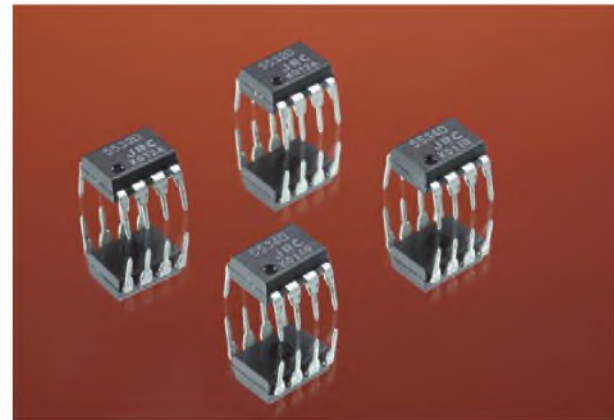
**Burson prides itself on top quality components and build quality.**

shooting purposes".

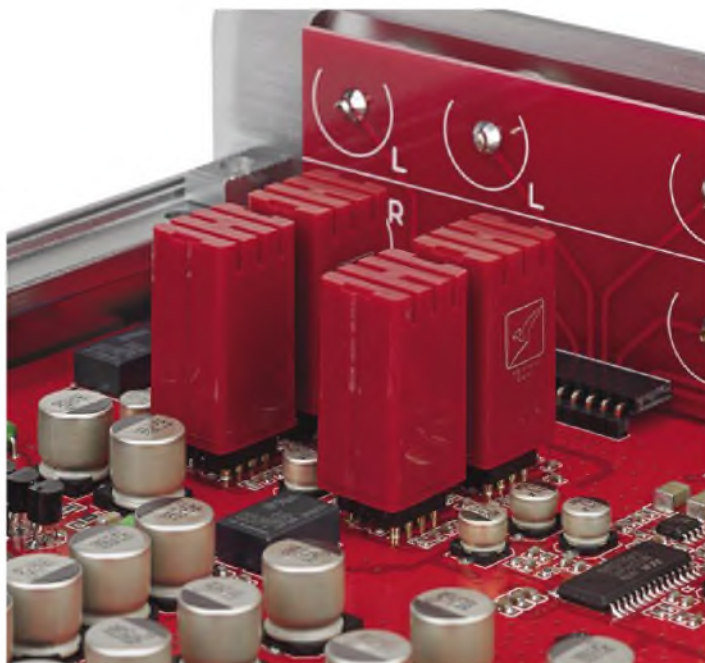
**SOUND QUALITY**

For my listening, I streamed Tidal over Bluetooth and played CDs on my old Arcam FMJ CD17 CD player (a decent middle-ground player in its day).

First impressions were good. Using the CD player into one of the analogue inputs, on a favourite Ben Sidran album the Burson conveyed vocals well



**Set of spare op-amps provided are said to be for 'troubleshooting purposes' only**



**Burson's own V6 Vivid discrete op-amps use 0.5% tolerance TKD metal-film resistors from Japan with two-stage hand-matched FET input and output transistors.**

– open and articulate – while the bass line had good weight, control and impetus. Drums and percussion were very well handled – detailed, crisp and dynamic.

On Bruce Springsteen's Racing in the Streets, his vocal was beautifully conveyed, while piano had good dynamics and body. Bass lines were deep, controlled and tuneful.

But would the Burson's mighty 9038-driven DAC beat the Arcam's? To test this, I first played the George Benson track Never Too Far To Fall through the analogue input, then through the digital input. The improvement was obvious, with bass lines through the Burson DAC tighter and more tuneful and vocals more coherent and intelligible. It all just flowed better.

Victory to the Burson then, thanks to its 9038 chip, despite the surprising omission of a balanced output (you need to step up to the 3X Reference to get that).





**Rear panel carries a Bluetooth aerial and an array of solid, gold plated phono sockets, but lacks a balanced output.**

My listening also showed that the Burson was capable of a fine musical performance using Bluetooth. The sound was excellent and without serious flaws.

But I was also keen to hear what difference some of the filters made. The default FIR Filter is AP Fast. So I compared that with the others. Brickwall and CMFR were my least preferred. The default AP Fast was cleaner and more detailed, but MP Slow was even better, with tighter

fuller bass lines and better dynamics. MP Fast made things sound more congested.

On the DPLL settings for PCM (CD), where High is the suggested default, it was a close-run thing but I personally preferred the Low setting as vocals were cleaner, percussion more detailed, sax more incisive and bass lines tighter and more articulate.

**CONCLUSION**

The Burson Conductor 3 Reference

turned in a fine performance and delivered excellent sound quality for the price. It drove my Audeze headphones effortlessly. It seemed solid and well made and deserves an enthusiastic recommendation. Absence of a USB socket was limited to our review sample and a mic input that could not be selected is unresolved. Hopefully, when we can get feedback from Burson (likely locked down) all will be revealed in a future issue.

**MEASURED PERFORMANCE**

Frequency response of the analogue inputs (R1/R2) to analogue line and headphone output rolled down to -1dB at just 12kHz. This will give an 'easy' sound from the analogue inputs by suppressing upper treble. The Mic input was non-functioning on our sample, unavailable on the input display and unmentioned in the brief user guide.

The analogue preamp had x3.9 (12dB) gain, enough to drive a power amplifier. Gain to the headphones was high at x16; a low 0.1V line input would give 1.6V output into headphones – shatteringly loud; any analogue source will work here. Input overload was 2V; a CD player can be used but those few delivering more than 2V will cause overload on music peaks.

Frequency response of the digital section was more extended. With 192kHz sample rate PCM, output rolled down above 45kHz (-1dB) to the upper theoretical limit of 96kHz. The filters had no affect on this figure and response changes were minimal.

With 24/96 PCM, distortion at -60dB from the two ESS ES9038 DACs (one per channel) measured a very low 0.011%. With CD the result was 0.21% as always, caused by 16bit quantisation noise of CD.

Dynamic range (EIAJ) with 24bit was a massive 126dB, marginally ahead of all rivals except DACs from

Chord Electronics. Internally there are four peculiar plug in output amplifier assemblies in red plastic cases, and a set of four replacement 'cooking' JRC5534 Op Amps for 'development test' are supplied. I suspect the red output V6 Vivid assemblies (see picture) are ultra low noise audio line drivers, since that's the only way to achieve such high dynamic range. The presence of standard 5534s as an alternative (79p apiece) goes unexplained – perhaps backup.

With Bluetooth, dynamic range was 103dB (CD quality) with an iPhone 6S. The Qualcomm CSR8675 Bluetooth 5 receiver can manage better than this with aptX HD, Burson say.

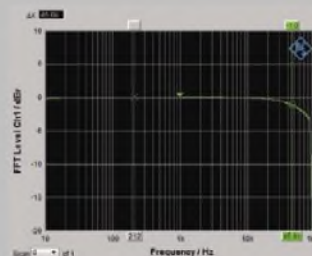
The USB 3 input was physically missing on our review sample, so no figures available here. There are no balanced inputs or outputs, nor a balanced headphone output.

The Conductor 3 is a top performing analogue preamp and DAC, with headphone amplifier, its measured performance being amongst the best. Measurements suggests a very easy going but deep analogue sound. **NK**

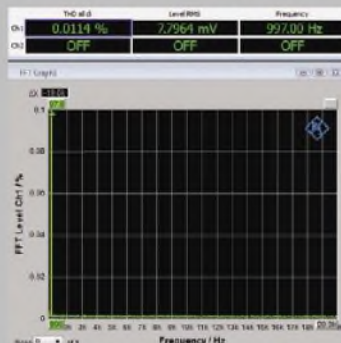
<b>ANALOGUE</b>	
Frequency response)	2Hz-12kHz
Distortion (-60dB, 24bit)	0.01%
Noise (line/h' phone)	-107 / -87dBV
Output (line/h' phone)	7.7V / 13V

Gain	x3.9
Input overload	2V
<b>DIGITAL</b>	
Frequency response (192kHz,-1dB)	4Hz-45kHz
Distortion (-60dB, 24bit)	0.011%
Dynamic Range (EIAJ)	126dB
Output (full scale, max gain)	7.7V

**FREQUENCY RESPONSE**



**DISTORTION**



**BURSON CONDUCTOR 3 REFERENCE**  
£1,799



**EXCELLENT – extremely capable.**

**VERDICT**

Sounded good and was well made. Delivered a high level of performance.

**FOR**

- superb-sounding DAC
- drives headphones effortlessly
- good performance on Bluetooth
- can be used as a preamp

**AGAINST**

- no balanced output
- can't select microphone on input selector

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MATCHBOX

The Albums 1979-82  
7T's

**M**atchbox...and rockabilly? The connection? Why it's the classic Carl Perkins song of the same name.

The band were part of a 'thing'. That was a revival of the rockabilly genre, back in the seventies. Matchbox were one of several bands who appeared on the scene at the time and were also one of the more successful entries. Spanning a healthy 65 tracks, this clamshell box set features four albums.

Matchbox were actually created as a band back in 1971 by two former members of a group known as Contraband: Fred Poke and his brother-in-law Jimmy Redhead. Even more interesting was Poke's old school friend, Steve Bloomfield who was, for some time, a session player for Pye Records. You would have heard him plucking strings on a range of Mungo Jerry hits.

When Redhead left, the band settled down to the vocals of

Wiffie Smith, Rusty Lipton on keys, percussion from Bob Burgos, Bloomfield was still there on guitars with and Poke on bass.

Taken from their Magnet Records catalogue, the albums here include their self-titled debut that reached No.44 in the UK chart, 1980's 'Midnite Dynamos' that included the title track single (No.14 in the UK charts) plus the No.4 hit, 'When You Ask About Love'. There are eight bonus cuts here too.

'Flying Colours' and 1982's 'Crossed Line' completes the box contents. Along with a 20 page booklet. The mastering is a mite compressed with a highlighted midrange but the music is not aggressive.

This is a fun set from a fun group who never took themselves too seriously. In fact, I was surprised to read, in the booklet, the band described as a rockabilly version of Status Quo. Which is revealing and honest!

AUDIOPHILE CD



RENÉ HALL

My Kind of Rocking  
Jasmine

**T**his CD is subtitled 'The unsung rock'n'roll guitarist and arranger 1950-1960'. Not a title that would win any awards in brevity but informative, nevertheless.

René Hall began his trade in jazz circles, working with the likes of Earl Hines, Andy Kirk and Ernie Fields and then leading a sextet and recording for the likes of Decca, RCA and Jubilee.

During the 50s, ever a man who took note of the direction of the cultural wind, he then turned his attention to the emerging rock'n'roll genre that was becoming prominent. He would have an incredibly full career, being a side man on a host of other people's hit records and would eventually produce significant work alongside a wide and varied list of high-profile music stars. That included the likes of Eddie Cochran, Bobby Darin, Sandy Nelson, Sam Cooke, Bobby

Womack, the Impressions and Marvin Gaye. A complete career production would probably span dozens of CDs but this single CD release concentrates on one decade, with the Hall name front and centre on the recordings.

There's a distinct orchestral arrangement to Hall's rock'n'roll, but the man's own guitar style is quite delicious. He offers a natural and expressive technique combined with discipline and precision. He knows what to do, where he's going and how to get there – and he's not afraid to add a bit of dazzle along the way.

Under-rated this man certainly is: all rock'n'roll fans need to get a dose of René Hall and to possibly broaden their rock knowledge they then need to dig around and check out his other work. He offers a mine of quality guitar across music history that needs much more attention. I want to see a full documentary on this guy!



A quartet from London, they were a heavy rock band out of their time. They should have been a NWOBHM outfit but they didn't fit. Too late for glam and too soon for pretty-boy hair metal, the group lost their way in fame terms but did produce some worthy music along the way and did very well in, surprise, Japan.

The band emerged on the scene way back in 1979 and were staffed by Philip Lewis on the microphone with guitarists Phil Collen and Gerry Laffy. Over on bass was Simon Laffy while Dave Gaynor hit things. A lot.

You could see that the band really wanted to be the UK's answer to the New York Dolls (the London Luvvies?) but when a band not only falls between two musical movements but yearns to be part of an outmoded third, you know the entire thing is going to end in tears, right?

The press of the day thought so. They pummelled the poor things who's so-called novelty had worn thin by the time Phil Lewis walked on stage and reached for his microphone.

Mastering here is pretty good. Neutrality is pushed close to the limit but there's enough clarity and space here to open up the soundstage.

The debut isn't here but there is 'Wasted Youth' (1982), 'Killing Time' (1997), plus a host of live tracks here which will be ideal for the fans: 'Live at the Marquee Club, London 1981' (2001), 'Live in Tokyo' (2020), 'Live at the Greyhound 1982' (2013), 'Live at the Birmingham Odeon 1982/Hammersmith Odeon 1982' (2013/14) plus a selection of bonus tracks.

Under-rated, there's plenty to like about *Girl*. If you're into early 80s British rock, check out this box set, you may very well be surprised.



GIRL

Wasted Youth  
HNE

AUDIOPHILE CD

Wow! I could end the review right there, actually. Brief but to the point, you might say. To expand upon the one word statement, what we have here is a clamshell box set packed with 12 CDs featuring familiar stars like Carl Perkins – but it's the lesser names that take the eye such as The Dazzlers, Dick Glasser, Tommy Bell, Narvel Felts, David Starr, Jack Kitchen and many (many) more.

And let's not forget 'Ray' Orbison – ok that's a misprint from the included booklet but it did have me researching my socks off for a moment there.

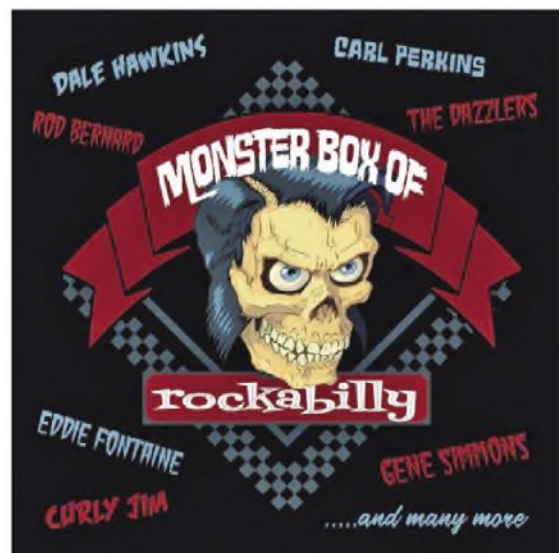
One thing, though, I do wish that Floating World had refrained from trying to list the entire track listing on the rear of this box. The print is so small, you'd need to upgrade the Hubble to see the 315 names penned here. And yes, that's how many songs are

stuffed into this wonderful set. This rockabilly feast is an education, let me tell you.

This is a genre in a box, a cultural event in ones and zeroes, a stupendous collection of often obscure and hard to find notables.

Reporting on the mastering for this one is vaguely redundant. The overall job, from Floating World, has been a good one – let's say – but really, the original source is dominant here in terms of final sound quality. I'm sure that source material has varied too from master tapes to vinyl dubs, depending on the rarity of the material. The range is vast in sonic terms (from superb to poor) but, such is the content, even the poor original masters sound wonderful in atmospheric terms, if nothing else.

A masterly collection and one that all rockabilly, rock'n'roll and general rock fans need in their lives.



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# "I was spotted by the police, interviewed and told to go home"



Noel Keywood

I have some explaining to do about why we missed two issues due to the bug. But as this is a hi-fi magazine – not so good at bugs – I'll also be talking hi-fi later, before you fall off your seat with yet more waffle about viruses!

Why have we missed two issues? Hi-Fi World is based in Notting Hill, London – "virus central" I call it. People living cheek to jowl, packed together like sardines. The bug hit us at Hi-Fi World December 20th, just before Christmas. We worked through it as a 'winter illness' and were fit and well for the Bristol Show, late February. However, others were suffering a similar affliction at the Show, some badly.

As March started it became apparent that our bug was almost certainly Covid-19, symptoms being identical. Until that time I had not made the connection, knowing only that the Wuhan area of China – far, far away – had been closed down for an exotic illness similar to SARS. Unlike SARS though, this one got to London pretty fast, likely by 747.

By the end of March the situation had become so bad in London we had to close our office. I tried to creep in at 6am one April morning, through empty, silent streets, but was spotted by the police, interviewed and told to go home. No chance of even switching on the spectrum analyser!

Explaining why we missed the June and July issues. Our office is an industrial space with a tailored acoustic for loudspeakers and measurement area – not something that could be replicated in our homes. Also, with news (magazine) outlets at stations, airports and the high street closed and manufacturers unable to supply review product, it made no commercial sense to continue. Even though we were

perfectly fit and able to do so.

By the time you read this the lockdown will be a bit of grim history – or so I hope. The economic damage will remain for a long time to come: heaven knows how we will resurrect our transport systems, although I'm fascinated by the New York subway's use of UV light to help disinfect carriages at night (now they are not running 24hrs).

Viruses are relatively fragile outside a host and can be destroyed easily: look up 'Far UV' on Wikipedia, where we are told "very low dose-rate far-UVC light in indoor public locations is a promising, safe and inexpensive tool to reduce the spread of airborne-mediated microbial diseases". Add in upward air extraction and we might just be able to enjoy reasonably sanitised enclosed spaces in future. Fingers crossed for a vaccine.

When people ask me how we are doing in virus central and I tell them "fine – we have had the bug and are still alive" reactions are mixed. Some simply don't believe me and one said my comments were "ignorant". Being my son's mother she often tells me this :-)) but her view changed when her mother suddenly became ill.

Others are equally disbelieving: "it's not here and it won't affect us". Unfortunately, this bug has legs and will arrive in the end, no matter where you live.

Good news is that if you are reasonably fit and healthy it is no big deal. Bad news is that it does affect some people severely, for obscure reasons. Viral load, diet and fitness all matter. A few of my neighbours have had a bad time with it. And there are after-effects with the lungs – as my local gym instructor has explained to me in lurid detail that I won't repeat here. The standard list of symptoms

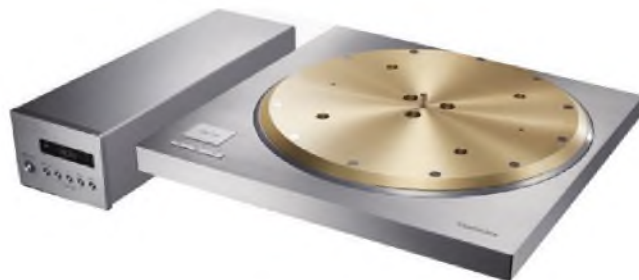
we all read about don't mention this.

But enough of bug talk. The hi-fi industry is reliant on China for parts and products. If China shuts down then it's over. I am told that – contrary to what you might read – much of China, including Shenzhen, just across the border from Hong Kong, has continued working. Shenzhen is China's technology centre and houses at least 12 million people – far larger than London (8 million). Since the Pearl River Delta on which it sits is home to 60 million people (the population of the UK) and most hi-fi/electronics companies are based there, it has industrial momentum beyond our Western conceptions and is unlikely to suddenly grind to a halt. The size of Chinese cities (and their hi-fi shows) is at another level to Europe I've found.

Whilst our supply of electronic goods isn't about to dry up, parts supply has become a bit erratic but has not stopped completely I'm told. However, because China has now closed its borders to outsiders, design engineers overseeing production in China cannot enter – a new wrinkle in the virus tale. One company with a Chinese parent tells me new product development has temporarily ground to a halt. But UK based companies are less affected. So 'who suffers what' is difficult to pin down – like so many things in this weird crisis.

Hopefully, the hi-fi world can return to 'normal' without severe repercussions but I suspect a lot will have to change to slow future viral spreads. There are nastier bugs out there than Covid-19. And whilst it is comforting to know listening to music and all that lies behind it looks assured, not so good to know that thousands have lost their jobs, incomes and ability to look after themselves or their children. ●

# THE VINYL REVOLUTION



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**Hi Fi News said:**

Any great turntable gives you a certain frisson when you hear it. It's that old 'shivers down the spine' feeling, a sense of being let into a world to which you had previously not been privy. This is a remarkable turntable, and arguably the apex of vinyl playback. It's difficult to see how the SP-10R motor unit can be improved upon. It is a definitive statement of engineering prowess, and marks the return of direct drive to the top tier of turntables.

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# "Play your guitar behind your head. Don't do that"



Paul Rigby

Creating a Best Guitarist list for public viewing is asking for trouble but, hey, trouble is my middle name. Well, actually it's Brian but let's not spoil an allegory.

The problem with creating a Best Guitarist list is that you're always going to leave out someone's favourite. So any list you make has to be personal. It has to come from within. It has to feature personal bias. It has to feature emotion. Which is fine because, as I see it, being a great guitarist is all about emotion.

What do I mean by that?

Let me explain by telling you what I don't like to see in a guitarist, any guitarist. If I was talking to a lead guitarist, right now, this is what I would tell him. This what I would warn him against.

1: Don't be a circus performer.

I don't care if you can play your guitar with your teeth. I also don't care if you can play your guitar behind your head. Don't do that.

2: Don't be an egotist

I don't want to see your technique. I don't want you to stand on stage and, for 15 minutes, show me all the tricks of your trade. To me, that's a given. That's why you're standing on stage. That's why I paid for my ticket. I don't need to see the manual. I don't need to see your ego.

3: I'm not 12 years old.

So don't show me 1001 ways in which your guitar can transform itself into a phallic symbol. Don't do it. If you do, I'll whip out my smartphone...and I'll check my emails.

4: Show some respect.

If you're in a band, show some respect to your bandmates. Show

respect to the audience and, above all, above everything else, show respect to the song. Stay with the song. Be at one with the song.

5: You're on stage to do a job, entertain the audience.

You're not there to entertain yourself. If you get bored and you fancy noodling to yourself for half an hour because your hit single has become a pain in the backside, get a job cooking oriental food. Then you can noodle all you want.

So what do I look for in a great guitarist?

1: I want somebody who can tell me a story through their guitar.

I want a narrative. I want someone who can explain the song to me, someone who understands the ebb and flow of the song, someone who understands how emotions work, who can guide me through the song, who can grab my emotions and manipulate them without me realising what's going on, can induce drama, sadness, tragedy, happiness, love and more.

2: I find the best guitarists are song writers themselves.

Even better guitarists understand arrangements. They know how a song goes together. How it is structured. They know where to place emphasis, where to add power, where to leave space and by saying nothing at all. In this way, they can transcend a simple song into something magical. No matter what the musical genre.

3: Often, less is more.

Now sure, I appreciate power and energy but I also appreciate a guitarist who knows when to back off. Who knows when not to saw away at his guitar like a Sunday afternoon DIY enthusiast. Who knows when a simple touch of a guitar string is more important than a power chord. In effect, I admire intelligence in a guitarist.

So here is my Top 10 best guitarists, from 10 to 1. Full of bias, full of personal preference and created as a result of my own tastes. Incidentally, for fun, I checked my list against the Top 100 Best Guitarists as listed by the US-based magazine, 'Rolling Stone'. Only six of my list made it into their list. I was stunned that my missing four couldn't even make their Top 100. But hey, that's what lists are all about.

10: Neil Young - not the best technician but can translate emotion effectively.

9: Brian May - uses a guitar as an orchestral weapon. A 'less is more' advocate.

8: Pete Townshend - an innovator. Knows what to play and when. When to act and not.

7: Frank Zappa - a sonic explorer. Produced complex arrangements of Brian Wilson-like magnitude and integrated guitar into that successfully.

6: Steve Howe - depends on finesse, feel and delicacy rather than power and brute force.

5: David Gilmour - wraps emotions in and around his guitar. A reverb/echo innovator.

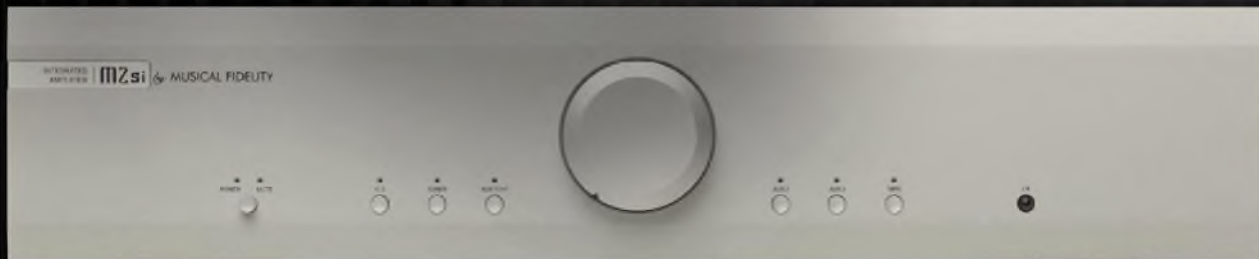
4: Vini Reilly - from The Durutti Column. Guitar picker of consummate skill, of the John Fahey school. Offers a sublime lightness of touch.

3: Robert Fripp - King Crimson leader, creator of ambient guitar works known as Frippertronics. Also created incredible work with Bowie and Eno.

2: Andy Latimer - leader of prog band, Camel. Rhythmic to the point of controlling your emotions.

1: Leo Kottke - Another John Fahey-style finger picker. "If he didn't have ten fingers on each of his five hands, he wouldn't be able to play guitar like that." - John Peel. ●

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# "some local spoilsport complained and the police got involved"



Martin Pipe

**W**elcome back to Hi-Fi World, after our short Covid 19-enforced absence! I hope you "stayed safe", and that everyone you care about is still in good health. Although it seems likely that the worst is behind us, the pandemic will be impacting our lives for months – if not years – to come.

Venues like theatres and concert halls have been forced to shut their doors, with knock-on effects for the musicians and actors who perform there. It's highly unlikely that, as soon the world starts getting back to anywhere close to 'normal' plays and tour dates will be as packed out as they used to be.

Social-distancing will still be essential practice for a long time to come, with all that implies for the financial viability of running such events. Years ago, bands toured to promote albums; until coronavirus wreaked its havoc, it seemed as if bands were instead releasing albums to promote live gigs and festival appearances – which, with the merchandising, tended to be more lucrative than the fruits of their studio activities.

At least partly-responsible for that state of affairs was new technology – the impact of Internet file-sharing and music-streaming services, for example. The other side of this coin are services like Bandcamp, which allow musicians to sell their work directly to the public without a traditional record-company intermediary. Anyone who listens to BBC Introducing... on 6Music knows that the calibre is very high.

It is ironic, then, that technology will almost certainly help to save the day. In the same way that supermarkets and other retailers shifted their emphasis to home-

delivery during the crisis, performing artists could 'beam' their shows directly into our homes. The National Theatre has for a while been running a service called 'NT Live', which televises plays to paying cinemagoers. As the cinemas are closed, the renamed 'National Theatre at Home' has instead chosen to stream plays free of charge (donations are encouraged) via the ever-popular YouTube service. Every Thursday evening, the play is changed.

The music world has also been taking advantage of YouTube, to please fettered fans deprived of gigs. Some are intimate affairs, with the artist performing solo in a spare room – alongside racks of synths, in the case of Orbital's Phil Hartnoll and his "@FAC51 Hacienda House Party".

Classical music's been getting in on the act too. Allegri String Quartet violinist – and no stranger to these pages – Rafael Todes and his family regularly-performed various pieces from their London home. They were trying to spread joy to neighbours, raising money for charity in the process. It would however seem that their efforts, frequently-streamed for everybody to enjoy, weren't always appreciated. According to Private Eye, some local spoilsport complained and the police got involved.

No such risk for musicians instead streaming concerts recorded in the pre-lockdown era. Among these are Metallica, who encourage fans to donate money to the band's "All Within My Hands" charitable foundation. And on three successive Fridays, Morrissey reminded us what an energetic and charismatic live performer he is by sharing three 1990s performances of post-Smiths material. At the moment, they're free – the performers want to raise our spirits in these depressing times,

while reminding us they're still around.

However, YouTube also has a paid 'premium' mode. What's the betting that artists will start using this – or other chargeable streaming services – as an alternative to the crowded venues of the past? Sure, watching/listening at home is a pale substitute for being there 'in the flesh', but – as the National Theatre's efforts have proved – there's clearly a demand for it.

Indeed, some fans might even benefit. How often, for instance, has a band you're following opted to play in towns or cities beyond practical travelling distance? The same theatres, clubs and halls would be used for the performance – and a safe number of fans (possibly picked by some kind of lottery) would be in attendance.

There's no reason why those sharing the experience at home couldn't participate in some way. Crowd-surfing may be out, but 'virtual attendees' could involve themselves using social media and webcams (bands could display some of their input on video screens). Maybe a vote for the encore?

Being stuck at home for longer periods is a golden opportunity to look at other worlds. YouTube has plenty of tutorials on anything from playing acoustic-guitar to knitting. Or what about planning your next career move, or identifying opportunities that could be turned into a business if you fancy 'going it alone'?

And – of course! – there's never been more time to engage with your music collection. I've been digging out LPs I haven't played in years, and digitising almost-forgotten reel-to-reel tapes and cassettes for transfer to my server – which I've had (at last!) a chance to reorganise, so I can locate specific pieces of music with greater speed. ●


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"It isn't in the current thinking of hi-fi even though it looks like it"



Dave Tutt

One of my regular customers brought me a Restek Sixtant 6 channel amplifier this month. It's a rather odd device for hi-fi use, being not much more than 50 Watts per channel yet not an AV lump as it has no decoding or preamp functions at all, just volume controls for each channel. The manufacturer is very much at the higher end of the scale so you would think this monster might have had some interesting core technologies to explore. Seems not though.

Starting with the physical issues: the rear panel had several of its loudspeaker terminals broken off. Not a good start but tells a story of either why it went bang or its subsequent treatment as a scrap item before my customer got it.

Internally, one of the three power amp boards had been disconnected, someone having tried to repair the blown channel and given up. The amplifier circuits are 1980's bi-polar transistor, class AB using standard components so nothing exotic in the construction. Differences only in the general assembly in that each pair of amplifiers has its own power supply arrangement of rectifier and smoothing which I feel is always a plus point.

So other than the power there is nothing very different about this amp. Big issue though is the damage. Of the six outputs only one seemed to be working. With just about every transistor on the other five amps blown to pieces it would have been a very expensive repair. I made some tentative efforts to try to get one of the blown amps working to see if it was going to be sensible, but a full set of new components went bang as soon as I got to about half supply on my variac – so time to call it quits. An easy repair was not going

to be possible.

I didn't find anything specific that would have blown each amplifier again. With everything new it isn't easy to tell if one of the original components wasn't exactly what it looked like! It was very difficult to tell how old this amp was, nor was there a circuit diagram available. It isn't something that has a current equivalent device from any manufacturer that I know of.

The Restek Sixtant isn't in the current thinking of hi-fi even though it looks like it should be, with its six gold channel level controls on the black front panel. We expect something more user friendly and less convoluted from our systems; this one would have needed a separate pre-amp decoder probably a dedicated sub woofer system, and something as a source.

It's not even suitable as a PA amp as it doesn't have any load protection and isn't really powerful enough on a single channel to do a good job in that market. Odd to say the least! It's still sitting here in the workshop allowing me to ponder what I should do with it. Another project if the owner doesn't want it back? Such a big box and a big power supply could be a template for something interesting.

I have a class D module that I have been thinking about connecting up and trying. Rather irritating is the fact that there are three sets of speaker terminals actually on the board which is impossible to mount externally to the box. So a preamp, a digital input DAC of some sort might make an exciting new product and the free subwoofer output might prove useful.

At the same time the Restek was in the workshop I purchased a Pure DRX-701ES DAB tuner that was dead. Now many of the DAB units, be they table radios or hi-fi,

are well beyond repair as the core technology, usually the main IC or the main receiver block, is dead and cannot reasonably be repaired at component level and even at a modular level – it's not cost effective, but I had a feeling about this one.

When you take the lid off of most things your first assessment makes you check the capacitors, especially as I have said before when you have power supplies that are never turned off. But this one looked okay. In the end though I thought, just swap that main smoothing cap and see what happens. Instant fix. I felt like I had won the lottery. You rarely get results like that so quickly and with so little trouble.

Like an idiot I then thought this must be a stock fault so I purchased two more dead ones. Definitely an idiot! The first was opened and I replaced the main smoothing block, plugged in and feeling smug about my apparent clever move I was greeted with ... nothing: still dead. Oh well. So a chase around the power switching circuit that is mostly surface mount and unidentified transistors and other components commenced.

Pure hasn't – as far as I am aware – released a service manual or circuit diagram for general use so it was probing and guessing until I hit the right set of components suitable to replace the dead ones. Getting somewhere, the thing came alive – which was satisfying to say the least. It seemed to work quite well and is sitting in my equipment rack.

The second Pure went through the same process, replacing all the same parts but nothing I have tried so far has tempted it to come out of its stupor. It's gone back on the pile to be fixed again some time soon. I'm still an idiot! ●

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# WORLD CLASSICS

Here is our list of the great and good from audio's glorious past, products that have earned their place in hi-fi history. You'll also see some oddities which aren't classic as such, but are great used buys. The year of introduction is given, alongside the original UK launch price.

## TURNTABLES

**EAT FORTE** 2009 £12,500  
Lavishly finished two box, two motor turntable with gorgeous Ikeda 407 tonearm bundled. Exceptionally stable and unfussy performer with a relaxed but highly enjoyable gait.



**FUNK FIRM VECTOR II** 2009 £860  
Innovative engineering gives a nimble, pacy and musical sound that's one of the best at the price.

**REGA P2** 2008 £300  
Excellent value for money engineering, easy set up and fine sound.

**MCINTOSH MT10** 2008 £8,995  
Big, expensive, controversially styled and glows more than some might consider necessary, but an astonishingly good performer.

**REGA P3-24** 2008 £405  
Seminal affordable audiophile deck with fine bundled tonearm. Tweakable, and really sings with optional £150 outboard power supply.

**ACOUSTIC SOLID ONE** 2007 £4,050  
Huge turntable, both in terms of sheer mass and sonic dynamics. Fit up to three arms and enjoy, just don't damage your back moving it...

**AVID VOLVERE SEQUEL** 2007 £4,600  
Stylish high end vinyl spinner with industrial strength build quality and a sound to match. Sound is edge-of-the-seat stuff.

**MICHELL GYRODEC SE** 2005 £1,115  
Design icon with superlative build. Sound is beautifully smooth, effortless and exceptionally expansive.

**MARANTZ TT-15S1** 2005 £1,299  
Cracking all in one deck/arm/cartridge combination, this must surely be the best sound/plug and play package at this price point.

**MICHELL TECNODEC** 2003 £579  
Superb introduction to Michell turntables - on a budget. Top quality build and elegant design mean it's still the class of the mid-price field.



**MICHELL ORBE** 1995 £2,500  
The top Michell disc spinner remains a superbly capable all rounder with powerful, spacious sound that's delicate and beguiling.

**SME MODEL 10A** 1995 £4,700  
Exquisitely engineered deck and SME V tonearm combo that's an extremely accomplished performer with classical music.

**LINN AXIS** 1987 £253  
Cut-price version of the Sondek with LVX arm. Elegant and decently performing package. Later version with Akito tonearm better.

**ROKSAN XERXES** 1984 £550  
Super tight and clean sound, with excellent transients. Less musical than the Sondek, but more neutral. Sagging plinth top-plates make them a dubious used buy.

**DUAL CS505** 1982 £75  
Simple high quality engineering and a respectable low mass tonearm made for a brilliant budget buy. Polished, smooth and slightly bland sound.

**MICHELL GYRODEC** 1981 £599  
Thanks to its stunning visuals, this bold design wasn't accorded the respect it deserved. Clean, solid and architectural sound.

**TOWNSHEND ROCK** 1979 £ N/A  
Novel machine has extremely clean and fluid sound. Substantially modified through the years, and capable of superb results even today.

**MARANTZ TT1000** 1978 £ N/A  
Beautiful seventies high end belt drive with sweet and clean sound. Rare in Europe, but big in Japan.



**REGA PLANAR 3** 1978 £79  
Brilliantly simple but clean and musical performer, complete with Acos-derived S-shaped tonearm. 1983 saw the arrival of the RB300, which added detail at the expense of warmth. Superb budget buy.

**SONY PS-B80** 1978 £800  
First outing for Sony's impressive Botracer electronic tonearm. Built like a tank with a clean and tidy sound, albeit lacking involvement. Scarily complicated and with no spares support - buy with caution!

**TRIO LD-7D** 1978 £600  
The best 'all-in-one' turntable package ever made. Clean, powerful and three-dimensional sound, ultimately limited by the tonearm.

**ADC ACCUTRAC 4000** 1976 £300  
Bonkers 1970s direct drive that uses an infra red beam to allow track selection and programming. More of a visual and operational delight than a sonic stunner.

**PIONEER PLC-590** 1976 £600  
Sturdy and competent motor unit that performs well with a wide range of tonearms. Check very thoroughly before buying due to electronic complexity and use of some now-obsolete ICs.

**PIONEER PL12D** 1973 £36  
When vinyl was the leading source, this bought new standards of noise performance and stability to the class, plus a low friction S-shaped tonearm. Later PL12D was off the pace compared to rivals.



**TECHNICS SP10** 1973 £400  
Seminal Japanese engineering. Sonics depend on plinths, but a well mounted SP10 will give any modern a hard time, especially in respect of bass power and midband accuracy.

**LINN SONDEK LP12** 1973 £86  
For many, the Brit superdeck; constant mods meant that early ones sound warmer and more lyrical than modern versions. Recent 'SE' mods have brought it into the 21st century, albeit at a price.

**ARISTON RD11S** 1972 £94  
Modern evolution of Thorens' original belt drive paradigm. Scotland's original super-deck was warm and musical, albeit soft. Still capable of fine results today.

**GOLDRING Lenco GL75** 1970 £15.6S  
Simple, well engineered motor unit with soft, sweet sound and reasonable tonearm. Good spares and servicing support even today.

**GARRARD 301/401** 1953 £19  
Tremendously strong and articulate with only a veiled treble to let it down.



**THORENS TD124** 1959 £ N/A  
The template for virtually every 1970s 'superdeck', this iconic design was the only real competition for Garrard's 301 - it was sweeter and more lyrical, yet lighter and less impactful in the bass.



**TONEARMS**

**REGA RB251** 2009 £136  
Capable way past its price point, the new 3-point mount version of the classic RB250 serves up a taut and detailed sound. A little lean for some tastes, but responds well to rewiring and counter-weight modification.

**HELIUS OMEGA** 2008 £1,595  
Stylish and solid lump of arm with fabulous build quality, that turns in a dynamic and weighty performance.

**AUDIO ORIGAMI PU7** 2007 £1,300  
The classic Syrinx PU3 updated to spectacular effect. Hand made to order, with any mass, length and colour you care for. Fit, finish and sound truly impressive.



**GRAHAM PHANTOM** 2006 £3,160  
Sonically stunning arm with magnificent bass dexterity and soundstaging. Build quality up to SME standards, which is really saying something!

**TRI-PLANAR PRECISION** 2006 £3,600  
Immaculate build, exquisite design and one of the most naturally musical and lucid sounds around.

**MICHELL TECNOARM A** 2003 £442  
Clever reworking of the Rega theme, using blasting, drilling and rewiring!

**SME 309** 1989 £767  
Mid-price SME comes complete with cost-cut aluminium armtube and detachable headshell. Tight, neutral sound with good tonality, but lacks the IV's pace and precision.

**NAIM ARO** 1987 £1,425  
Charismatic unipivot is poor at frequency extremes but sublime in the midband; truly emotive and insightful.

**SME SERIES V** 1987 £2,390  
Vice-like bass with incredible weight, ultra clear midband and treble astound, although some don't like its matter of factness!

**NAIM ARO** 1986 £875  
Truly endearing and charismatic performer - wonderfully engaging mid-band makes up for softened frequency extremes



**ALPHASON HR100S** 1981 £150  
First class arm, practically up to present day standards. Buy carefully, though, as there is no service available now. Totally under priced when new, exceptional.

**SME SERIES III** 1979 £113  
Clever variable mass design complete with Titanium Nitride tube tried to be all things to all men, and failed. Charming nonetheless, with a warm and inoffensive sound.

**TECHNICS EPA-501** 1979 £ N/A  
Popular partner for late seventies Technics motor units. Nice build and Titanium Nitride tube can't compensate for middling sound.

**LINN ITTOK LVII** 1978 £253  
Japanese design to Linn specs made for a muscular, rhythmic sound with real dynamics. The final LVIII version worth seeking out.

**AUDIO TECHNICA AT 1120** 1978 £75  
Fine finish can't compensate for this ultra low mass arm's limited sonics - a good starter arm if you've only got a few quid to spend.

**HADCOCK GH228** 1976 £46  
Evergreen unipivot with lovely sweet, fluid sound. Excellent service backup.

**ACOS LUSTRE GST-1** 1975 £46  
The archetypal S-shaped seventies arm; good, propulsive and involving sound in its day, but ragged and undynamic now.

**SME 3009** 1959 £18  
Once state of the art, but long since bettered. Musical enough, but weak at frequency extremes and veiled in the midband. Legendary serviceability and stunning build has made it a cult, used prices unjustifiably high.

**PHONO STAGES**

**CREEK OBH-8 SE** 1996 £180  
Punchy, rhythmic character with oodles of detail makes this a great budget audiophile classic. Partner with a Goldring G1042 for an unbeatable budget combination.

**MICHELL ISO** 1988 £ N/A  
This Tom Evans-designed black box started the trend for high performance offboard phono stages. Charismatic, musical and punchy - if lacking in finesse.



**LINN LINNK** 1984 £149  
Naim-designed MC phono stage built to partner the original Naim NAIT - yes, really! Fine sound, although off the pace these days.

**INTEGRATED AMPLIFIERS**

**NAIM NAIT XS** 2009 £1,250  
With much of the sound of the Supernait at half the price, this is powerful, articulate and smooth beyond class expectations.

**MUSICAL FIDELITY PRIMO** 2009 £7,900  
Seriously expensive, but one listen explains why. Wonderfully exuberant sound that can only come from a top quality tube design.

**SUGDEN A21A S2** 2008 £1,469  
Crystalline clarity, dizzying speed and forensic detailing. Power limited so needs sensitive speakers.

**CREEK OBH-22** 2008 £350  
Brilliant value budget passive, with remote control, mute and input switching, plus an easy, a neutral sound.

**CAMBRIDGE 840A V2** 2007 £750  
Version 2 addresses version 1's weaknesses to turn in a mightily accomplished performance, offering power, finesse and detail.

**SUGDEN IA4** 2007 £3,650  
Goodly amount of Class A power, icy clarity and a breathtakingly fast, musical sound make this one of the very best super-integrateds.

**NUFORCE P-9** 2007 £2,200  
Impressive two box preamp with superb resolution and an engaging sound.

**MELODY PURE BLACK 101D** 2007 £3,295  
The clarity and openness of valves plus firm grip and fine detail make this a preamplifier masterclass.

**AUDIOLAB 8000S** 2006 £400  
In another life, this sold for three times the price, making it a stand-out bargain now. Very clean, powerful and tidy sound.

**MCINTOSH MA6800** 1995 £3735  
Effortlessly sweet, strong and powerful with seminal styling to match.

**DELTEC** 1987 £1900  
Fast, dry and with excellent transients, this first DPA integrated is the real deal for eighties obsessives. Ridiculously punchy 80W per channel from a tiny, half-size box. Radical, cool and more than a little strange.

**EXPOSURE VII/VIII** 1985 £625  
Seminal pre-power, offering most of what Naim amps did with just that little bit extra smoothness. Lean, punchy and musical.



**AUDIOLAB 8000A** 1985 £495  
Smooth integrated with clean MM/MC phono stage and huge feature count. Extremely reliable, too. Post '93 versions a top used buy.

**VTL MINIMAL/50W MONOBLOCK** 1985 £1,300  
Rugged, professional build and finish allied to a lively and punchy sound (albeit with limited power) make them an excellent used buy.

**MUSICAL FIDELITY A1** 1985 £350  
Beguiling Class A integrated with exquisite styling. Questionable reliability.

**MISSION CYRUS 2** 1984 £299  
Classic 1980s minimalism combines arresting styling with clean, open, lively sound. Further upgradeable with PSX power supply.



**NAIM NAIT** 1984 £350  
Superb rhythms and dynamics make it truly musical, but tonally monochromatic. Fine phono stage, very low power.

**CREEK CAS4040** 1983 £150  
More musical than any budget amp before it; CAS4140 loses tone controls, gains grip

**MYST TMA3** 1983 £300  
Madcap eighties minimalism, but a strong and tight performer all the same.

**ROTEL RA-820BX** 1983 £139  
Lively and clean budget integrated that arguably started the move to minimalism.

**NAD 3020** 1979 £69  
Brilliantly smooth, sweet and punchy at the price and even has a better phono stage than you'd expect. The archetypal budget super-amp.

**ROGERS A75** 1978 £220  
Lots of sensible facilities, a goodly power output and nice sound in one box. The later A75II and A100 versions offered improved sonics and were seriously sweet.

**A&R A60** 1977 £115  
Sweet and musical feature-packed integrated; the Audiolab 8000A remains a classic.



**SUGDEN C51/P51** 1976 £130  
Soft sounding early Sugden combo with a plethora of facilities and filters. A sweet and endearing performer but lacking in power and poor load driving ability.

**SUGDEN A21** 1969 £ N/A  
Class A transistor integrated with an eminently likeable smoothness and musicality. Limited inputs via DIN sockets.

**ROGERS CADET III** 1965 £34  
Sweet sounding valve integrated, uses ECL86 output valves, even has a half useable phono stage, sweet, warm a good introduction to valves

**CHAPMAN 305** 1960 £40  
Smooth pre/power combo with a sweet and open sound. Not quite up to Leak/Quad standards but considerably cheaper secondhand.

## POWER AMPLIFIERS

**ELECTROCOMPANET NEMO** 2009 £4,995 (EACH)  
Norwegian power station as cool as a glacier tonally, yet impresses with sheer physicality and fleetness of foot. 600W per channel.

**NUFORCE REFERENCE 9SE V2** 2006 £1,750  
Brilliant value for money monoblocks with massive power and super-clean, three dimensional sound.

**QUAD II-80** 2005 £6,000 PER PAIR  
Quad's best ever power amplifier. Dramatic performer with silky but dark tonality, blistering dynamics, serious power and compellingly musical sound.



**QUAD 909** 2001 £900  
Current-dumper has a smooth and expansive character with enough wallop to drive most loads. Not the most musical, but superb value all the same.

**NAIM NAP 500** 2000 £17,950  
Flagship amplifier will drive just about any speaker with ease. Factor in the company's trademark pace, rhythm and timing and it all adds up to one effortlessly musical package.

**MARANTZ MODEL 9** 1997 £8000  
Authentic reproduction monoblocks still more than cut the sonic mustard. Highly expensive and highly sought after.

**MICHELL ALECTO** 1997 £1989  
Crisp, clean and beautifully controlled with gorgeous styling. Partnered with the £1650 Orca this sounds delicious!



**MUSICAL FIDELITY XA200** 1996 £1000  
200W of sweet smooth transistor stomp in a grooved tube! Under-rated oddity.

**PIONEER M-73** 1988 £1,200  
Monster stomp from this seminal Japanese power amplifier, complete with switchable Class A and Class B operation. Clean, open and assured sounding, albeit a tad behind the pace on high speed dance music. Rosewood side cheeks and black brushed aluminium completes the experience.

**KRELL KMA100 II** 1987 £5,750  
Monoblock version of the giant KSA-100 is one of the seminal 80s transistor power amplifiers. Massive wallop allied to clean and open Class A sound makes this one of the best amplifiers of its type.

**RADFORD STA25 RENAISSANCE** 1986 £977  
This reworking of Radford's original late sixties design was possessed of a wonderfully rich, old school valve sound with enough power (25W) and lots of subtlety.

**QUAD 405** 1978 £115  
The first of the current dumpers is a capable design with smooth, effortless power and a decently musical sound. 606 and 707 continue the theme with greater detail and incision.

**HH ELECTRONICS TPA-500 AMPLIFIERS** 1973 £110  
Simple design with easily available components, solid build quality and fine sound make for a surprisingly overlooked bargain

**LECSON AP1** 1973 £ N/A  
Madcap cylindrical styling alluded to its 'tower of power' pretensions, but it wasn't. Poor build, but decently clean sounding when working.

**QUAD 303** 1968 £55  
Bullet proof build, but woolly sound. Off the pace, but endearing nonetheless. Some pipe smoking slipper wearers swear by them!

**LEAK STEREO 20** 1958 £31  
Excellent workaday classic valve amplifier with decent power and drive. Surprisingly modern sounding if rebuilt sympathetically. Irrepressibly musical and fluid.



**LEAK STEREO 60** 1958 £N/A  
Leak's biggest valve power amp offers 35 Watts per channel and more low end welly than the smaller Stereo 20. Despite concerns over reliability rarity value means high price.

**QUAD II** 1952 £22  
The all-time classic valve amplifier, with a deliciously fluid and lyrical voice. In other respects though, it sounds hopelessly dated. Low power and hard to partner properly



**LEAK POINT ONE, TL10, TL12.1, TL/12 PLUS** 1949 £28  
Early classics that are getting expensive. Overhauling is de rigueur before use, using original parts if possible. Surprisingly crisp and musical. Deeply impressive in fine fettle.

## PRE AMPLIFIERS

**AUDIOLAB 8000C** 1991 £499  
Tonally grey but fine phono input and great facilities make it an excellent general purpose tool.



**CROFT MICRO** 1986 £150  
Budget valve pre-amp with exceptionally transparent performance.

**CONRAD JOHNSON MOTIV MC-8** 1986 £2,500  
Minimalist FET-based preamplifier is brilliantly neutral and smooth with a spry, light balance in the mould of Sugden. Something of a curio, but worthwhile nonetheless.

**AUDIO RESEARCH SP-8** 1982 £1,400  
Beautifully designed and built high end tube pre-amplifier with deliciously sweet and smooth sound. Not the last word in incision or grip.

**LINN LK-1** 1986 £499  
A brave attempt to bring remote controlled user-friendliness to hair-shirt audiophile hi-fi. Didn't quite work, but not bad for under £100.

**NAIM NAC 32.5** 1978 £ N/A  
Classic high end pre. Brilliantly fast and incisive sound that's a joy with vinyl! but a tad forward for digital.

**LECSON AC-1** 1973 £ N/A  
Amazing styling courtesy of Allan Boothroyd can't disguise its rather cloudy sound, but a design classic nonetheless.

**QUAD 33** 1968 £43  
Better than the 22, but Quad's first tranny pre isn't outstanding. Responds well to tweaking/ rebuilding though...



**LEAK POINT ONE STEREO** 1958 £ N/A  
Good for their time, but way off the pace these days. Use of 6F86 pentode valve for high gain rules out ultra performance. Not the highest-fi!

**QUAD 22** 1958 £25  
The partner to the much vaunted Quad II monoblocks - cloudy and vague sound means it's for anacrophiles only.



LOUDSPEAKERS

**WHARFEDALE DIAMOND 10.3** 2010 £290  
Great small standmounters for audiophiles on a budget; dry punchy sound with impressive sound-staging at the price.



**YAMAHA SOAVO 1.1** 2009 £3,000  
Musical, transparent with impressive dynamics and cohesion. Excellent build and finish.

**USHER BE-10** 2009 £10,500  
Clever high end moving coil design with immense speed and dizzying clarity allied to epic punch. Needs the best ancillaries to fly, though...



**SPENDOR A5** 2009 £1,695  
Multi-talented floorstanders with generous scale and punch and Spendor's classic mid-range detail. Deliver a sound that thoroughly engages whatever you care to play.

**MONITOR AUDIO PL100** 2008 £2,300  
The flagship 'Platinum' series standmounter has a lovely warm and delicate sound with superlative treble.



**MARTIN LOGAN SOURCE** 2008 £1,600  
Brilliant entry level electrostatics, giving a taste of loudspeaker esoterica for the price of most moving coil boxes. Tremendous clarity, evenness and delicacy, although not the world's most powerful sound.

**PMC OB11** 2008 £2,950  
Cleverly updated floorstanders give scale and solidity in slim and well finished package.

**ISOPHON GALILEO** 2007 £2,100  
Big standmounters that really grip the music and offer quite startling dynamics and grip.

**ONE THING AUDIO ESL57** 2007 £1,450  
One Thing Audio's modifications keep the good old ESL57 at the very top of the game.

**MOWGAN AUDIO MABON** 2007 £3,995  
Massively capable loudspeakers that offer dynamics, scale and clarity in an elegantly simple package. Wide range of finishes, too.

**B&W 686** 2007 £299  
Baby standmounters offer a sophisticated and mature performance that belies both their dimensions and price tag.

**B&O BEOLAB 9** 2007 £5,000  
Technically impressive and visually striking loudspeakers with sound quality that more than matches their looks.



**ISOPHON CASSIANO** 2007 £12,900  
Drive units featuring exotic materials allied to superlative build quality result in an immensely capable loudspeaker. Not an easy load to drive, however.

**QUAD ESL-2905** 2006 £5,995  
The old 989 with all the bugs taken out, this gives a brilliantly neutral and open sound like only a top electrostatic can; still not a natural rock loudspeaker, though.

**B&W 801D** 2006 £10,500  
In many respects, the ultimate studio monitor; dazzling clarity and speed with commanding scale and dynamics.



**REVOLVER CYGNIS** 2006 £5,999  
Revolver pull out all the stops and show what they can do with this magnificent flagship loudspeaker. A superb monitor that is like a mini B&W 801D in many ways.

**USHER BE-718** 2007 £1,600  
Beryllium tweeters work superbly, allied to a fast and punchy bass driver. The result is subtle, smooth and emotive.

**USHER S-520** 2006 £350  
Astonishingly capable budget standmounters that offer detail and dynamics well beyond their price and dimensions.

**ACOUSTIC ENERGY AE1 CLASSIC** 2006 £845  
Brilliantly successful remake of an iconic design; not flawless, but surely one of the most musical loudspeakers ever made.



**MISSION X-SPACE** 1999 £499  
The first mass production sub and sat system using NXT panels is a sure-fire future classic - not flawless, but a tantalisingly unboxy sound nevertheless!

**MISSION 752** 1995 £495  
Cracking Henry Azima-designed floorstanders combined HDA drive units and metal dome tweeters with surprisingly warm results. Benign load characteristics makes them great for valves.

**TANNOY WESTMINSTER** 1985 £4500  
Folded horn monsters which sound good if you have the space. Not the last word in loudness but can drive large rooms and image like few others.



**CELESTION SL6** 1984 £350  
Smallest two way design complete with aluminium dome tweeter and plastic mid-bass unit set the blueprint for nineteen eighties loudspeakers. Very open and clean sounding, albeit course at high frequencies and limp in the bass. Speakers would never be the same again...

**HEYBROOK HB1** 1982 £130  
Peter Comeau-designed standmounters with an amazingly lyrical yet decently refined sound. Good enough to partner with very high end ancillaries, yet great with budget kit too. A classic.



**QUAD ESL63** 1980 £1200  
An update of the ESL57, with stiffer cabinets. Until the 989, the best of the Quad electrostatics.

**MISSION 770** 1980 £375  
Back in its day, it was an innovative product and one of the first of the polypropylene designs: warm, smooth, clean and powerful sound.

**ACOUSTIC RESEARCH AR18S** 1978 £125  
Yank designed, British built loudspeaker became a budget staple for many rock fans, thanks to the great speed from the paper drivers, although finesse was most definitely not their forte...

**YAMAHA NS1000** 1977 £532  
High tech Beryllium midband and tweeter domes and brutish 12" woofers in massive sealed mirror image cans equals stunning transients, speed and wallop allied to superb transparency and ultra low distortion. Partner carefully!



**JR 149** 1977 £120  
Cylindrical speaker was ignored for decades but now back in fashion! Based on classic KEF T27/B110 combo as seen in the BBC LS3/5a. Doesn't play loud, needs a powerful transistor amplifier, but has clarity and imaging.

**KEF R105** 1977 £785  
Three way Bextrene-based floorstander gave a truly wideband listen and massive (500W) power handling. A very neutral, spacious and polite sounding design, but rhythmically well off the pace.

**IMF TLS80** 1976 £550  
Warm and powerful 1970s behemoth with transmission loading and a mixture of KEF and Celestion drive units. Impressively physical wideband sound but rhythms not a forte.

**SPENDOR BC1** 1976 £240  
 Celestion HF1300 tweeter meets bespoke Spendor Bextrene mid-bass unit. The result is a beautifully warm yet focussed sound. A little bass bloom necessitates careful low-stand mounting.



**HH ELECTRONICS TPA-50D AMPLIFIERS** 1973 £110  
 Simple design with easily available components, solid build quality and fine sound make for a surprisingly overlooked bargain. Not exactly stylish, however.

**BBC LS3/5A** 1972 £88  
 Extremely low colouration design is amazing in some respects – articulation, stage depth, clarity – and useless in others (both frequency extremes). Came in wide variety of guises from various manufacturers building it under licence.

**LEAK SANDWICH** 1961 £39 EACH  
 Warm sounding infinite baffle that, with a reasonably powerful amplifier can sound quite satisfying.

**QUAD ESL57** 1956 £45 EACH  
 Wonderfully open and neutral sound puts box loudspeakers to shame. Properly serviced they give superb midband performance, although frequency extremes less impressive. Ideally, use in stacked pairs or with subwoofers and supertweeters.

**SYSTEMS**  
**MERIDIAN SOOLOOS 2.1** 2010 £6,990  
 Crisp styling, bright, colourful touchscreen, plus excellent search facilities. This is one hard disk music system with a difference. Best partnered to Meridian active loudspeakers.



**NAIM UNITIQUITE** 2010 £995  
 Great little half width one-box system with truly impressive sound allied to a wealth of source options.

**ARCAM SOLO MINI** 2008 £650  
 Half the size and two-thirds the price of a full-sized Solo, the Mini gives very little away in terms of performance to its bigger brother.

**MERIDIAN F80** 2007 £1,500  
 Fantastically built and versatile DVD/CD/DAB/FM/AM unit, designed in conjunction with Ferrari. Ignore nay-sayers who sneer that it isn't a 'proper' hi-fi product. Just listen.

**MARANTZ 'LEGEND'** 2007 £22,000  
 The combination of SA-7S1 disc player, SC-7S2 preamp and MA-9S2 monoblocks delivers jaw-dropping performance.

**SHANLING MC-30** 2007 £650  
 Quite possibly the cutest all-in-one around with fine performance from the CD player, tuner and MP3 player input. Very low power, though.



**AURA NOTE PREMIER** 2007 £1,500  
 Lovely shiny CD/tuner/amplifier with fine sound quality and dynamic abilities.



**ARCAM SOLO NEO** 2006 £1,100  
 Excellent all-in-one system, with a warm, smooth and balanced sound to match the features and style.

**PEACHTREE AUDIO IDECCO** £1,000  
 Excellent sounding iPod dock, impressive DAC and fine amplifier section make this an excellent one box style system.



**TUNERS**  
**ARCAM FMJ T32** 2009 £600  
 Excellent hybrid FM/DAB+ tuner with a smooth, engaging sound. Factor in its fine build and it's a super value package.



**MAGNUM DYNALAB MD-100T** 2006 £1,895  
 One of the best ways to hear FM that we know; superbly open and musical sound in a quirky but characterful package.

**MYRYAD MXT4000** 2005 £1,000  
 Sumptuous sound and top-notch build quality make for a tempting AM/FM package. Warm and richly detailed on good-quality music broadcasts.

**NAIM NAT03** 1993 £595  
 The warm, atmospheric sound is further proof of Naim's proficiency with tuners.

**CREEK CAS3140** 1985 £199  
 Excellent detail, separation and dynamics - brilliantly musical at the price. T40 continued the theme...

**QUAD FM4** 1983 £240  
 Supreme ergonomics allied to a pleasingly lyrical sound with plenty of sweetness and detail made this one of the best tuners around upon its launch.



**NAD 4040** 1979 £79  
 Tremendously smooth and natural sound allied to low prices and good availability make this budget analogue esoterica.

**MARANTZ ST-8** 1978 £353  
 Marantz's finest radio moment. Warm, organic sound plus an oscilloscope for checking the signal strength and multipath.

**YAMAHA CT7000** 1977 £444  
 Combines sleek ergonomics, high sensitivity and an explicit, detailed sound.

**SONY ST-5950** 1977 £222  
 One of the first Dolby FM-equipped tuners, a format that came to nought. Still, it was Sony's most expensive tuner to date, and boasted good sound quality with brilliant ergonomics.



**ROGERS T75** 1977 £125  
 Superb mid-price British audiophile design, complete with understated black fascia. Smooth and sweet with fine dimensionality.

**SANSUI TU-9900** 1976 £300  
 A flagship Japanese tuner. It boasts superlative RF performance and an extremely smooth and lucid sound.



**TECHNICS ST-8080** 1976 £180  
 Superb FM stage makes for a clean and smooth listen.

**REVOX B760** 1975 £520  
 The Revox offers superlative measured performance although the sound isn't quite as staggering as the numbers. Fine nonetheless, and surely the most durable tuner here?



**SEQUERRA MODEL 1** 1973 £1300  
 Possibly the ultimate FM tuner. Massive in terms of technology, size and features dedicated to extracting every ounce of performance from radio, including impressive multi-purpose oscilloscope display.

**LEAK TROUGHLINE** 1956 £25  
 Series I an interesting ornament but limited to 88-100MHz only. II and III are arguably the best-sounding tuners ever. Adaptation for stereo easy via phono multiplex socket. Deliciously lucid with true dimensionality.



## HEADPHONE AMPLIFIERS

**GRAHAM SLEE NOVO** 2009 £255

Dynamic headphone amplifier with a great sense of timing. Crisp, clear treble and warm midrange gives an involving sound.



**MUSICAL FIDELITY X-CAN V8** 2008 £350

Open and explicitly detailed sound plus serious bass wallop. A great partner for most mid-to-high end headphones.

## CD PLAYER/RECORDERS

**MUSICAL FIDELITY TRIVISTA** 2002 £4000

When playing SACDs, the sweetest, most lucid and lyrical digital disc spinner we've heard. Old school stereo, pure DSD design. CD sound is up in the £1000 class, too! Future classic.

**MARANTZ SA-1** 2000 £5,000

The greatest argument for SACD. This sublime Ken Ishiwata design is utterly musically convincing with both CD and SACD, beating most audiophile CD spinners hands down.



**SONY MDS-JE555ES** 2000 £900

The best sounding MD deck ever, thanks to awesome build and heroic ATRAC-DSP Type R coding.

**PIONEER PDR-555RW** 1999 £480

For a moment, this was the CD recorder to have. Clean and detailed.

**MARANTZ DR-17** 1999 £1100

Probably the best sounding CD recorder made; built like a brick with a true audiophile sound and HDCD compatibility



**CAMBRIDGE AUDIO CD4SE** 1998 £200

A touch soft in the treble and tonally light, but outstanding in every other respect.

**SONY TCD-8 DATMAN** 1996 £599

Super clean sound makes this an amazing portable, but fragile.

**LINN KARIK III** 1995 £1775

The final Karik was a gem. Superb transport gives a brilliantly tight, grippy dynamic sound, albeit tonally dry.

**NAIM CDS** 1990 £ N/A

Classic Philips 16x4 chipset with serious attention to power supplies equals grin-inducing sonics.

**TECHNICS SL-P1200** 1987 £800

CD version of the Technics SL-1200 turntable. Massively built to withstand the rigours of 'pr' use and laden with facilities - a great eighties icon.

**SONY CDP-R1/DAS-R1** 1987 £3,000

Sony's first two boxer was right first time. Tonally lean, but probably the most detailed and architectural sounding machine of the eighties.

**MARANTZ CD73** 1983 £700

A riot of gold brushed aluminium and LEDs, this distinctive machine squeezed every last ounce from its 14x4 DAC -super musical



**MERIDIAN 207** 1988 £995

Beautifully-built two-box with pre-amp stage. Very musical although not as refined as modern Bitstream gear. No digital output.

**CAMBRIDGE AUDIO CD1** 1986 £1500

Inspired Stan Curtis redesign of Philips CD104, complete with switchable digital filter. Lean but tight and musical performer.



**MERIDIAN MCD** 1984 £600

The first British 'audiophile' machine was a sweeter, more detailed Philips CD100 14x4 never sounded so good, until the MCD Pro arrived a year later.

**SONY CDP-701ES** 1984 £890

Sony's first bespoke audiophile machine used a 16x2 DAC to provide a clinically incisive sound; supreme build quality allied to the pure unadulterated luxury of a paperbook-sized remote control.

**YAMAHA CD-X1** 1983 £340

Nicely built 16x2 machine with a very sharp and detailed sound; sometimes too much so. Excellent ergonomics, unlike almost every other rival of the time.

**SONY CDP-101** 1982 £800

The first Japanese CD spinner was powerful and involving. Brilliant transport more than compensated for 16x2 DAC, and you even got remote control!



## ANALOGUE RECORDERS

**AIWA XD-009** 1989 £600

Aiwa's Nak beater didn't, but it wasn't half bad nonetheless. Massive spec even included a 16x4 DAC!

**NAKAMICHI CR-7E** 1987 £800

The very best sounding Nakamichi ever - but lacks the visual drama of a Dragon.



**SONY WM-D6C** 1985 £290

Single capstan transport on a par with a Swiss watch, single rec/replay head better than most Naks. Result: sublime.

**PIONEER CTF-950** 1978 £400

Not up to modern standards sonically, but a great symbol of the cassette deck art nonetheless.

**YAMAHA TC-800GL** 1977 £179

Early classic with ski-slope styling. Middling sonics by modern standards, but cool nonetheless!

**SONY TC-377** 1972 £N/A

A competitor to the Akai 4000D open reel machine, the Sony offered better sound quality and is still no slouch by modern standards

**REVOX A77** 1968 £145

The first domestic open reel that the pros used at home. Superbly made, but sonically off the pace these days.

## COMPACT DISC TRANSPORTS

**ESOTERIC P0** 1997 £8,000

The best CD drive bar none. Brilliantly incisive, ridiculously over engineered.

**TEAC VRDS-T1** 1994 £600

Warm and expansive sound made this a mid price hit. Well built, with a slick mech.

**KENWOOD 9010** 1986 £600

The first discrete Jap transport was beautifully done and responds well to re-clocking.

## DACs

**DCS ELGAR** 1997 £8500

Extremely open and natural performer, albeit extremely pricey - superb.

**DPA LITTLE BIT 3** 1996 £299

Rich, clean, rhythmic and punchy sound transforms budget CD players.

**CAMBRIDGE AUDIO DAC MAGIC** 1995 £99

Good value upgrade for budget CD players with extensive facilities and detailed sonics.

**PINK TRIANGLE DACAPD** 1993 £ N/A

Exquisite; the warmest and most lyrical 16bit digital audio we have ever heard.

**QED DIGIT** 1991 £90

Budget bitstream performer with tweaks aplenty. Positron PSU upgrade makes it smooth, but now past it.

## CABLES

**MISSING LINK CRYO REFERENCE 2008**

£495/0.5M

High end' interconnects, with deliciously smooth, open and subtle sound without a hint of edge.

**TECHLINK WIRES XS** 2007 £20

Highly accomplished interconnects at an absurdly low price. Stunning value for money.

**VDH ULTIMATE THE FIRST** 2004 £250

Carbon interconnects that help you forget the electronics and concentrate on the music. Miraculous transparency. Tight and tuneful bass mixed with air and space.



**WIREWORLD OASIS 5** 2003 £99/M

Excellent mid-price design with a very neutral, silky and self-effacing sound. Superb value for money.

**TGI CONSTRICTOR 13A-6 BLOCK** 2003 £120

Top quality 'affordable' mains outlet block with fine build and good sonics. Well worth the extra over standard high street specials, which sound coarse and two-dimensional by comparison.

# vinyl section

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AUGUST 2020

[www.hi-fiworld.co.uk](http://www.hi-fiworld.co.uk)

### NEWS 80

All the latest and greatest vinyl releases for you, from the pen of Paul Rigby.

### VERTERE PHONO-1 PHONOSTAGE 83

An MM/MC phono stage jammed packed with adjustments. Noel Keywood gets adjusting!

### SUMIKO SONGBIRD CARTRIDGE 89

Sumiko's high output moving coil cartridge, designed to match a standard MM input. Noel Keywood spins the vinyl.

### AUDIOPHILE BOOK 93

Paul Rigby reviews Everybody Dance, Chic and the Politics of Disco.

### SPEAKERS CORNER

From the German audiophile outfit ([www.speakerscorner-records.com](http://www.speakerscorner-records.com)) and Charles Mingus, 'Mingus at Antibes' (1976) features seven long tracks over two LPs and includes Eric Dolphy (on a range of instruments including alto and bass clarinet), Ted Curson on trumpet, drummer Dannie Richmond and tenor Booker Ervin. A fine live outing with some top notch performances.



Phineas Newborn Jr 'Here is Phineas' (1958) features one of the lost piano voices of jazz. A coulda-woulda-shoulda-type of musician that positioned his virtuosity in the Oscar Peterson direction, this LP is a testament to his talent.

# news

### GRATEFUL DEAD

'Blues for Allah' (*Mobile Fidelity, www.mofi.com*) is one of their better studio efforts. The single album (1975) has been split over two discs and runs at 45rpm to enhance sound quality. Originally recorded at Bob Weir's Ace Studio and featuring the live staple, Slipknot.



### SIMPLE MINDS

'Street Fighting Years' (Virgin, 1989) was an excellent yet much derided double album when it initially appeared because it focused on social issues of the day.



### TOYAH

A bunch of releases from the new wave pixie from Demon ([www.demonmusicgroup.co.uk](http://www.demonmusicgroup.co.uk))

For 'Minx' (1985), Toyah signed up with Sony. Here, she split from her backing band and ran solo. Packed with originals, two covers include Alice Cooper's 'School's Out' and Rare Bird's 'Sympathy' and pressed on red vinyl, this workable synth pop has its highlights.

'Prostitute' (1988) sees its first reissue on vinyl combining the organic with sampling plus gimmicks such as a locked groove and an appearance by husband, Robert Fripp.

On 'Ophelia's Shadow' (1991), Toyah's favourite from this period, Fripp's guitar is front and centre on the opening title track.

'Take the Leap' (1994) is a double album including six new tracks and reworked older material such as It's a Mystery, Thunder in the Mountains and I Want to be Free.

Finally, presented on a 10", the mini-LP 'Velvet Lined Shell' (2003), its first release on vinyl, features six tracks and an edgy presentation.





## BREATHLESS

'The Glass Bead Game' (*Tenor Vossa; [tenorvossa.co.uk](http://tenorvossa.co.uk)*) is a moody post punk debut from 1986. Any fans of the 4AD outfit, This Mortal Coil should take note that Breathless lead singer, Dominic Appleton, was part of TMC. This one has treated guitars, distorted percussion, coated in reverb and vocals soaked in the same.

## CHIP WICKHAM

Newly released as 'Blue to Red' (*Lovemonk: [www.lovemonk.net](http://www.lovemonk.net)*), his third LP on the Madrid label. Wickham's work is soul inflected. There's a relaxing, easy, sunshine glinting off the wing of a passing swallow-type approach to the music that tells of deep summer.



## MARILLION

Two Parlophone box sets from this neo-prog outfit. 'Afraid of Sunlight' is a five LP box set that expands on the original 1995 album of the same name. Post Fish, this release saw a maturing of the band that was left. A concept prog piece, it examines celebrity culture.

On 'Script for a Jester's Tear', Fish is here on this 1983 debut outing, now expanded to four slabs of vinyl, including the 'Market Square Heroes' EP, previously unreleased live 1982 concert and a top notch, twenty four—page booklet.



## MARTY ROBBINS

Rock'n'Roll'n'Robbins: Marty Robbins Sings (*Bear Family; [www.bear-family.com](http://www.bear-family.com)*) was originally released in 1956. Robbins reportedly disliked rock'n'roll. So what did he do? Well, he released a rock'n'roll mini album/EP didn't he? This is an expanded reissue from the original's six tracks to now ten in total and based on the original Canadian pressing.

## ...AND FINALLY

From Gladys Knight & The Pips comes 'Gold' (Demon), a greatest hits package spanning 10 tracks.

7Ray's 'Jazzy Zeotrope' (Pro-Ject, yes, the hi-fi outfit) is a new jazz rock outing from a completely analogue chain. Music is so-so, production is lovely.

From The White Buffalo, 'On The Widow's Walk' (*Snakefarm; [www.snakefarmrecords.com](http://www.snakefarmrecords.com)*) is a new mixed-tempo release. He has an old voice, straight from Woodstock 1969. Think Cat Stevens. With more beard.

From Dustbowl Revival, their new yet bland 'Is it You, Is it Me' (*[www.dustbowlrevival.com](http://www.dustbowlrevival.com)*). With an up-beat, relatively light delivery and a mobile, orchestral backing, this Los Angeles combo totes a multi-genre presentation.

Young Gun Silver Fox's new release 'Canyons' (*Legere; [www.legere-recordings.com](http://www.legere-recordings.com)*) offers a touch of early-period Billy Joel, late-period Kool & The Gang and a smattering of Jamiroquai and the Doobies; it's a jolly, happy, arms circling, dancing until you're dizzy type of album.

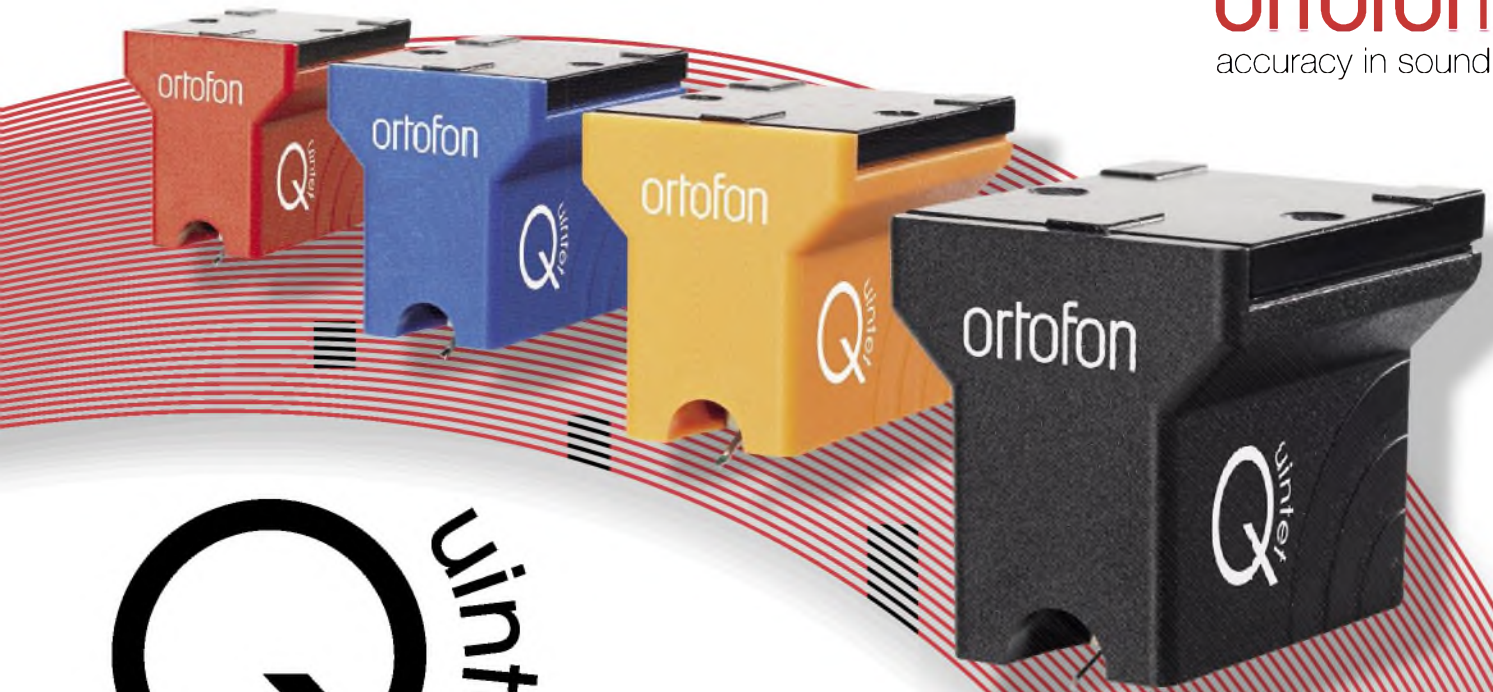
Casual Heaven's new LP, 'Sail by Summer' (*Apollon; [www.apollon-records.no](http://www.apollon-records.no)*), from the Norwegian pairing of William Hut and Jens Kristian, is an electro-pop outing providing pleasantly inoffensive ditties. The Pet Shop Boys on laudanum, in fact.

The Fantasy Orchestra's 'The Bear and Other Stories' (*Disco-ordination; [www.disco-ordination.co.uk](http://www.disco-ordination.co.uk)*), is a community project that features covers via a fascinating harmonic chaos and slightly avant orchestral backing.

For Gus Ring and the new release, 'For Us Lonely Souls' (*[gusring.com](http://gusring.com)*), there are varying shades, all of them dark. A bucket of introspection on Gus Ring's third LP release, melancholia is dominant here.





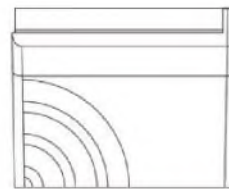
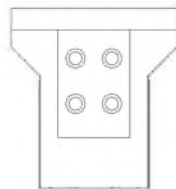
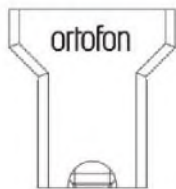


## MODERN CLASSICS

Since 1948 Ortofon have introduced nearly 100 different moving coil pick-up cartridges to the hi-fi market. This proud heritage shines brightly in our Quintet Series.

All Quintet cartridges use the same ABS thermoplastic bodies and neodymium magnets, but each model in the range has its own sonic expression that reflects its status. From the well-rounded **Quintet Red**, through the smooth **Quintet Blue** and spacious yet dynamic **Quintet Bronze**, up to the pure audio excellence of the **Quintet Black S**; this series offers something for every discerning listener at a very attractive price. The Quintet Series also includes a true-mono cartridge, for accurate reproduction of older mono recordings.

Quintet cartridge design



Quintet Black S  
May 2014



Quintet Blue  
December 2014



Quintet Black S  
July 2017



Quintet Blue  
July 2019



# Change Range

Vertere's Phono-1 MkII can be tweaked to suit any cartridge. Noel Keywood makes the changes.

**V**ertere's small Phono-1 MkII pickup cartridge preamplifier can be set to match just about any cartridge out there, with lots of fine settings to delight enthusiasts. Priced at £1000 it isn't cheap – and there are no end of alternatives, so let me run you through what it offers at the price.

Designed to suit both moving magnet (MM) and moving coil (MC) cartridges this little unit has a wide gain range, running up to 61.4dB for low output MC cartridges. That's not quite as much as some, that reach to 70dB for ultra low output MCs, but good enough for all MMs and most MCs ... more detail later.

There is one pair of RCA phono input sockets and one pair of RCA phono output sockets, the unit being set by numerous underside DIP switches to suit whatever cartridge is being used. This doesn't make for quick and easy change from MM to MC, for example, for those who may have a turntable with interchangeable headshells – budget MM for the 'family' and swish MC

for dad perhaps.

There's no balanced output to maintain quality in a long line to an amplifier with balanced inputs, and (rarer) no balanced input either. Nor a volume control so it can feed a power amplifier direct; the Phono-1 MkII is as simple as it gets.

The case is light (1.25kg) and reasonably compact, measuring 210mm wide (8.25in), 235mm deep and 44mm high. It won't squeeze in beside a turntable in a 19in rack like a Creek OBH-1 for example, reason being it has an on-board linear mains power supply that takes up space, where most others these days rely on external switch-mode supplies that sit aloof and feed in d.c. power via a thin twin-core flex. The Vertere needs a mains cable with IEC connector. But it is neat looking, unobtrusive and certainly easy to use once set up.

The lines of DIP switches (tiny slide switches) on the underside take a little studying. There are two – one per channel – for setting input impedance, likely achieved by shunting the input with resistors

and capacitors, which is common practice. Then there is a third bank (of 8 slide switches) to set gain of each channel, with four slide switches per channel. This gives, by its nature, 16 possibilities per channel of which 12 are quoted, ranging from 45.4dB up to 61.4dB.

There are rules of thumb for cartridges, target gain for MM being  $\times 100$  (40dB), target gain for MC  $\times 1000$  (60dB), so a gain range of 40dB-60dB or thereabouts is to be expected and, indeed, measurement showed the Phono-1 MkII offers 37dB-61.4dB. The 45.4dB figure is incorrect, in handbook and on base plate.

It doesn't much matter: the real gain range on offer is more as expected than that quoted. Minimum gain of 45.4dB ( $\times 186$ ) – high for MM – would give a low-ish input overload value of 54mV. In fact, when set to 45.4dB the actual gain is 37dB ( $\times 69$ ) and input overload therefore a high 144mV, figures borne out by measurement. So Vertere are doing themselves a disservice with this little blooper.





"Tellurium Q's Ultra Black II's can be seen as one of the best loudspeaker cables on the market at their price"

**-John Moyles, HiFi World**

"The differences were stunning.....What I can state is that the Ultra Black II cables are currently the best I have heard in my system"

**-Ian Ringstead, HiFi Pig**

"Tellurium Q Ultra Black II is a remarkably coherent and "well-timed" cable"

**-Jason Kennedy, HiFi Plus**

"I have yet to hear a speaker cable which delivers timing like this one"

**-Chris Kelly, The Ear**

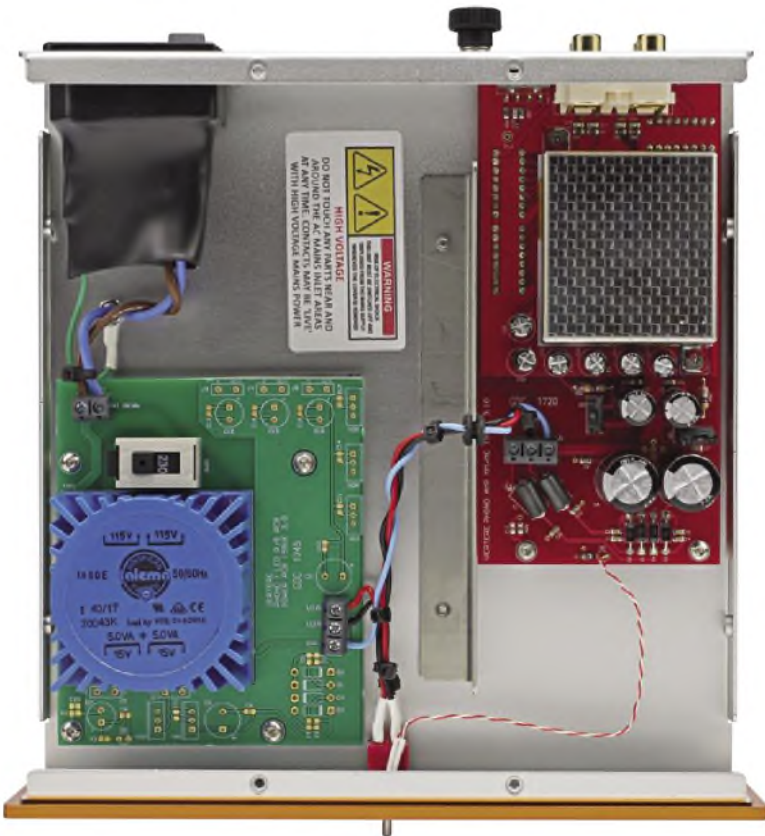
# Tellurium Q®

**Preserving relative phase relationships in a signal is our focus**



Winner of the Queen's Award for Enterprise





**A linear power supply at left, with blue encapsulated toroidal transformer. It takes up space. Most of the electronics were hidden in a peculiar module (top right).**

I'll say a little bit about loading because you get so many options here. For MM cartridges the value is always 47k Ohms, with minimal capacitance of around 100pF. This can be increased to 400pF (Ortofon once recommended this value for their MMs) and indeed Phono-I MkII has a 430pF option. Increasing capacitance alters frequency response slightly, raising the mid-band but decreasing high treble. This was a useful tweak for old MMs; it lessened their warm sound, but modern MMs don't usually suffer the warm sound caused by midrange droop (generator loss) so it's hardly necessary any more.

With moving coil (MC) cartridges a different set of issues arise. Target value load is 100 Ohms: most MC inputs are fixed at this value. It is derived by another rule-of-thumb: load resistance should be x10 generator resistance and most MC cartridges come in at around 10 Ohms. Vertere's Phono-I MkII has a 100 Ohm value and it can be set lower, down to 78 Ohms, but Vertere say the generator can be over-damped by lower values. I have used 20 Ohms in the past and it did not affect tracking, whilst lowering high frequency ringing that MCs can display. However, it did not

improve sound quality, as such tweaks often do not. I have found to my disappointment ... and more of this shortly.

When a cartridge manufacturer decides to raise output of their MC, they shove on more coil turns. It degrades tracking and raises coil resistance, demanding a load higher than 100 Ohms. Some Clearaudio MCs need 330 Ohms and Phono-I MkII has that value too and more – all the way up to 1.45k Ohms. Explaining this issue simply I hope – and how the Phono-I MkII copes.

Now onto the slightly left-field subject of loading an MC with capacitance. And yes, the Vertere offers this where most others do not. A 10 Ohm resistive generator will need at least 0.1µF to affect upper treble response. Vertere provide values from 0.22µF up to a very large 1µF. The latter places 8 Ohms across the cartridge at 20kHz which will attenuate treble substantially. This seems a bit much to me but it is there to experiment with, as are seven values in all, to tweak the sound of an MC by lowering its treble output.

I guessed this could be a way to soften the sound of our Audio Technica OC9X MC that runs ruler

flat to 20kHz and delivers massive detail from its Shibata stylus. Would the Vertere soften its sound, making it a bit less challenging up top? There was only one way to find out.

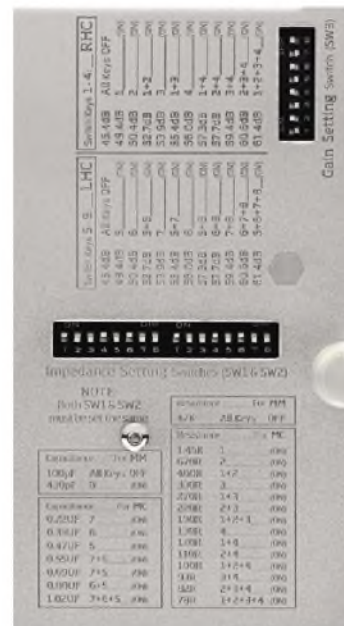
**SOUND QUALITY**

I connected the Phono-I MkII to our Creek Evolution 100A transistor amplifier, replacing our reference Icon Audio PS3 Mk2 valve preamp with MC input transformers – a difficult act to get past. Loudspeakers were, as always, Martin Logan ESL-X hybrid electrostatics with their XStat panels that reveal all. Connection was through Chord Company Signature Reference loudspeaker cables.

Delivery into the Phono-I MkII was courtesy of our Timestep Evo modified Technics SL-1210 Mk2 turntable, fitted with SME309 arm and Audio Technica VM-750 SH moving-magnet cartridge, as well as an Audio Technica OC9X moving-coil cartridge. I spent most time with the latter.

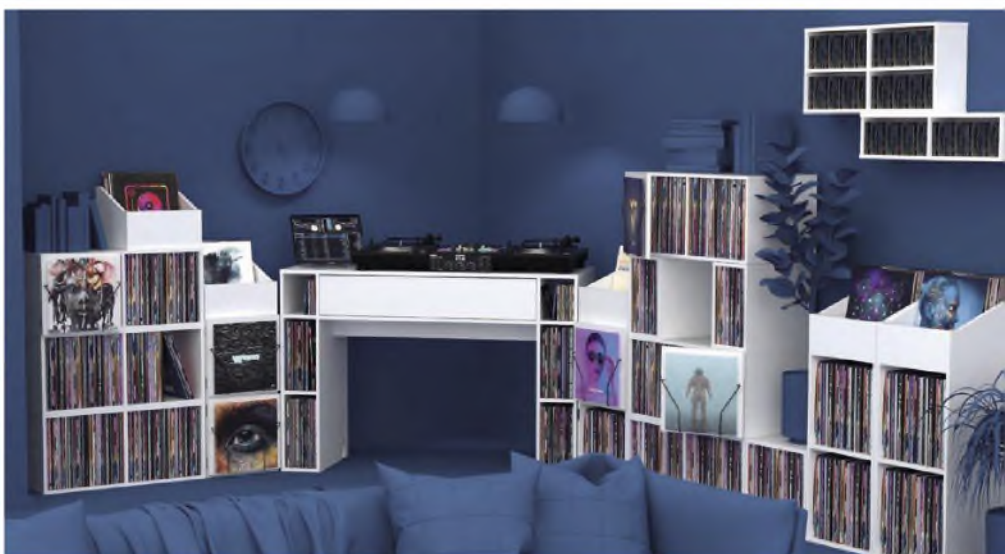
Switch on brought a small thump from the system with volume set to normal replay level. This problem comes from asymmetric supply line run up with unbalanced time-constants and needs fixing. With volume set for the high-ish output of our Audio Technica OC9X, hiss was minimal even close to the loudspeaker.

With 100 Ohms loading and no capacitance the OC9X SH sounded



**A wide array of input settings sit on the underside, selectable by moving small DIP switches. These need care to be set correctly, using a small jeweller's screwdriver.**

# GLORIOUS



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**An uncluttered rear panel with three earthing options, phono socket connection and an IEC mains input with master switch.**

much as I know it, with shimmering treble and great insight, suffering obviously less muddle than most due to its Shibata profile stylus on square shank carefully aligned on the cantilever within a laser cut hole. The Phono-1 MkII teased out an accurate rendition of the OC9X SH, if not with the sense of depth and dimensionality of our Icon Audio PS3 Mk2, but that is to be expected.

Neil Young's 'Tell Me Why' on outer grooves of an all-analogue re-master of *After The Goldrush* had correct tonal balance and plenty of internal detail. Strings of strummed guitar cut out nicely. There was slightly less bass depth and solidity than I have heard from others, bleaching the sense of resonant body from his acoustic guitar by ten percent. No big deal but a slightly dry and academic sound balance rather than a full or lustrous one.

The OC9X can be a tad forthright with old or damaged LPs, reading ticks and pops with brutal ability. Like having small bullets shot at your ears! Switching in 0.22µF of capacitance eased the effect slightly and was arguably useful. Some of the cartridge's light was lost, but many may prefer the relatively mild change in sound. With 0.5µF switched in some dullness became evident and with 1µF switched in the OC9X lost its sparkle and became leaden.

I've done all this in the past with my own-design phono stages and came away disappointed that slugging an MC cartridge with lots of capacitance offers minimal benefit. There's more going on at the stylus/generator interface with an LP groove than such electrical mods. can fix. All the same, low values of capacitance do alter sound quality in a relatively subtle way that many may appreciate. Ticks and pops in particular have their presence suppressed. Vertere's Phono-1 MkII provides plenty of leeway to experiment.

Running through a wide selection of high quality LPs the Phono-1 MkII

revealed itself as smooth and svelte, with strong mid-band insight. Jackie Leven's 'Young male suicide blessed by invisible woman' had both Jackie's deep tones and the ethereal accompaniment of the invisible woman wrought clear before me. The Vertere has great insight yet considered delivery: it comes across as poised and smooth.

With Dire Straits *So Far Away*, from Mobile Fidelity's re-master of *Love over Gold* (45rpm) the full bodied warmth that I am used to was pulled back a little, dried out slightly I could say, yet there was a good sense

of insight into Knopfler's vocals. It's a revealing preamplifier with poise and balance, that runs well timed bass lines, if not especially heavy ones.

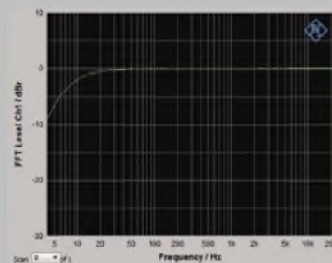
## CONCLUSION

The Phono-1 MkII from Vertere is a neat little unit that can be set to provide a wide range of gains and loads for both moving magnet (MM) and moving coil (MC) cartridges, enough to keep any enthusiast happy. With a smooth and refined sound balance that has great insight it's a svelte way of listening to LP. Worth considering.

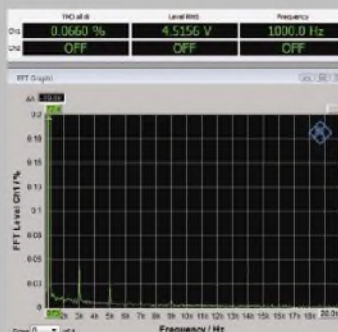
## MEASURED PERFORMANCE

Frequency response of the Vertere Phono-1 MkII measured flat from 20kHz down to 20Hz, before gain rolled down to -7dB at 5Hz, as our analysis shows. This provides some measure of low frequency warp filtering, by removing subsonic bass. There was no difference at full gain (where some stages have insufficient gain to maintain deep bass). Switching in 1µF for MC rolled off treble above 10kHz

### FREQUENCY RESPONSE



### DISTORTION



(-1dB) from a 10 Ohm source, so this input capacitance option has obvious effect, softening treble.

Quoted gain values range from 45.4dB up to 61.4dB. The lowest value of 45.4dB measured 37dB (x69) so was inaccurate, but the highest value was correct at 61.4dB (x1180), so there is satisfactory gain range of 37dB-61.4dB in practice.

Overload values are set by a relatively high maximum output swing of 10V, ranging from 144mV at lowest gain to 8mV at highest gain – plenty enough for a low output MC cartridge.

Equivalent input noise (e.i.n.) measured 0.3µV at min and max gain settings – on the high side for MC cartridges where 0.1µV is possible. Input noise is low enough for MM cartridges as they generate high thermal noise from their 1000 Ohm windings, but it will result in slight audible hiss at very high volume with low output MCs.

The Vertere measured well in all areas except hiss where it is a little noisier than the best MC stages. **NK**

Frequency response	20Hz-20kHz
Separation	68dB
Noise (MC)	-67dB
Distortion	0.06%
Gain (MM, MC)	x69 / x 1180
Overload (MM, MC)	144mV / 8mV

## VERTERE PHONO-1 MkII £1000



**GOOD - worth auditioning**

### VERDICT

A phono stage with plenty of adjustment for those that like to experiment. Great insight and good balance: academic rather than visceral.

### FOR

- nicely balanced sound
- small and light
- good insight
- wide range of adjustment

### AGAINST

- awkward DIP switches
- small switch on thump
- no balanced output

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# Coil Quality

**Sumiko's Songbird offers moving coil quality – that's the promise. Noel Keywood checks out an MC in MM clothing.**

**S**ongbird from Sumiko is a moving coil (MC) cartridge – suggesting top sound quality – that doesn't need a special moving coil preamp. It will work into any standard phono stage, meaning of the moving magnet (MM) variety. So the proposition is you get the spacious sound of a moving coil without forking out for a special preamp. Price £899 – above most MMs that top out around £650 and into true MC territory, albeit the lower rungs. But of course no MC preamp cost.

Before getting into Songbird details, a few quick points about the nature of the beast. High output MCs like the Songbird are not uncommon, but they come with their own set of compromises and drawbacks. Being a proper MC there's no user-removable stylus assembly: if you bend it you'll have to replace it. Ask the dealer about the replacement scheme; they vary between manufacturers and change over time.



**The Songbird's rear connecting pins have a long taper, that you can see here. This gives very little full-diameter contact area.**

The other drawback is they don't track well and, in my experience, don't sound much like an MC, which is a technical issue. But Sumiko, a U.S. company that gets its cartridges manufactured in Japan, have obviously worked on these points.

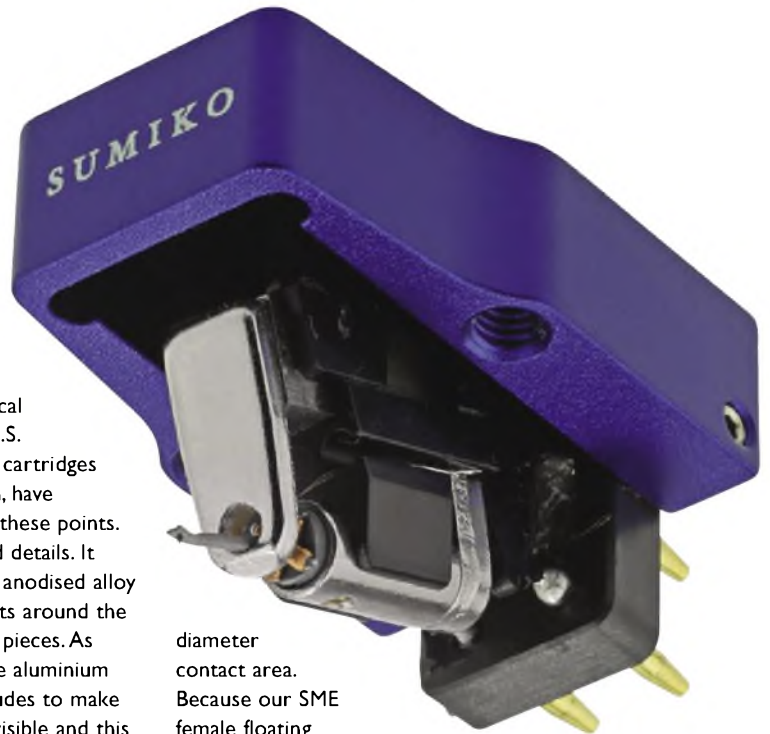
Now for Songbird details. It has an attractive blue anodised alloy body and a bright parts around the magnet system / pole pieces. As our pictures show, the aluminium alloy cantilever protrudes to make the stylus tip clearly visible and this aids alignment above groove – great if you have a cueing light. I found I could hit a run-in groove easily.

"deathly silence: no hiss, no hum, nothing"

Note though this is a parallel sided alloy tube, not a stiffer and less resonant tapered alloy tube that I prefer in sound quality to most else (especially clanky beryllium rods). More on this later.

With a nice, stiff alloy body weighing 8.5gm, carrying threaded M2.5 open-ended screw holes (at trad. half-inch fixing centres) the Songbird suits all arms and is both easy and quick to bolt in. Yet this bit of the installation process threw up a bizarre issue I have never come across since first installing cartridges in – er, well – I don't know, but a good 50 years (Shure M3D on...). When I pushed the SME cartridge connector leads onto the Songbird's pins they popped off immediately. Uh?

After many attempts I peered at the pins closely and saw a long taper on them, leaving very little full-



diameter contact area. Because our SME female floating connectors have a flare to accept the male pin there's no contact space left to form a firm

connection. Bizarre!

The taper is, I suspect, to make connection easier but it is simply too long – an inept piece of design. I crimped our SME gold plated pins to get a grip but I believe this weird design failure will cause unexpected difficulty to new owners (and/or dealers!).

Tracking force is a sensible and now-normal range of 1.8-2.2gms, with 2gm recommended – and that is what I used. The coils have 135 Ohm impedance, far lower than a typical MM (1000 Ohm), the significance of this being the Songbird produces no audible (Johnson) noise. Turning up volume, all I heard was deathly silence: no hiss, no hum, nothing.

The cantilever is a 'coated aluminium pipe' (no mention of the coating) fitted with a 0.3 x 0.7 micron elliptical stylus.

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**It's a moving coil and here you can see the miniature coils at the end of the cantilever.**

At the price packaging was basic: a simple wooden case, no instruction sheet and just two short hex-head fixing screws with hex key in a plastic bag. Not brass either, but possibly stainless steel. It was all a bit basic compared to the screw set and accessories that come from Ortofon and Audio Technica, both of whom lead the field.

## SOUND QUALITY

I used the Songbird in our SME309 arm, fitted to a Timestep Evo modified Technics SL-1210 Mk2 Direct Drive turntable. It fed an Icon Audio PS3 MkII valve phono stage, driving a Creek Evolution 100A amplifier hooked up to Martin Logan ESL-X hybrid electrostatic loudspeakers through Chord

Company Signature Reference cables.

With Hugh Masekela's 'Uptownship' from his Hope LP (180gm, all-analogue) what I heard was a svelte delivery, smooth and balanced; no hissing treble or obvious incision. There was plenty of weight and timbrality to trumpet, it's rich tone obvious. The underpinning bass line was well extracted, fluid and strong. But my listening notes call it a "safe" delivery, not overly challenging.

With Mark Knopfler's True Love Will Never Die, from his Kill to Get Crimson LP (180gm) there was a lack of bite or sparkle to guitar, but vocals had weight and good dynamic push. Knopfler sounded big and clear in front of me, and again I noticed a bass line with great fluidity and agreeable strength.

Bass performance again made itself known with Jackie Leven's Stornoway Girl, where bass plays lead and the Songbird picked it out with superb resolution. This was an inner groove track on Forbidden Songs of the Dying West, quite a high cut, yet the Songbird had no difficulty tracking it. Same also with Rosella Caporale's Time to Say Goodbye, another inner groove track, on Two Countries One Heart (180gm, all analogue), where her final vocal crescendo was tracked with

easy confidence.

The sense of easy, relaxed treble became more questionable with Fleetwood Mac's Second Hand News from our all-analogue re-master where I became more aware that, up-top, the Songbird was a little bland. Great bass line and solid vocals but not so much high-end detail. Swapping over to our Audio Technica VM750SH MM (£385) with its tapered alloy cantilever and Shibata stylus made clear that the groove had a lot more in it than the Songbird was revealing.

## CONCLUSION

Sumiko's Songbird has some great sonic strengths: think fine bass, solid and expressive, excellent mid-band vocals with body and dynamic punch. But its easy and unchallenging top end made for vague treble insight.

I enjoyed its strengths and if you have an old and noisy collection of LPs from your misspent youth this may well be a fine choice. No special amp needed but you get some of the delights of a moving coil cartridge, namely deep sound staging and strong dynamics. It is expensive though and there are swathes of alternatives with more insightful delivery, moving magnet and moving coil. So "horses for courses" perhaps. Svelte and enjoyable, not rudely revealing, an easy listen.

## MEASURED PERFORMANCE

Frequency response of the Songbird measured impressively flat out to 20kHz, as our analysis shows (JVC TRS-1007 test disc). This will give it a smooth and tonally balanced sound. Inner groove loss (red trace) due to tip radius is minimal up to 15kHz, falling to -4dB at 20kHz – a very good result.

Tracking of 300Hz test tones on CBS-STR112 test disc was very good, Songbird managing a high 90µm lateral track at 2gm down force, if with slight mistracking – hence our 80µm figure.

Tracking at 1kHz (B&K2010 test disc) where acceleration is higher and tip mass more influential, a high 20cms/sec band was cleared, but not the top 25cms/sec band. Still a good result however, especially for a high output MC where this track usually causes problems.

Distortion was as expected and hoped for, measuring 1.2% on lateral modulation (CBS-STR112). On vertical modulation the figure was a reasonable 3.3% due to a measured vertical tracking angle of 24 degrees (DIN 45-452 test

disc). Optimal is 22 degrees, so Songbird got very close.

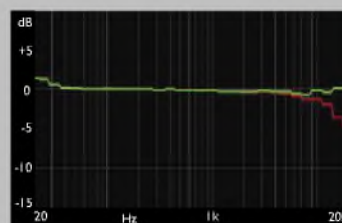
Output measured 2.2mV at 3.45cm/sec, low by MM standards but high for a moving coil. A good result, especially as the 135 Ohm coil produces almost no Johnson noise, giving the cartridge high dynamic range.

The Songbird is accurate tonally and tracks very well. A fine set of results with no weaknesses. **NK**

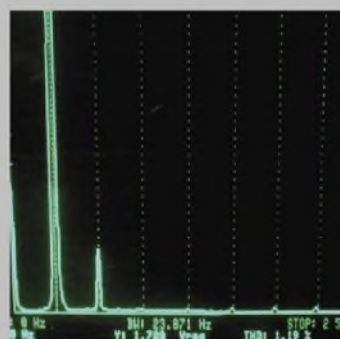
<b>Tracking force</b>	<b>1.8-2.2gm</b>
<b>Weight</b>	<b>8.5gms</b>
<b>Vertical tracking angle</b>	<b>24degrees</b>
<b>Frequency response</b>	<b>25Hz-20kHz</b>
<b>Channel separation</b>	<b>26dB</b>
<b>Tracking ability (300Hz)</b>	
<b>lateral</b>	<b>80µm</b>
<b>vertical</b>	<b>45µm</b>
<b>lateral (1kHz)</b>	<b>20cms/sec.</b>
<b>Distortion (45µm)</b>	
<b>lateral</b>	<b>1.2%</b>
<b>vertical</b>	<b>4.2%</b>
<b>Output (3.45cms/sec rms)</b>	<b>2.2mV</b>

## FREQUENCY RESPONSE

**Green - outer groove**  
**Red - inner groove**



## DISTORTION



## SUMIKO SONGBIRD £899



**EXCELLENT - extremely capable.**

## VERDICT

Punchy sound with fine bass, but expensive and difficult to fit.

## FOR

- smooth sound
- easy to attach
- good tracking

## AGAINST

- lacks detail and insight
- irregular cartridge pins
- expensive

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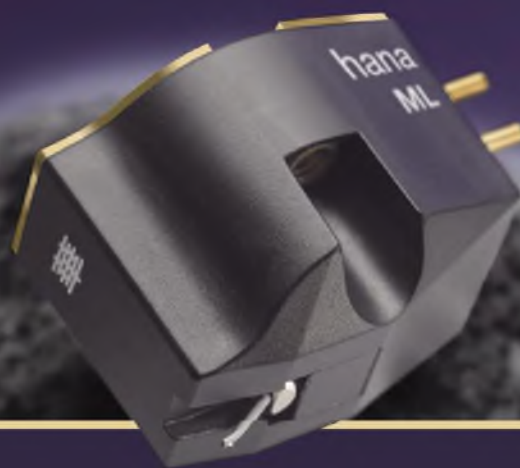
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HI>FI+ ISSUE 172 REVIEW, HANA ML/MH



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# Disco lights

The leading lights of Disco, in a book that tells it all. Paul Rigby explains.

## EVERYBODY DANCE

Chic and the Politics of Disco

Author: Daryl Easlea

Publisher: Omnibus

Price: £19

**T**his book was initially published fifteen years ago, in 2004. It contained exclusive interviews with nearly all of the surviving Chic members plus David Bowie, Bryan Ferry, Ahmet Ertegun, Sister Sledge and Robert 'Kool' Bell plus others. What you have here is a revised and updated version of that 2004 release with new and additional interviews with Nile Rodgers, Johnny Mathis and Chic manager Merck Mercuriades.

Oh and Duran Duran's John Taylor chucks in a Foreword, for good measure.

That's a grand total of 440 pages including a UK discography featuring albums, singles and compilations, Chic Organisation producer credits, individual credits of Bernard Edwards, Tony Thompson and Nile Rodgers. Then there's a list of significant Edwards and Rodgers productions and appearances, websites and YouTube links.

So, even before you tackle the meat of the book, there's a decent array of hardcore information for the Chic fan.

So why publish book on Chic at all? Because, as The Beatles represent pop and, Led Zeppelin represents rock and Kraftwerk represents electronic music (yes, yes, all are arguable, I realise, but all are iconic names, nevertheless) then Chic could easily be seen as a representation of disco.

What I mean by that is, their creative output is long lasting, the quality of the same remained very high across their career, the band's popularity was and is enormous and they are often seen by the non-musical, general media as the epitome

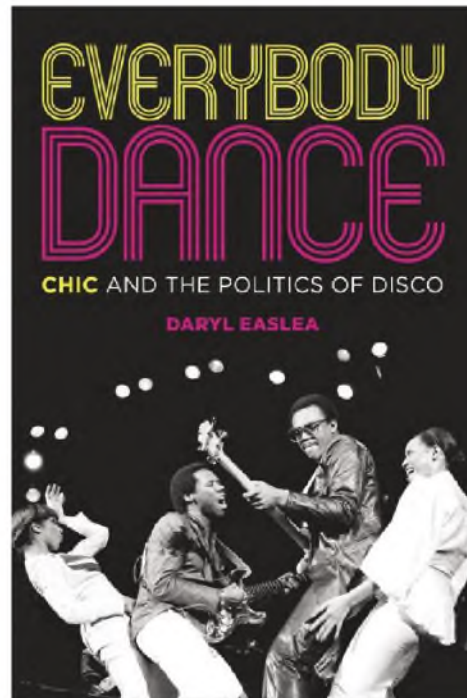
of the Disco darlings.

The group forged a series of characterful musical traits that are seen to reflect the entire genre and that ultimately proved to be inspirations, were later copied or outright stolen. They included the immediately recognisable Nile Rodgers rhythm guitar, Bernard Edwards' bass lines and the power house drumming from Tony Thompson. Both Rodgers and Edwards also quickly evolved as fully fledged producers. The fact that their late seventies productions have remained relevant to music decades after they were released, says it all.

This book fills in a lot of the early story of the characters involved and it's an enlightening one. It's also a sort of corrective. In that, one tends to compartmentalise music into separate and stand-alone entities when music has always been part of a single path. Constantly evolving and mutating sure – but the path remains a single one.

You can see that in Nile Rodgers' early life in Greenwich Village, New York. So you see the future disco rhythm king and polished performer hanging out with iconic sixties icons: Jack Bruce, Joplin, Jeff Beck and more. This guy even jammed with Jimi Hendrix, for goodness sake. Rodgers was even a member of the revolutionary socialist political organisation, the Black Panthers!

Those were different times. But the same times. Especially as we get to hear that Rodgers was already composing the future Sister Sledge hit, We Are Family, as he picked his way across Max Yasgur's crowded field at the Woodstock Festival in



1969.

Rodgers would even join the touring version of the famous children's TV programme, Sesame Street, where (no doubt sponsored by the letters W, S and E and the numbers two and three) he would also meet other future musical legend, Luther Vandross.

Heady times indeed.

This book covers the formation of Chic, the group, its rocky climb through the political detritus of the music industry, clashes with disco culture such as the Studio 54 club, the hits and the fame. Also the 'death' of disco at Comiskey Park, Chicago where a large pile of disco albums were ritually burnt and the crowd chanted, "disco sucks!" while running rampage across the stadium ("It felt to us like Nazi book burning" said Rodgers). He was also producing for others (from Bowie to Madonna – and told Diana Ross that she was singing flat. She stormed out of the studio after that comment), had hip hop connections, personal and health issues and more recent success.

It's all here, folks and highly recommended. **PR**

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YAMAHA MDX 793 MiniDisc, £55. New, unused MiniDiscs, offers. Carbon Fibre record brush, sealed packet, £7. Tangent Amp100 amplifier, £55. Thorens TD166 Mk2 record deck, £95. Buyer collect only. Tel: 01708 457 691

HARBETH M30.1 speakers, rosewood, mint condition, original boxes. Little use. £1800. Selection of cables, Black Rhodium, interconnect and speakers, Atlas interconnect, Kimber interconnect. Call for details. Tel: 07962 784 449

WATERFALL AUDIO Iguascu floor-standing 'glass' speakers (1 pair). Brand new, open box. Absolutely stunning. Total giveaway. Yours for £1,450. Shipping with insurance at cost. Email: [paulheath72@gmail.com](mailto:paulheath72@gmail.com)

TEAC PDH600, AGH600NT, high quality Midi system (£1000 new). Boxed. £400. Pioneer A502R amplifier, two tapes, split pre power, £60. Audiophile magazines 1990's. Wanted: Pioneer remote ADX 7456. Tel: 01708 457 691

LINN LP12, Ittok LVII, fitted Ortofon Quintet Red cartridge. Recent Hercules power supply and motor. New Cirkus bearing, sub chassis and armboard. Afrososia fluted plinth and lid. Spare new belt. Serviced by House of Linn. S/N 43,XXX. £1650 ono. Tel: 01691 610 589

LINN SONDEK, Cirkus, Trampolin, new motor 2010. Regularly serviced. Ekos upgraded 2014. DV20X-2 cartridge 2019. Little use. Lingo Mark 1 Linto phonostage. Boxes. Buyer auditions and collects. £3000. Tel: 01245 250 375

MACKINTOSH MAB000 integrated amplifier. Original box with Manuals, hardly used, excellent condition £6000, open to offers. Tel: 07500408416 Email: [richardotlet@me.com](mailto:richardotlet@me.com) (Bristol)

ARIAND FV34B valve integrated amplifier with pre-in, mint, £395. Epos Epic 5 floorstanding loudspeakers, mint condition, cherry finish, £395. All boxed. Sale due to upgrades. Text 07743380657, or Email [hifi@rodtheobald.force9.co.uk](mailto:hifi@rodtheobald.force9.co.uk).

WANTED: NAKAMICHI 581 or 582 cassette deck working or non working. Tel: Mike 01758 613790.

HIGH QUALITY perspex turntable lid size 490mm x 400mm x 165mm. Buyer collects (Leeds) £30 Email: [a.beal@btinternet.com](mailto:a.beal@btinternet.com)

SIX PAIRS of one metre long RCA to RCA interconnect cables. For sale at half price or more. All in mint condition. Wireworld Luna 7 boxed £35. Morrow Audio MA-2 £50. Chord Company Cobra Vee 3 £50. Black Rhodium Symphony £65. QED Van Damme classic pro patch £10. Atlas Elements Integra Superior 0.5 metre boxed £55. Will sell separately or bundled. Tel: John 01483472650 (Woking Surrey)

WANTED: TDL Studio 1 Tweeter. The tweeter for my TDL Studio 1 is broken, looking for an original to replace. Someone may have a broken speaker, in which case it is easy to remove the tweeter. Contact: joel @counselling-london.co.uk Tel 020 8579 8110

WANTED: Cyrus PSX-R in Black finish. Will pay up to £200. I'd also be interested in 2 of the same. Would pay up to £350 for the 2. Email: [paulfarrar@btinternet.com](mailto:paulfarrar@btinternet.com)

MERIDIAN RARE black 101b pre, 104 tuner, 105 (2xmono amps each with power supply) so stacked 3 high in pairs £625. Southport 01704 628968 or 07968769595

AUDEZE DECKARD Headphone Amp/USB DAC, mint condition and boxed, cables and accessories included plus Atlas Integra Superior 0.75 mts interconnect worth over £70 sale for £475 o.n.o. Telephone 01732 490492

CANADIAN GUTWIRE Synchrony 3 metre length speaker cables. Superb - totally new condition. £700. (Synchrony Interconnects available separately). Email: [stephen.adolphus@gmail.com](mailto:stephen.adolphus@gmail.com) Tel: 07787 574784.

WALKER CJ61 suspended chassis belt drive turntable with arm board for Rega arm £100, buyer collects (Leeds); Shure M44E cartridge £20 inc. p&p; set of new unused springs for Linn LP12 turntable £8 inc. p&p Email: [a.beal@btinternet.com](mailto:a.beal@btinternet.com)

OPPO 205 with Fidelity Audio linear power supply £3000. Ram LS3/5a's £800. Collect from Oxford or may deliver. 07948275212

NEAT MOTIVE 1 speakers Cherrywood excellent speakers, condition and sound bargain, only £475! London, 07957384795 (Evan)

FOR SALE: EAR 834L line pre-amp by Tim de Paravicini. Excellent and well looked after condition. £650 ono. Tel: 07505 057 414 or Email: [zylandaroya@yahoo.com](mailto:zylandaroya@yahoo.com)

LEAK TROUGHLINE and Hi-Fi World valve decoder set up by Tim de Paravicini less than a year ago, one of the finest tuners anywhere! £700. Tel: 07940 507215 [rtodes@gmail.com](mailto:rtodes@gmail.com)

WANTED: TOP quality Hi-Fi separates and complete systems, Naim, Linn, Cyrus, PMC, Audio Research etc, fast, friendly response and willing to travel/pay cash. Please call me on 0781 5892458 or Email me at [pogsonp@aol.com](mailto:pogsonp@aol.com)

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QUAD 66 Preamp & control unit just serviced by Quad. 3 interconnects, MM and MC phono boards £350. Quad 606 power. £450. All in excellent condition, manuals, original boxes Tel: 01204 847 404

# NEXT MONTH

## SEPTEMBER 2020 ISSUE



### MAGNEPLANAR LRS LOUDSPEAKERS

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Also, we hope to bring you –

CHORD COMPANY CLEARWAY X SPEAKER CABLE  
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PROJECT CD BOX RS2 T CD PLAYER  
PROJECT PRE BOX RS2 DIGITAL PRE AMP  
Q ACOUSTICS 3030I SPEAKERS  
BRICASTI M3 DAC

...and much more.

This is a selection of what we hope to bring you, not a complete list. We regret that due to a wide range of issues, we cannot guarantee that all products listed above will appear.

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# SUPERCAR

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"I realised for the first time how I could be dazzled and thrilled by music"

If I could provide you with the soundtrack of my entire childhood then it would be composed by the genius – and let me repeat that one more time with added emphasis, the genius – of composer, Barry Gray.

When I watched the original UK TV production of Thunderbirds and heard Gray's music within the same, I realised for the first time how I could be dazzled and thrilled by music. His music. Barry Gray's name was etched onto my young heart. It's impossible to think of Thunderbirds without thinking of Gray.

But I soon learned that Gray occupied more universes than those offered by the beautiful Thunderbird machines. This brilliant, although much earlier, children's TV series, *Supercar* (1961), was one.

Flown by the jauntily monikered ex-test pilot, Mike Mercury, this machine marvel undertook daring rescue missions, every week, for 39 episodes in all environments with a notable support team (including Professor Popkiss and Mitch the Monkey).

And all in Supermarionation, I might add.

After the earlier debut, 'Four Feather Falls', 'Supercar' was the second Gerry Anderson show to use the Supermarionation technique. A type of puppetry that was actually based on the Czech style.

Supercar was arguably the first Gerry Anderson series of its ilk that really caught the imagination and was long held in the minds of children of the time as an instant classic. The hardware played a big part in that and, of course, so did the music.

As you might be able to appreciate, Gray's funding to produce his music for this series was slim and the deadlines were deadly so Gray had to produce his scores at double quick time.

That work involved a host of musical pieces and fragments of varying length that were utilised as themes, either for locations, a situation or the characters themselves. That included the star of this show who wasn't representing a living entity, the car.

To do this work, Gray collected together a total of forty instrumentalists, conducted by Gray himself.

He approached his work on *Supercar* with great application and seriousness: "I had to write

quite a few songs for various episodes. In my case, the writing of a popular melody does not conflict at all, as far as I'm concerned, with the need to compose a dramatically constructed score. Many of the great works for symphony orchestra, analysed are, very basically, a simple popular type of theme, and it is the orchestration that makes it sound so classical and much more involved than just a simple melody".

And now you can enjoy the music from this TV series and from Gray himself all over again via Silva Screen ([www.silvascreen.com](http://www.silvascreen.com)). It's the first time the music has been tackled from the TV series since the Fanderson CD production, released in 2013 and – as far as I'm aware – only the second such collection devoted to the series that has ever been commercially launched.

Beautifully presented in a gatefold (featuring track notes, photos and excellent liner notes) and secured by a thick paper band, the first pressing of this vinyl edition appears in sherbert-lemon coloured vinyl! How delightful!

Allow me to dwell on the sleeve for a moment, though. The standard of photography on the front is stunning. The colours pop, the image is crisp and the composition is quite thrilling for any Gerry Anderson-related fan.

Spanning two discs, the music covers the main TV theme plus music from a host of episodes. What Gray does here and with his other works was treat children with serious respect. He never composed down. He never patronised. He applied the same sort of creative effort to his work as he might for an AAA Hollywood film.

He was actually quoted as saying "In the very early days of the Gerry Anderson shows it was Gerry's idea not to write kiddie music for the puppet shows and I should not let the fact that the shows were puppets affect the music at all. I should write as one would for a film, in the normal way, and this is what I always did. I never wrote down to children. I scored as I felt, or in other words, I treated the puppets as if they were real people. And that was what we did more or less throughout the whole of those series."

This is a wonderful release, expertly produced and implemented. Nice mastering too!

**PR**



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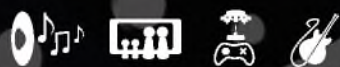
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