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\* QUADRAL SEDAN 9 LOUDSPEAKERS \* AUDIOLAB 6000A PLAY  
\* CHRISTMAS CROSSWORD \* MISSION LX-2 MKII LOUDSPEAKER  
CHRISTMAS QUIZ \* HANA UMAMI RED CARTRIDGE \* COPLAND CSA100 AMPLIFIER

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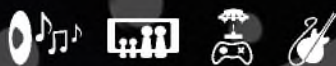
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# welcome

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Paul Rigby, Martin Pipe, David Tutt,  
Chris Frankland, John Pickford.



**W**elcome to Hi-Fi World's annual Awards edition, where we pick out the products of 2020 that impressed us most. I think readers will appreciate this means "affordable" too; we shy away from products that few can afford and which for the most part have little to offer in terms of new technologies.

Having used panel loudspeakers all my life I was pre-disposed to like Magneplanar's new LRS (Little Ribbon Loudspeaker) – but so did others at the magazine's offices where everyone

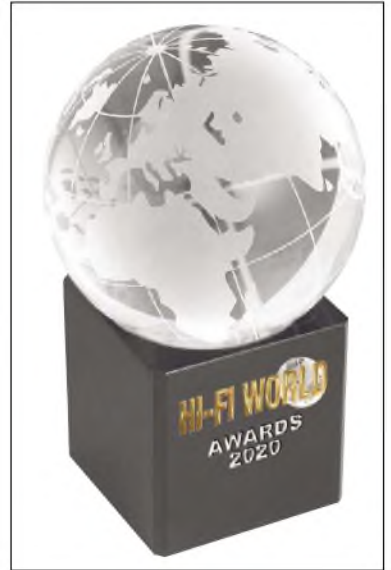
has an interest and an opinion. You can read the original review on p24. The LRS is truly different to most else and easy to choose as a winner when it is on sale for a stunningly low £995. This should put the cat amongst the pigeons – but there's always another view; in this very same issue we publish the experiences of three readers to Magneplanar loudspeakers: see Letters on p66. I hope you find these views interesting, broadening your understanding of what an all-ribbon panel loudspeaker offers and why we chose the unusual LRS as 2020's Best Loudspeaker.

There's been an outbreak of Leak! International Audio Group, owners of brand names Quad, Wharfedale, Audiolab, Mission and more, finally decided to re-launch this venerated brand name and again we selected the new Stereo 130 amplifier, review on p28, as a product that is effective but a little different. Nice that it has a matching CD transport and can play LP as well – real-life wants, a real-life winner. At an affordable price.

Rega remain a force to be reckoned with after finding success in the 1970s with their unique one-piece cast alloy tonearm that remains potent today. Updated to three-point fixing, fitted with a Rega MC cartridge and mounted on a skeletal turntable, this arm helps make the Planar 10 an easy Award winner of Best Turntable for 2020, as our review on p47 explains.

I hope you enjoy this Awards issue. There were plenty of good products in 2020 to choose from. The enjoyment of music remains alive and well – and our Awards issue helps toward its appreciation.

**Noel Keywood**  
*Editor*



## hi-fi world

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## verdicts

●●●●● **OUTSTANDING**  
●●●● **EXCELLENT**  
●●● **GOOD**  
●● **MEDIOCRE**  
● **POOR**  
£ **VALUE**

amongst the best  
extremely capable  
worth auditioning  
unremarkable  
flawed  
keenly priced

## ELECTRONIC MAGAZINE

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## 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.



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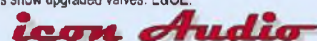
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# news

## BRING OUT THE BRYSTON

Named in honour of Bryston's president Brian Russell who died last September, the BR-20 Preamplifier combines an analogue preamplifier with a DAC and streamer to offer an "ultra high-performance audiophile hub" with connectivity for up to fourteen analogue and digital sources as well as built-in high-resolution music streaming.

The analogue preamplifier's signal path is fully balanced, making use of tightly matched components to achieve a low harmonic distortion measurement below 0.0006%.

Bryston's most advanced DAC delivers hi-res audio from up to seven external digital sources while the internal digital music player offers streaming from Tidal and Qobuz. The DAC decodes PCM to 384kHz/24 bit and DSD 256 plus there's the ability to decode DSD over HDMI with the optional four input plug-in HDMI card (£1,200). This enables the connection of a compatible SACD player as well as 4K and HDR sources such as Blue-Ray and Apple TV.

The basic BR-20 costs £7,500 and features a Low-Z headphone amplifier while a Moving Magnet phono stage, based upon Bryston's BP-2 is available for an extra £950.

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



## EBONY AND IVORY

Lovers of traditional wood veneered loudspeakers look away now! Scansonic HD's M-series has received a makeover with three new advanced models replacing the previous M-5, M-6 and M-9 speakers.

The M-Series was originally created by Michael Borresen, the first designer of the premium Raidho range, however these new models have been overseen by Gamut's Benno Baun Meldgaard, who now heads-up the Raidho/Scansonic/Gamut design team.

All three models feature the same high-resolution ribbon tweeter found in Scansonic's more costly MB-series along with new and improved mid/bass drivers.

These feature an advanced 4-inch honeycomb-enforced glass-fibre cone design, mated to a powerful magnet system.

The M-10 is a 2-way standmount priced at £649, while the M-20 and M-40 are both 2.5-way floorstanders, which cost £1,499 and £1,999 respectively.

Designed with a slim, home-friendly profile, the M-series are supplied with removable grills and come in a choice of two satin finishes – Black Piano and White Piano.

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



## A SPRINKLE OF FAIRY DUST

The rise in popularity of active loudspeakers continues as Danish manufacturers DALI launch the OBERON C series. Three systems are available with the flagship OBERON 7 C (£1,799) comprising a floorstanding design featuring two 7-inch wood fibre SMC (Soft Magnetic Compound) mid/bass drivers along with an ultra lightweight soft dome tweeter. This HF unit is also incorporated into the smaller OBERON I C (£1,199) and ON-WALL C (£1,399) systems, both of which feature a 5 1/4-inch SMC based woofer.

The wireless and app-free systems pair with your phone or tablet via Bluetooth, while TV sound can be enhanced with the included DALI SOUND HUB COMPACT preamplifier/interface that operates within a maximum of 10 metres in the same room.

All three systems can be upgraded with the DALI SOUND HUB & BLUOS module for an additional £250.

Further details [uk@dalispeakers.com](mailto:uk@dalispeakers.com)



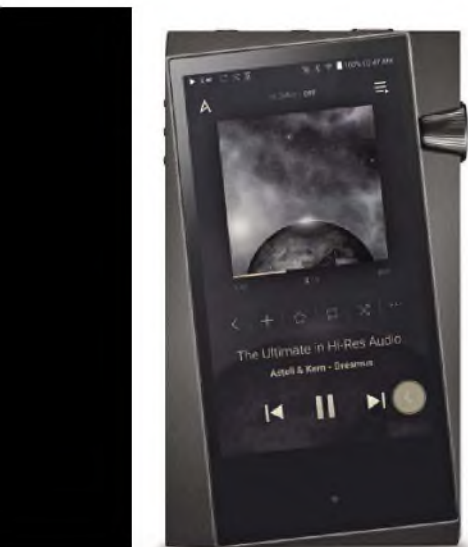
## PLAYING THE SYSTEM

Focal loudspeakers driven by Naim electronics are always an attractive proposition, but now the two industry giants are offering five system packages with special promotional pricing until 31st December 2020. Based around Naim's Uniti music streaming systems and speakers from Focal's Chora, Aria and Kanta ranges, the packages are priced from £2,599 to £9,999.

Each system comes with high-quality Naim NAC A5 speaker cable plus free trials of both TIDAL and Qobuz streaming services, while the Uniti players handle all the other top music streaming services such as Spotify and Apple Music. Easy Apple AirPlay 2, Chromecast built-in and Bluetooth playback is available too.

In addition, the penultimate system (£6,999) featuring the Uniti Star, offers CD playback and the ability to 'rip' discs to your own archive.

All Uniti players can be used with existing music systems and connect to your TV via HDMI. Further details [www.naim.co.uk](http://www.naim.co.uk)



## MOVE ON UP

Upgrading their award-winning A&norma SR15, high-resolution maestros Astell&Kern have unveiled a second player in the A&norma line of portable high-resolution players. The SR25 supports native playback of DSD256 and 32-bit/384kHz PCM high-resolution audio.

Featuring two Cirrus Logic 43198 MasterClass DACs in dual-mono configuration, like the SR15, the new SR25 adds some new features such as a faster Quad-core CPU along with newly designed circuitry.

Unlike previous Astell&Kern players, the SR25 offers LDAC Bluetooth support, allowing users to wirelessly stream 24-bit hi-res audio to compatible speakers, headphones or IEMs. It also provides over 20 hours of continuous music playback, longer than any other Astell&Kern player.

Sporting an aluminium body with an ultra-precision volume wheel, the thin-bodied design allows the user to easily hold and operate the 3.6-inch touchscreen display with one hand.

Retailing at £649, the SR25 is available in Moon Silver and Onyx Black finishes. Further details [www.astellkern.com](http://www.astellkern.com)

## STRANGERS ON THE SHAWLINE

Three all-new HDMI cables from Chord Company join the existing entry-level C-View. These include Clearway, Shawline and Epic HDMI's priced from £60, £250 and £500 respectively. Every cable is handmade and offered in a wide range of standard lengths including custom orders up to 150m (Shawline HDMI). The Shawline HDMI AOC and Epic HDMI AOC are Active Optical Cables, with the flagship Epic being an 8K-compatible optical/copper design with extensive HF noise protection.

Doug Maxwell, Chord Company's Sales Director said, "The entire team at Chord Company is delighted to launch this range of high-performance HDMI cables to A/V lovers following an exhaustive R&D period spanning years rather than months. Our engineers have been able to apply the lessons learned in 35 years of British cable manufacturing to this trio of new HDMI's and so we are thrilled to be able to offer the benefits of Chord Company quality to discerning movie, TV and gaming fans all over the world.

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







## HOW i THE fi?

DAC technology experts ifi are launching a new mains-powered DAC/headphone amp named the NEO iDSD. Designed for maximum flexibility, the aluminium case work can be positioned horizontally or vertically in its supplied stand, while the OLED display flips automatically to suit the chosen orientation. The NEO iDSD can be used as a pure DAC with fixed output or it can operate as a DAC/preamp with a variable output. And headphone users can make use of the amplifier stage to create a 'head-fi' system.

Hi-res audio support handles PCM data to 32-bit/768kHz, all levels of DSD up to DSD512 and single/double speed DXD. MQA is also supported through the USB and S/PDIF inputs plus all current high-definition Bluetooth audio formats are catered for. The analogue circuit is ifi's balanced differential design, known for minimal noise and crosstalk thanks to its dual mono design. The NEO iDSD has a RRP of £699.

Further details [www.ifi-audio.com](http://www.ifi-audio.com)

## 5000 SERIES GETS AMPLIFIED

HARMAN's high-end Mark Levinson brand expands its 5000 Series with the introduction of two new models comprising a pre and power amplifier.

The No.5206 dual-monaural preamplifier employs fully discrete, direct-coupled line-level circuitry and incorporates a single gain stage with a digitally controlled resistor network for volume adjustment. Four line level inputs (two balanced XLR and two custom RCA connectors) feature signal-switching relays and the onboard phono stage accepts both MM and MC cartridges. Headphone users are catered for with the powerful MainDrive headphone amplifier derived from the classic Mark Levinson 500 series.

135W/channel in stereo mode and 275W/channel in bridged monaural mode is available from the NO.5302 power amplifier, which also features a pair of balanced line-level XLRs and a pair of unbalanced RCA input connectors. Two pairs of high current multi-way binding posts are controlled via Ethernet and RS 232, with each amplifier priced at £8,599.

The new amps join the recently introduced No.5105 turntable, built on a nearly two-inch thick, solid aluminium plinth (£6,499 with phono cartridge, £5,799 without) and the No.5101 streaming player (£5,500), which couples audiophile-grade CD formats with high-resolution streaming, a standalone Precision Link II DAC and expansive control features.

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



## WANT TO FEEL LIKE A ROCK STAR?

L-Acoustics bring portability to their famous live sound with a breakthrough in personal listening earphones powered by JH Audio. Contour XO, the first earphone to offer the iconic L-Acoustics live music sound, is born from collaboration between Jerry Harvey of JH Audio and Dr. Christian Heil of L-Acoustics. Both are pioneers in live sound technology: JH Audio developed multi-driver in-ear monitors, which give performers such as The Rolling Stones and Billie Eilish more mobility and make them less prone to tinnitus. L-Acoustics meanwhile, set the standard for modern FA systems with their line array Wave Sculpting Technology.



Contour XO is a 10-driver in-ear monitor, offering control of the low-end with bass adjustment of up to 15dB above flat response. "I was impressed by the jeweller-like precision with which JH Audio could tune to match our frequency contour in such a miniaturised enclosure," said Dr. Christian Heil. "There's a very generous, deep low-end contour and a high-end extension that I've never heard on an IEM before".

Further details [www.l-acoustics.com/contour-xo](http://www.l-acoustics.com/contour-xo)



## DOMINIC BAKER

I was taken aback and saddened to learn of the death of Hi-Fi World's most illustrious Editor, Dominic Baker. Dominic joined Hi-Fi World way back in 1993 from Salford University, age 19. At 46 years old he had plenty of time ahead – explaining why I and so many others who knew Dominic as a strong young man were taken aback.

Dominic took quickly to hi-fi, contributing both to the magazine and the design of products for our DIY Supplements. Everyone liked him. Dominic eventually left to pursue engineering full time at Tannoy, then Focal in France. Returning to the UK he joined Cambridge Audio (Audio Partnership), London, becoming Chief Engineer where I caught up with him again after many years – older but deeply experienced in the hi-fi business. Apparently he died suddenly in October 2020 whilst moving into a new home in Montpellier, South of France. RIP dear Dominic; a lot of people will miss you. Noel Keywood, Publisher.



# MUSICAL FIDELITY



INTRODUCING THE:

## M8 xi

The M8xi is a preamp with two monobloc power amps combined. Each has its own heat sink and separate transformer. The preamp has its own dedicated power supply that is mounted close to the input sockets; consequently, PCB tracks are very short. This elegant idea ensures that both channels signals are ultra low impedance the instant they get into the amplifier. Each channel has twelve bipolar transistors - 200 amps peak to peak is easily achievable. The front panel is a custom made fine line extrusion of milspec aluminium keeping its clean style easy to maintain.

Don't Settle for anything less than perfect Musical Fidelity.



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# HI-FI WORLD 2020 AWARDS



**W**elcome to Hi-Fi World's 2020 Awards, given to the products that we thought outstanding.

Our review team tests hundreds of products each year, backed by in-depth measurement to pick out the true winners, where everything works perfectly. Some products stand out, with innovative design, great sound quality or amazing value for money. Here are those products from 2020...

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BEST LOUDSPEAKER	p12
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# ★ BEST LOUDSPEAKER

## MAGNEPLANAR LRS



Reviewed: September 2020 issue.

**W**hy are all loudspeakers the same? They don't have to be, as Magneplanar show with their unique LRS panel loudspeaker. It offers superb sound for just £995. Delivered as two 3cm deep panels standing just 122cm (4ft) high these loudspeakers break the mould.

What Magneplanar offer here is a pure ribbon loudspeaker, where a flat aluminium film conductor is bonded to a large area Mylar sheet.

And what a sound! "With The Pink Panther Theme, the laconic saxophone introduction cruised in its own nice dark space, free from subliminal background muddle. So think: darkness between notes and a sense of sudden surprise as a riff suddenly comes out of nowhere. This track also highlighted almost definitive timbral resolution of the sax body, which had a fruitily brassy sound. It was like listening to a big instrument onto which someone was shining a spotlight".

As stand-out good and also innovative the LRS is an easy winner of our award for Best Loudspeaker of 2020.



## ★ BEST AMPLIFIER

## LEAK STEREO 130

Reviewed: October 2020 issue.

**A** modern amplifier with digital on-board and a Bluetooth receiver – but dressed up in traditional clothing. That's the new Leak Stereo 130, price £799 with Walnut veneered wooden sleeve (£699 without). This new design offers compact form, plus an optional matching CD player.

Reviewer John Pickford said "I couldn't resist playing a recording from 1963, in honour of the Stereo 130's heritage. Twist And Shout from The Beatles' debut album. Thrilling as it is, this track can sound thin and harsh through bright sounding equipment yet the Stereo 130 delivered the performance with all its guts intact. Lennon's larynx-shredding vocal had the pleading passion only quality systems can reveal, while the guitars and drums could be clearly heard in correct proportion to the roomy ambience of the studio".

By combining great sound with all digital conveniences this amplifier easily cruises in to gain our recommendation as the best all-round amplifier package of 2020. In style, compact size and performance nothing comes close.





# ★ BEST VALVE AMPLIFIER

## PRIMALUNA EVO 400



Reviewed: December 2020 issue

**P**ower and a powerful sound, from a valve amplifier designed to fit into the home. That's the PrimaLuna Evo 400, delivering 70 Watts per channel, price £4999. Remote control of volume and input selection, plus Ultralinear/Triode mode, made easy armchair control part of the package.

Reviewer Noel Keywood said "Oh! – what a glorious sound. It's always great to hear a finely tuned valve amplifier because you are immediately faced with stunning clarity and wide open sound staging – and that is what I heard with the Evo 400. So generous and spacious the sound took up big presence in front of me and there was nothing not to like.

I fell in love immediately, being able to sit back and hear the glories of valve sound expertly wrought. Jan Ackerman singing *Am I Losing You* (CD) occupied a sound stage suffused with space and light, with breathtaking insight sweetly wrought. It was easy on the ear in best analogue fashion – a flowing and smooth sound, like liquid water". A top valve amplifier.



# ★ BEST HYBRID AMPLIFIER

## McINTOSH MA352

Reviewed: February 2020 issue.

**W**ant valve sound with solid-state power and reliability? McIntosh have a long history in both fields and bring their expertise to glorious fruition in the audacious MA352 (£8495) hybrid amplifier, packed with power, glowing valves and the expansive sound they enjoy.

The MA352 offers no less than 200 Watts. It has Line inputs and an MM Phono stage.

Reviewer Noel Keywood said "It is dry in sound, super clean and dynamically powerful. And it imposed these qualities on both LP and CD equally, bringing them close to each other.

Spinning uncompressed CD and John Campbell singing Down In the Hole, there were enormous levels of detail and a great sense of atmosphere coming in from his microphone. This made the MA352 forensically insightful. Bass was tight and clean".

The MA352 is an amplifier that we thought was glorious in both appearance and sound; it had to be an Award Winner for 2020.





# ★ BEST NETWORK PLAYER

## PRO-JECT STREAM BOX S2 ULTRA



Reviewed: September 2020 issue.

**H**ere's a small external music streamer that we found big on ability – at a low price. Pro-Ject's Stream Box S2 Ultra costs £629 but offers a whole host of streaming services in one unit. There's no on-board DAC; it has a USB output to feed an external DAC.

Control is from a Pro-Ject Play app to gain access to subscription services like Qobuz and Tidal. It connects into a network via wi-fi or wired ethernet and can read local music servers like a PC via DLNA to play locally stored music.

Reviewer Chris Frankland said "On Ben Sidran's Broad Daylight from The Doctor Is In, my jaw hit the floor as Sidran's voice was more open with 'Detox', the bass line was fuller and more tuneful and percussion detailed. His piano runs were fluid and the instrument had body.

Next I tried Days Like This from Van Morrison. Again I was amazed to find that with Detox his vocals were more 'human', more intelligible, the horns less glaring and the bass line tighter and more tuneful. Backing vocals were better separated and the whole thing simply flowed better". A fine streamer.





# ★ BEST WIRELESS SPEAKER

## KLIPSCH THE SIXES

Reviewed: February 2020 issue.

**A** complete hi-fi for £800? That's what Klipsch offer with their powered loudspeakers – The Sixes. Working from a wide range of sources this active loudspeaker delivers great sound, it was an obvious choice for Best Wireless Loudspeaker of 2020.

The Sixes are semi-active, interlinked by a signal cable, right loudspeaker mains connected and with a stereo power amplifier; the left 'speaker is passive. There are optical and electrical digital inputs, plus USB for a computer link, so they can be hooked up to digital sources like a streamer or a PC if desired.

Jon Myles said in the review "With a large horn-loaded tweeter and sizeable mid/bass driver taking up most of the fascia you'd expect these 'speakers to be big, bold and brash. Instead they sounded accurate and well-balanced, fast and with a good sense of detail".

With easy operation from a simple dedicated remote control – no faffing with an app – and big sound from unique Klipsch horn drive units The Sixes were easy winners we all felt.





# ★ BEST TURNTABLE

## REGA PLANAR 10



Reviewed: March 2020 issue.

**R**ega's Planar 10 turntable with their RB3000 arm and Apheta 3 moving coil cartridge (£4499) delivered dynamite dynamics from LP in a way few others can match.

This is a two speed, belt drive turntable with electronic speed selection. Compact, beautifully designed and finished – yet brimming with the knowledge and ability this company bring to LP reproduction.

Reviewer Noel Keywood said "I put on the Direct Cut of Sing Sing Sing, from the Syd Lawrence orchestra's Big Band Spectacular – and it was just that – spectacular. The live fast drum work came over with grippy timing and resonant power, pushing out at me with eye-popping drama. From this recent, milked-up live studio recording I got hear background acoustic and great atmosphere as a result. It was like being there. The Planar 10 comes over as smooth, clean and muscular in dynamic contrast. Absent were edginess, noise, sibilance or spit, making for a seemingly 'quiet' rendition. Less, but more".

A great turntable package that easily deserves our World Award for 2020 of Best Turntable.



# ★ BEST PHONOSTAGE

iFi ZEN

Reviewed: December 2020 issue.

If you want to play LP here's a small phono stage that costs just £149 yet can handle any pickup cartridge, even the most esoteric. And that's not all – it uses fully balanced circuits iFi say, to deliver a fully balanced output as an option to the usual phono sockets, giving stand-out dynamics.

On sound quality we found "Zen to be dry in its sound, detailed and revealing in the mid-band, and with unobtrusive treble. Rosella Caporale singing Time To Say Goodbye sounded distinct centre-stage, but the delivery was more revelatory than cuddly".

From the balanced output however "the sound that emanated from our electrostatics was many steps up on that from the unbalanced phono socket outputs. It grew in dynamic stature and control – an unusual way to hear LP, with massive dynamics and supreme cleanliness. The low price barely equates to what's on offer here".

Zen was different to all else. This is a phono stage that deserves our World Award for the best of 2020.





# ★ BEST HEADPHONES

## AUDIO TECHNICA ATH AWAS ASADA ZAKURA



Reviewed: August 2020 issue.

**H**eadphones come in a bewildering array of types. Closed back headphones are a traditional form that deliver strong bass and don't disturb others.

Audio Technica's Asada Zakura (£1,300) lie close to the top of their closed-back range crafted from exotic woods. Asada zakura is a durable hardwood derived from the East Asian hophornbeam tree. Double Air Damping System internally divides the earcups into two separate acoustic chambers for smooth bass reproduction.

Martin Pipe noted "how good these 'phones sounded with the Penderecki/Polish NRSO/Gibbons performance of Gorecki's Sorrowful Symphony. 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".

As headphones of classic closed-back design, crafted from exotic wood, Audio Technica's gorgeous Asada Zakuras get our thumbs up for the best headphones of their type, deserving of a World Award for 2020.



# ★ BEST LOUDSPEAKER CABLE

CHORD  
COMPANY  
CLEARWAY X

Reviewed: September 2020 issue.

Cables make a difference – but as we all know esoteric constructions come at a price. For those who want to ensure they are getting a good sound, not at a high price, best to choose a cable from a reliable manufacturer. That's why we finally decided the budget Clearway X loudspeaker cable (£15/metre) from Chord Company would get our commendation for the best of 2020. Surprisingly at this price there are twin foil shields to reduce radio frequency interference pickup. The internal jacket also minimises mechanically-induced noise. A serious cable then, not just wire with a covering.

The improvements over bell wire were "night and day", reviewer Martin Pipe said. "Bass was more revealing and bestowed with tangible solidity, a sonic looseness of the cheaper wire disappearing altogether. Midrange clarity was better, while previously-elusive treble details now burst out of the mix. The system also conveyed dynamic swings with greater ease. If you're still using bell-wire, give your ears a treat and ride the ClearwayX to better listening".



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**EDITOR'S**  
**CHOICE**

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of the audio world"*  
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# 2020 AWARDS

## Original Reviews



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# Little Goes Large

**Little in size and price, but large in sonic impact, Magneplanar's new LRS loudspeaker wows Noel Keywood.**

**A**t just £995 Magneplanar's new LRS (Little Ribbon Speaker) is going to have a lot of other loudspeaker manufacturers very worried – but you possibly amazed. I say “possibly” because there are those inevitable negatives I'll make quite clear that could result in 95% amazement. But the positives of this new panel are so obvious and attractive I suspect a lot of people will be convinced by its charms.

The first positive is price. Panel loudspeakers are at the exotic end of the hi-fi spectrum. I don't recall any panel coming in at under £1k, although someone might want to tell me what Gilbert Briggs, founder of Wharfedale, asked for his SFB3 (sand filled baffle) open panel loudspeaker, marketed in the 1950s. Otherwise, you pay good money for an open panel, Martin Logan's electrostatic panels coming in at more than a few £k. Up till now they have set the standard – and I use one.

Looks like Magnepan would like to change things. I'm taken aback that they should decide to again attempt to make the open baffle loudspeaker popular by slashing price to under the crucial £1000 mark.

But there's far more to the LRS. It is not just a cabinet-less open baffle loudspeaker measuring 1in (2.54cm) thick, but uses Magneplanar's own magnetic-planar drive units. The whole surface of the loudspeaker moves air, not just one small cone drive unit (or many of them). Increasing radiation area reduces distortion: look at

Concorde's small engine nozzles versus a modern high surface area Trent engine – and hear the difference! The LRS has a wide surface area radiator and you'll hear how it sounds easier and more relaxed moving air than a small area cone.

To be more specific, what you get in the LRS are two planar (flat) drive units. Each comprises a Mylar film with aluminium conductors on it; you can see them as vertical lines in our pictures. Electrical current passes through these conductors and the resultant magnetic field acts against fixed bar magnets. Sorry for the lecture, but it's all quite different to the norm and may well become more common in our homes, especially since with a flat panel like the LRS you get something just 1in thick.

To throw in a bit more history, Wharfedale produced an Isodynamic (magnetic planar) headphone in 1972 (checkout Wharfedale Isodynamic at the Victoria & Albert museum) and nowadays everyone is at it, Audeze making good examples. Interestingly, Magnepan's first loudspeaker, the MG-1, was also released 1972. So the LRS I'm reviewing here has history behind it. Until recently, and with headphones, magnetic planars have met no great success in the market place but



***Magneplanar fit 'flippers' (their term, not ours) to optionally tilt the panel forward, changing its tonal balance. The bent iron feet are crude by current standards.***

perhaps the LRS could change things.

A great advantage of any open panel is there's no box to trap the rear sound. What happens in all box loudspeakers (and is never talked about) is that this sound travels back out through the cones. It's very easy to measure with an impulse, sound decaying for up to 0.3 seconds or so our measurements show – a long time in acoustic terms. You don't suffer this with an open panel – and you can plainly hear how clean the LRS sounds as a result.

The main disadvantage of any open panel is lack of bass, especially low bass – the rumbly subsonic bits that add underlying weight. The specific disadvantage of magnetic planar drive units is they need a lot of power. The LRS will go loud with 60 Watts but really you need 100 Watts. Happily, 100 Watts comes cheap and good nowadays.

Physically, the LRS is very similar to the .7 and most of my comments in our May 2020 issue review apply. Although delivered in handed (left / right) pairs it's difficult to distinguish one from the other – and there's no name / model badge on the front, which borders on weird; why



**Superficially – a picture of nothing. No box, no fancy bits, not even a name badge. The LRS offers little visually. Yet internally it is both different and complex.**

wouldn't you want to display your name? Obviously, a stick-on badge could be used to identify the tweeter side, solving both problems. As things stand the vertical line tweeter can be identified from front through the grille cloth by its narrower tracks. The LRS lacks the patch beneath the tweeter just visible from front on the .7 and useful for identification.

Size wise and in Imperial measure, because this is a U.S. product, the LRS is 4ft tall, 14in wide and 1in deep. If that means nothing to you then make it 122 cm high, 36 cm wide and 2.5 cm deep. However, the feet extend backwards 1ft (31 cm). Ideally, it should have a few feet (let's say 60 cm) of rear space to 'breathe' and, preferably, some sound absorption / diffusion on a rear wall, examples being a curtain for absorption or a bookshelf for diffusion (dispersion). You can buy acoustic absorption and diffusion panels from StudioSpares for less than £100 but such tweaks are not essential, especially if there's more than 2ft of clear air behind.

Magneplanar fit their own slightly unusual connection panel that accepts 4mm banana plugs and bare wire but you need an adaptor for spades. A removable shorting link can be replaced with a resistor to lower treble, using multiples of 0.47 Ohm I'd suggest (5W carbon film). After a while I did begin to wonder whether some might want to do this with the LRS: it radiates quite a lot of treble power (radiating area, front and rear) and can be a tad forceful up top.

There are funnies like the bent iron bendy feet and flippers to sit the panel upright. An option pack with cast alloy brackets and adjustable spikes/floor pads is needed. I was also a bit intrigued by three damping 'buttons' on one speaker but just one on the other. This was a little alarming – left and right looked different – but both were the same in performance, in fact closely matched measurement showed.

If all this seems to make the



**The unusual connecting panel of the LRS. It accepts 4mm plugs or bare wires of 4mm diameter, secured by a hex-key grub screw. The Tweeter/Attenuator link can be replaced by a resistor to reduce treble.**

LRS seem a bit exotic, in use it is not. There are no external power supplies, nor any other challenge. They come in a flat box: attach feet, plug-in and go. It's as simple as that.

### SOUND QUALITY

To drive the LRS I used our trusty Creek Evolution 100A (100W) amplifier connected through Chord Company Signature Reference cables. Feeding it was a Chord Electronics Hugo 2 DAC, CDs being spun by our Oppo BDP-205D universal player.

There's no sound trapped in a rear cabinet to bounce back out through the loudspeaker drive unit and the LRS revealed this with The Pink Panther Theme, where the laconic saxophone introduction cruised in its own nice dark space, free from subliminal background muddle. So think: darkness between notes and a sense of sudden surprise as a riff suddenly comes out of nowhere.

This track also highlighted almost definitive timbral resolution of the sax body, which had a fruitfully brassy sound that I suspect its makers had spent enormous effort perfecting, only for it to be lost through most loudspeakers, or even hi-fi systems. Not here: the LRS told me straight away that this sax had body and timbre, with quite a lot of light on it too, to reveal fine nuances. Like listening to a big instrument onto which someone was shining a spotlight.

With Nils Lofgren's Keith Don't Go – a test of any loudspeaker – his acoustic guitar strings were

bitingly fast I have to say, but with an easy quality my ears did not shrink from. There was also masses of fine internal detail that was almost a shock; this is quite a dramatic loudspeaker if you turn the volume up – as I suspect most will. If too many bats fall dead in your living room (dare I mention them!) then treble level can be reduced with a resistor.

"masses of fine internal detail that was almost a shock"

As Sinead O'Connor drops into barren lament at the end of Foggy Dew her stark, unaccompanied vocal was eerily present against the background acoustic of the studio being picked up by the mic. It made for dramatic listening, the LRS doing not just a fine job here but one notches above all else – except Martin Logan's XStat electrostatic panel.

A big no-no with open panel loudspeakers like the LRS is they don't deliver deep bass. Magnepan have twiddled the LRS to sound full-bodied and bass rich, but when I span Loreena McKennit's 'Gates of Istanbul' the opening bass line lacked deep rumble. The LRS has a hard cut-off of deep notes so it sounds big and warm – but won't be shaking the foundations. Smaller rooms than ours will however give stronger deep bass. A room around 18ft long

would be ideal.

Imaging across the sound stage was fabulous. Dadawa singing Canton Story hovered clearly centre stage. The sax in the Pink Panther theme similarly had position chiselled in stone.

Downsides? Yes, they are always there. Being totally absorbed by the LRS I used it hard. After a while some understanding emerged as to

the difference between it and an electrostatic panel. The LRS has a slight metallic colour, reminiscent of a metal cone loudspeaker, that contributes to its sense of speed and hardness. An electrostatic like Martin Logan's XStat panel has a lighter, more ethereal sound. I suspect the LRS will appeal to those who want 'fast' Rock, rather than those demanding absolute tonal purity from Classical instruments.

**CONCLUSION**

What a proposition! A small panel loudspeaker for under £1000. And with magnetic planar drive units. Totally different to all else at this price and

quite radical in its sound, the new Magneplanar LRS or Little Ribbon Speaker, from Magnepan (USA), is in many areas streets ahead of conventional box loudspeakers. Clearer by far and with superb sound staging and imaging, also far more coherent so singers and instruments are more "one of a piece".

There was some warmth, strong upper treble (but this is adjustable) and good if not deep bass, at least in our large listening room. In smaller rooms (circa 16ft long) bass would likely be stronger.

With a different sonic to all else, the LRS I found riveting. Very, very worth hearing. Try and get a demo.

**Supplied are two fuses, plus a Hex key and four resistors, 2 x 1.2Ω, 2 x 2Ω, for reducing treble level. They are 10W wirewounds.**



**MEASURED PERFORMANCE**

Frequency response of the Magneplanar LRS measured reasonably flat in overall trend across most forward measuring-microphone positions. Our third-octave analysis of pink noise shown here was made centrally on-axis, in front of a small disc visible behind the front grille cloth, approximately ear height with the feet 'flippers' down to make the panel stand upright.

There is some emphasis of low frequencies, as there needs to be in a panel loudspeaker to add a sense of body to the sound. The vertical ribbon tweeter extends smoothly to 16kHz and the mid-range dip seen here all but disappeared with the microphone moved to the side opposite to the tweeter, suggesting the ribbon tweeter should be on the outside of what are handed-pair loudspeakers (i.e. left and right), unlike the .7 reviewed in our May 2020 issue.

Bass extends down to 50Hz so the LRS reproduces low frequencies in spite of its limited width. The bass panel works up to 800Hz, measurement showed, leaving the ribbon tweeter to cover a lot of the audio band (800Hz-16kHz).

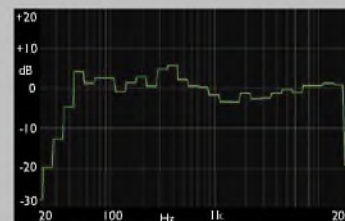
At rear a removable link couples the treble unit. It can be replaced by a 0.47 Ohm or 1 Ohm resistor to pull down high frequency output if desired.

As an amplifier load the LRS is effectively a 3.5 Ohm resistor, our impedance plot shows. In spite of this low value the speaker is insensitive, producing just 80dB sound pressure level (SPL) at one metre; it needs an amplifier of 60 Watts to go reasonably loud and 100 Watts is probably a better choice.

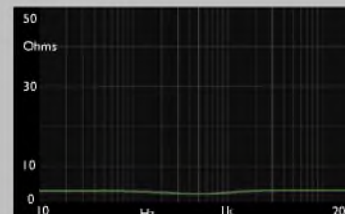
The LRS has a reasonably accurate tonal balance with quite strong upper treble. It will sound a tad warmer than

many modern box speakers and needs a powerful amplifier for high volume. **NK**

**FREQUENCY RESPONSE**



**IMPEDANCE**



**MAGNEPLANAR LRS £995**



**OUTSTANDING - amongst the best**

**VALUE - keenly priced**

**VERDICT**  
Amazingly good – but lacks deep bass

**FOR**  
- great insight  
- big, precision sound stage  
- clean and clear

**AGAINST**  
- lacks deep bass  
- needs power  
- poor standard of finish

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# Great Return

John Pickford on the return of a great name – Leak – with their new Stereo 130 amplifier.

**L**eak branded equipment last appeared in show-rooms over 40 years ago. Now they are back with two new models styled upon their classic 1960s designs. A comprehensive history of

the original company can be read elsewhere in this issue so I'll spare you the long lesson here. Those who know and are interested will notice the new Stereo 130 integrated amplifier bears a striking resemblance to the original Stereo

30, launched in 1963 as the world's first domestic transistor amplifier, as our original Leak advertisement picture shows.

Like its spiritual predecessor, the new Stereo 130 is a solid-state design incorporating latest digital



technology alongside traditional Class A/B amplification, power specified as 45 Watts per channel. In spite of its breadth of modern ability, this is not an expensive amplifier – just £799 with Walnut veneered wooden sleeve as shown, or £699 without.

The Stereo 130 is joined by the similarly styled CDT CD transport (£549/£449) that makes a perfect partner, rather like the Stereo 30 Plus and Stereofetic FM tuner combo I once owned. The new models' Walnut surround is classier looking than my old Leaks – and Leak suggest these sleeves match their veneered loudspeakers like Wharfedale Lintons and Dentons.

Can you slot them in? The Stereo 130 with sleeve is 326mm wide, 146mm high and 267mm deep; the CDT 326mm wide, 146mm high and 283mm deep.

Front panel controls on the amplifier comprise an electronic rotary switch for input source selection, a similarly sized motorised Alps volume pot (activated by the fully-featured remote control) and three smaller knobs for adjustment of bass, treble and balance. Tone controls are essential for some listeners while others find them unnecessary so naysayers will welcome the direct button to bypass the tone and balance circuits. Headphone users will appreciate the excellent dedicated amp stage.

A button marked power is in fact a standby switch as is common nowadays; the true on/off power switch is on the rear panel above the mains socket. In standby the 130 consumes less than one Watt from the mains, as mandated by the IEC. Standby power is needed to keep the remote control active so it can switch the amp on. It's user adjustable too, so the unit will go into auto-standby when there has been no input signal for either 20 minutes or an hour. The amplifier will be in standby mode after these periods, to reduce electricity consumption, unless the function is disabled completely.

Analogue connectivity comprises two sets of unbalanced line inputs along with a moving magnet phono input for vinyl replay. Digital is catered for via coaxial and optical connectors and there is a USB input if you wish to play music from a computer; a Bluetooth 4.2 aptX receiver enables remote



**Comprehensive connectivity including Pre-Out to feed an external power amplifier. Plenty of digital inputs; no XLR balanced inputs. Note the DSD logo at top left: DSD can be played from a computer via USB connection.**

wireless playback and it connected with my phone in less than a minute.

Power from the Stereo 130 is aplenty, easily driving my insensitive (82dB/W/m) Rogers LS3/5a loudspeakers, even though the

3050is.

As many potential users of this vintage styled equipment will want to spin vinyl – or so I guess – I plugged in my 1970 Goldring Lenco GL75 turntable, fitted with a period-correct G800 cartridge with

"it reveals excellent depth of image and betters my ancient TL/12s in the way it fleshes out lower registers"

volume control needed to be at the 12 o'clock position to produce similar levels the 10 o'clock spot produced through Q Acoustics

Super E stylus. Feeding the LS3/5a speakers, I couldn't resist playing a recording from 1963, in honour of the Stereo 130's heritage.



**Under the hood of the CDT CD disc player. At left the slot-loading CD transport mechanism. Near top is the circular toroidal transformer of a linear power supply. The historic Leak logo (right) now adorns a modern electronic circuit board.**



**Full remote control is available for both CD and amplifier.**

Twist And Shout from the Beatles' debut album is no audiophile recording but it's raw and honest. Thrilling as it is, this track can sound thin and harsh through bright sounding equipment yet the Stereo 130 delivered the performance with all its guts intact. Lennon's larynx-shredding vocal (hear his sigh of relief at the end) had all the pleading passion only quality systems can reveal, while the guitars and drums could be clearly heard in correct proportion to the roomy ambience of the studio. Groove noise could've been reduced with a mono switch, a useful addition to tone controls.

Impressed with the fulsome reproduction of a basic mono recording, I stuck with the Fab Four but selected something more modern – 1969 to be precise. That's a half-truth because the 2019 remix

of Come Together improves on the original, especially in its stereo separation. I swapped out my little BBC monitors for some Q Acoustics 3050i floorstanders at this point to get a better insight into bass response.

McCartney's swampy bass line was as deep and weighty as it should be, but more importantly the Stereo 130 got into the groove and played the tune. And subtle nuances such as the odd bit of fret squeak and off-mic vocalisations that inferior components mask were presented in clear focus. This impressed me enormously.

Both of these tracks were, of course, recorded at EMI's studios in Abbey Road, which is apt as throughout the 1960s Leak amplifiers were used exclusively to power the studios' monitors.

Adding the CDT to the set-

feeding the 3050i loudspeakers made the recording warm and inviting. Smooth as they are, the Leak pair does not overlook fine detail as I could distinctly hear the highest vocal harmony less accomplished amplifiers often gloss over.

Having performed brilliantly in my office system, I slotted the Stereo 130 into the main set-up, swapping out my beloved Leak TL/12 Plus monoblocks. Driving 15in HPD equipped Tannoy Berkeleys and fed by a Thorens TD124 based front end, the new Leak amplifier asserted its authority throughout an evening spent listening to a selection of acoustic jazz.

John Coltrane's A Love Supreme needs to be heard through high-resolution equipment to fully appreciate the emotional intensity of the performance. While the solid-state Stereo 130 doesn't quite



**The 12V Trigger connector enables CDT and Stereo 130 to be controlled by a single remote control. There are no analogue outputs, only electrical and optical S/PDIF digital outputs.**

up I played Moving by Kate Bush, from the 2018 CD remaster of The Kick Inside. Kate's icy vocals can sound unbearably shrill through treble-hyped systems yet the Leaks

produce the holographic soundstage of the valve powered Leaks, it reveals excellent depth of image and betters the ancient TL/12s in the way it fleshes out the lower registers.

The new Stereo 130 also comprehensively outperforms my old drab-sounding Stereo 30, which, with its aged electrical components, is becoming to me nothing more than a chic Sixties ornament.

I listened to digital audio through the amp with similarly impressive results. My own hi-res studio masters in Logic Pro replayed accurately through the internal ESS ES9018 DAC, and the even-handed nature of the Stereo 130 even made Spotify an enjoyable background listen. The USB input will accept 32/394 PCM and DSD256 Leak say.

If you're eyeing up the CDT to slot into an existing analogue set-up, be aware there is no analogue RCA output – you will need an external

**Britain's best Hi-Fi Equipment**

STEREO 30 Transistorised integrated amplifier . . .

Superb styling, faultless performance and a breakthrough in price and reliability. Price £49.10.0

**Leak's first transistor amplifier, the Stereo 30, launched 1963. Price £49.10.0 the advertisement says, so around £1035 in today's money (Bank of England inflation calculator). Its rotary controls are mimicked on the new Stereo 130.**

DAC. Also, it will only play files up to CD quality (WAV, 16/44.1 or 48) from the flash drive. Higher resolution files were not accepted. Whilst you can't play hi-res from CDT's flash drive, nor DSD, for most users CD, MP3, WMV and such like will be enough.

As a pair, this is a winning combination offering outstanding analogue and digital performance at an attractive price. Had Leak not got these products spot-on, it would've been difficult to disguise my disappointment. I'm delighted with them. Welcome back Leak – you've been a long time coming.

**NOEL SAYS -**

Great to see the Leak name finally resurrected. I say "finally" because it has been on the cards for some time but IAG, who own an array of respected UK brand names – Quad, Wharfedale, Mission, Castle and Audiolab – likely did not want yet another model range. But the recent success of Wharfedale's Dentons and Lintons, built for trad appearance and sound, has seemingly changed their mind.

Unsurprising really because the audience for hi-fi is an old one (50+) but an affluent one. Add in the desire for traditional British hi-fi in overseas markets and you end up with these cosmetic near-replicas of yesteryear.

I've used a succession of Leak products in the past and am a dyed-in-the-wool Leak man! The TL/12 Plus was just gorgeous to hear – liquid beauty. My Troughline VHF/FM tuner is untouchable for sound quality – it puts me right in the studio. And as for Leak loudspeakers – can't even go there.

All of which is to suggest the Leak brand name has value and potentially a great future.

I enjoyed using these products briefly after testing them, but then I know the Quad Vena II well, upon which the Stereo 130 is based. It's a tried and tested design, replete with ESS ES9018 digital-to-analogue convertor (DAC) that's wholly appropriate sound wise, making for what I see as a piece of magical retro at astonishingly low price. Bear in mind that 45 Watts will blow you across the room if you use sensitive loudspeakers (90dB from one Watt). Think Wharfedale Lintons or Q Acoustics 1050is, but there are plenty more modern floorstanders that would suit if you want to go head-bangingly loud – 1960s style. **NK**



**MEASURED PERFORMANCE**

The Leak 130 produced 55 Watts into 8 Ohms and 64 Watts into 4 Ohms, similar results to Quad Vena II (June 19 issue). This is sufficient power to go very loud in most systems. Distortion was low at all frequencies and outputs – and I noted that the output stage was very linear with signals below 1 Watt, helped partly by low output noise.

I suspect excellent low level linearity, low noise and rolled off treble all contribute to its smooth sound.

Output rolled down slowly above 20kHz (-1dB at 38kHz) ensuring easy treble. Low frequency output rolled down below 10Hz too, especially with tone controls engaged, to limit subsonic gain when bass lift is applied.

The tone controls were neatly engineered to give a useful but not excessive +7dB maximum bass lift around 40Hz, but more importantly there was good low level resolution, allowing just +1dB to be dialled in.

Similarly the treble control gave +7dB lift maximum (20kHz) but could be set to give fine treble cut of -1dB at 10kHz to reduce the excessive treble of current loudspeakers.

The optical S/PDIF digital input worked to 192kHz sample rate, but frequency response rolled down fast, extending to 26kHz (-1dB). The electrical input gave identical results.

Inside there is an ESS ES9018 Sabre 32 Series digital-to-analogue convertor (DAC) that gave a very high 117dB EIAJ Dynamic Range value from the loudspeaker outputs (and 118dB from Pre-out), a very good result able to convey the benefits of hi-res digital but there will be no brightness in the sound.

Distortion at -60dB came in at a low 0.03% with 24bit digital (0.22% with CD).

The MM phono stage needed a normal 4.5mV for full output and overload was high at 50mV. There is no warp filter as such but switching in the tone controls helps. Noise was low at -80dB. Frequency response measured flat from 10Hz-20kHz, with just a smidgeon (0.3dB or so) of bass lift to ensure a sound with some body.

The CDT delivers only CD quality, being unable to play hi-res from the USB drive. It gave flat frequency response to 21kHz and standard CD performance figures of 0.22% distortion and 101dB EIAJ Dynamic Range. With no internal DAC it is a transport, not a player.

The new Leak Stereo 130 measured very well in all areas. It is very linear (no distortion), has low noise and frequency response has been rolled off above 20kHz on all inputs to help toward an easy sound lacking sharpness. **NK**

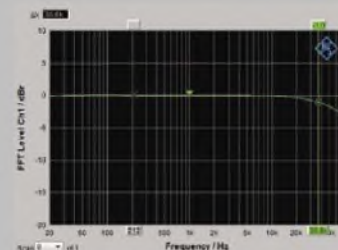
<b>Power</b>	<b>55W</b>
<b>Frequency response (-1dB)</b>	<b>10Hz-38kHz</b>
<b>Distortion (10kHz, 1W)</b>	<b>0.02%</b>
<b>Separation (1kHz)</b>	<b>91dB</b>
<b>Noise (IEC A)</b>	<b>-111dB</b>
<b>Sensitivity</b>	<b>600mV</b>

<b>DIGITAL</b>	
<b>Frequency response (-1dB)</b>	<b>10Hz-26kHz</b>
<b>Distortion (-60dB, 24bit)</b>	<b>0.03%</b>
<b>Dynamic range</b>	<b>117dB</b>

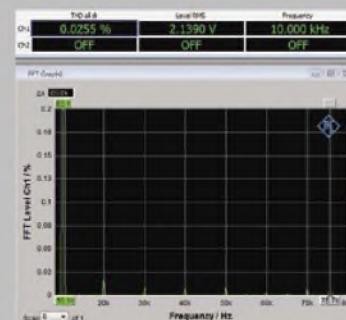
<b>PHONO (MM)</b>	
<b>Frequency response (-1dB)</b>	<b>10Hz-20kHz</b>
<b>Distortion (1kHz, 5mV in)</b>	<b>0.01%</b>

<b>Separation (1kHz)</b>	<b>68dB</b>
<b>Noise (IEC A)</b>	<b>-80dB</b>
<b>Sensitivity</b>	<b>4.5mV</b>
<b>Overload</b>	<b>50mV</b>

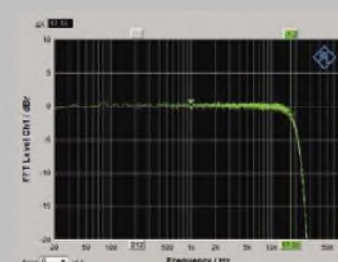
**FREQUENCY RESPONSE**



**DISTORTION**



**FREQUENCY RESPONSE CDT**



**LEAK STEREO 130 £699 (£799 WALNUT)**



**OUTSTANDING - amongst the best.**

**VALUE - keenly priced.**

**VERDICT**

Warm yet detailed sound from vinyl and digital sources with vintage style and modern features. Superb.

**FOR**

- smooth, full-bodied character
- lovely linkable remote control
- retro good looks

**AGAINST**

- no mono switch

**LEAK CDT £449 (£549 WALNUT)**



**OUTSTANDING - amongst the best.**

**VALUE - keenly priced.**

**VERDICT**

A CD transport that can also play digital files from flash drive.

**FOR**

- easy to use
- plays from a flash drive
- remote control

**AGAINST**

- no hi-res from flash drive
- poor display

**LEAK**  
www.leak-hifi.co.uk

# Luna Power

Prima Luna's EVO 400 valve amplifier offers big power. Noel Keywood comes away impressed.





**A**h, the path to power. I reviewed the 40 Watt Evolution 300 valve amplifier in our December 2019 issue and here is its bigger brother for those who want more power – the Evolution series EVO 400 with no less than 70 Watts available on each channel, price £4999.

Bizarrely, I said in my column last month that you don't need high power to either go loud or sound good – and PrimaLuna repeat the very same sentiment in their literature for this amplifier. How to explain?

I've been pushed in the past by requests for high power to produce a 100 Watt World Audio Design power valve amplifier and know how power attracts. If you have a big room, insensitive loudspeakers or a desire to hit 1970s Rock Stadium levels in your home to hear Led Zeppelin as they blew you away long ago – at a concert you went to in your inglorious youth! – the Evo 400 may well be the perfect choice.

What you get with the 400 is double the 300: instead of four EL34 power valves there are eight – it's as simple as that. Correspondingly, the mains transformer and output transformers need to be beefed up so weight increases, the 400 coming in at a substantial 31kg (68.2lbs). It took two of us to handle this amplifier as a result. Yet dimensionally, little has changed, PrimaLuna shoe-horning

in the new bits onto a chassis that's relatively compact, measuring 386mm (15.2in) wide, 404mm (15.9in) deep and 206mm (8.1in) high. It will fit a standard 19in wide (483mm) rack.

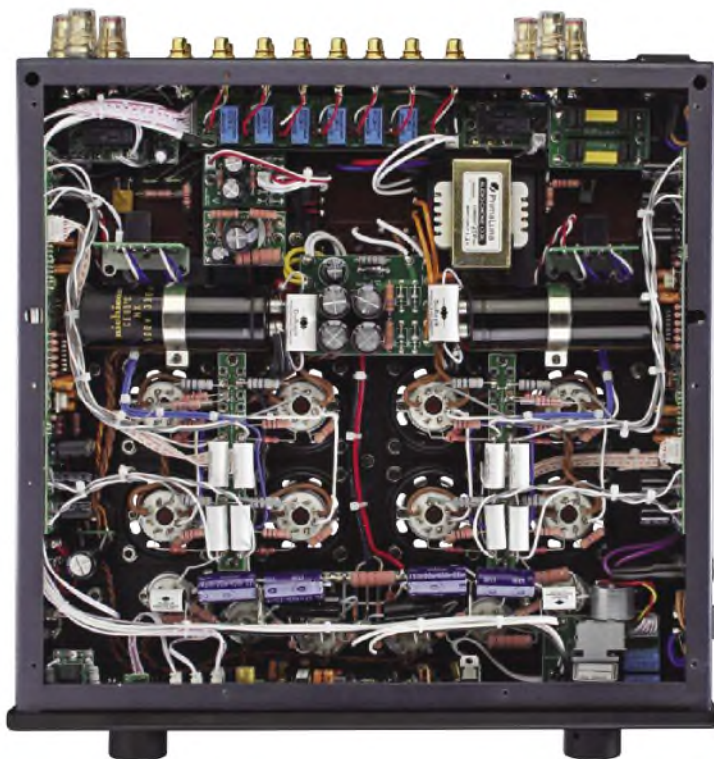
The EVO 400 is an amplifier in simple form. There are no digital inputs, but there is a moving magnet (MM) transistor phono stage slung underneath, as with the 300. PrimaLuna say that at this level it's better to buy good outboard digital sources and phono stages – and I would not disagree. Especially in a valve amplifier that is a hostile environment for low voltage transistors. There are five Aux line inputs via phono sockets, a Subwoofer output, a Tape output and a Home Theatre output that bypasses the volume control – but no balanced XLR inputs.

Loudspeaker outputs cater for 8 Ohm and 4 Ohm types in traditional fashion; nowadays most loudspeakers are rated as 6 Ohms and come with 4 Ohm bass units so technically 4 Ohm is the best match, but some feel 8 Ohm gives best sound – so best to experiment.

There's a remote control for volume and input switching, mute and the Triode/Ultralinear option, where Ultralinear gives rated power output and Triode mode gives what is



"And – oh! – what a glorious sound hit me. It's always great to hear a finely tuned valve amplifier "



**Complex interior, part hard wired, part circuit board. Visible are large black power supply smoothing capacitors (centre), a mini standby transformer (top right) and motorised Alps volume control (bottom right).**

often felt best sound quality, but with reduced power quoted as 38 Watts per channel. Volume is altered by an Alps Blue Velvet motorised potentiometer that rotates in ghostly fashion under remote control – a tried and trusted solution. There is also power on/off on a left side-mounted rocker switch. Awkwardly, to load the remote with batteries (two AAA) two rubber bands must be removed and four small Philips head screws undone, but I guess most dealers will do this.

PrimaLuna use their own adaptive auto-bias circuitry that allows the amplifier to use a range of output valve types, without need for manual bias adjustment. They quote a



**At right lie rocker switches to change bias and switch off output for headphone listening.**

wide range of types from the humble but sweet sounding 6L6, 6L6GC, 7581A, EL34, EL37, 6550, KT66, KT77, KT88, KT90, KT120 and finally KT150 that they call “monstrous”.

The EL34 is their preferred valve, fitted as standard, and it does give a lovely open sound with – as they say – airy treble. The EL34 is also inexpensive at £20 apiece (lot of variation here). I prefer the KT88 for a more solid sound, or the “monstrous” KT150 that is supremely smooth and well worth hearing (the KT90 and 120 are best avoided in my experience, whilst the 6550 is best described as ‘functional’).

Whatever, the EVO 400’s automatic bias circuits make all available for use in this amplifier (and I presume the heater supply can handle eight KT150s). Better, if a valve goes out of line, or even ‘pop’, a warning LED comes on and the output circuit goes into protection.

PrimaLuna design their mains and output transformers, as you must with valve amps, the output transformers in particular being sophisticated and difficult to build items. They are also the key to good sound quality. But fragile and in need of protection should a valve catastrophically fail – so good to see protection in this amplifier.

Internally, the EVO 400 is hard

wired and fitted with specialist components such as Takman resistors. Build quality is – as it has to be – heavy duty to carry the weight of the transformers. A protective valve cover guards against children or inquisitive cats getting burnt but is easily pulled off to put the full complement of valves on display. The standard of finish is high, all controls working smoothly.

### SOUND QUALITY

I connected the EVO 400 to our Martin Logan ESL-X hybrid electrostatic loudspeakers using Chord Company Signature Reference shielded cables. Digital sources were, alternately, an Oppo BDP-205D Universal player, and a Chord Electronics Dave DAC fed by the Oppo through a QED Quartz glass optical cable.

And – oh! – what a glorious sound hit me. It’s always great to hear a finely tuned valve amplifier with high quality components, wiring and all that, because you are immediately faced with stunning clarity and wide open sound staging – and that is



**The EL34 power output valves are arranged in push-pull pairs to achieve 80 Watts per channel.**

what I heard with the EVO 400. So generous and spacious the sound took up big presence in front of me and there was nothing to not like (well – perhaps – see later).

I fell in love immediately, being able to sit back and hear the glories of valve sound expertly wrought. Jan Ackerman singing Am I Losing You (CD) occupied a sound stage suffused with space and light, with breathtaking insight sweetly wrought. The spaciousness of a



**Large, gold plated loudspeaker sockets cater for 8 Ohm and 4 Ohm loudspeakers. A long array of solid, isolated gold plated RCA phono sockets carry inputs and outputs. An MM phono stage option is slung underneath.**

valve amplifier comes from its small component count, plus quality of components used – and here the EVO 400 immediately set out its stall, with dramatic ability. Better, it was sublimely sweet and easy on the ear in best analogue fashion – a flowing and smooth sound, like liquid water. This was using Triode mode, slightly easier and purer than Ultralinear.

I got to hear the bass power available with Josefine Cronholm's In Your Wild Garden (CD) where opening plucked lows from acoustic bass set the room going around me. Bass comes over as strong, well controlled and with subsonic threat;

there were some deep rumblings at times. But it was Josefine Cronholm's vocal that moved forward to become sensually close that I would say defined this amplifier's sheer thermionic ability. Transistors cannot do this.

As the tracks rolled by I loved listening to this amplifier, one streets ahead of most else. But it does have, as delivered with EL34s, the bright, open and airy sound of the EL34. At times I found the patina on the bright and vivid side shall I say: there are smoother if darker sounding valves than this one. KT88s of good provenance manage better and

KT150s carry more thunder but are less aggressive. So as delivered the EVO 400 is spectacular but likely capable of better – in my own valve-head opinion! Nigel Kennedy fiddling on his Stradivarius playing Vivaldi's Spring was brightly lit, that's for sure, but the liquid clarity of the 400 made a feast of his skills.

My valve talk should not detract from the basic fact that the EVO 400 offers sound quality that I revelled in: this is a proper valve amplifier. PrimaLuna like the fast and deeply detailed presentation of the EL34, its sense of airiness and space. I'd stick in a good set of KT88s in my sonic dreams but – hey ho – this is an endless thermionic debate. At least, with valve amplifiers as good as this, able to accept a wide range of valve types, the debate can be had.

**CONCLUSION**

The EVO 400 is a masterclass of valve sound finely wrought. It sets up a massively open and spacious sound stage, has liquid clarity and strong deep bass. PrimaLuna have made it resilient of valve failure with their protection circuits, and also flexible enough to accept a wide range of power valve types. With remote control and a simple MM phono stage it is an analogue power house worth hearing. A step upon from the transistor idiom.



**A rocker style power switch sits at left, along with fuses.**

**MEASURED PERFORMANCE**

Under test the EVO 400 delivered 80 Watts into 8 Ohms (1% thd) in Ultralinear mode and 40 Watts in Triode mode. The same power was delivered into a 4 Ohm load from the 4 Ohm output taps, meaning the 4 Ohm tap is efficiently coupled to deliver same power. Changing bias did not affect these figures.

As with the EVO 300, frequency response in Ultra-linear mode exhibited a +4dB bass peak at 6Hz due to feedback conditions; a reduction in open loop bandwidth usually cures this problem, something PrimaLuna should consider. Triode mode reduces the peak to a more acceptable +2dB, likely due to lower feedback. It also reduces high end extension from 44kHz (-1dB) to 34kHz, again a result of lower feedback. As I said with the 300, whichever mode is chosen the amplifier will appear to have strong low bass, especially with LP where warp signals peak at 5Hz.

Distortion in the midband measured a low 0.03% at 1 Watt and 0.2% just below full output. Distortion at high frequencies (10kHz) was low as well,

around 0.14% at 1 Watt and 1% at full output. Bass distortion was very low at 0.14% at 40Hz, 1 Watt, rising to 0.3% 12 Watts with full 80 Watts available at a 1% upper limit. This is a very clean bass performance.

Output impedance measured 2.3Ω, giving a damping factor of 3.4 in Ultralinear mode. Surprisingly, figures were a tad better in Triode mode at 2Ω and 3.8. Both are 'poorer' figures than that of transistor amplifiers, but really this is dependent upon loudspeaker acoustic damping.

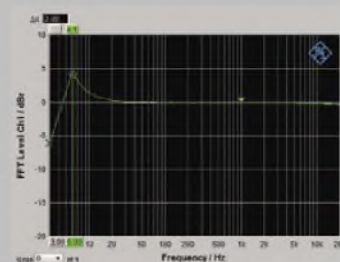
Noise measured a low -96dB, hum being all but absent.

The EVO 400 has low distortion and plenty enough power. Bandwidth is wide but the bass peak needs taming for LP use. **NK**

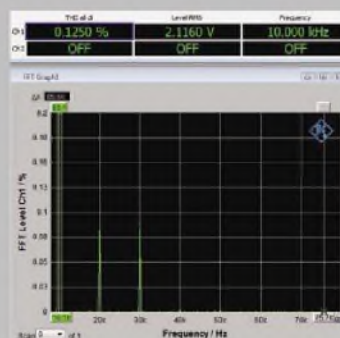
<b>Power (8 Ohms)</b>	<b>80 Watts</b>
<b>Frequency response (-1dB)</b>	<b>15Hz-44kHz</b>
<b>Separation</b>	<b>69dB</b>
<b>Noise (IEC A wtd)</b>	<b>-96dB</b>
<b>Distortion (10kHz, 1W, 4Ω)</b>	<b>0.14%</b>

**Sensitivity** 0.37V  
**Damping factor** 3.4

**FREQUENCY RESPONSE**



**DISTORTION**



**PRIMALUNA EVOLUTION 400 £4999**



**OUTSTANDING - amongst the best.**

**VERDICT**  
Massive sound stage, supremely lucid and detailed. An exciting sound, beyond most else.

**FOR**  
- spacious sound  
- powerful bass  
- protection circuitry  
- compact form

**AGAINST**  
- very heavy  
- no XLR input

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# Solid Power

McIntosh release a powerful hybrid amplifier with solid-state output, fronted by valves. Noel Keywood enjoys.

**W**ith a history that starts back in 1949, kicked off by a valve amplifier of legendary ability, McIntosh remain in touch with the valve today – although perhaps I should use the term ‘tube’ for this U.S. company, based in New York. Explaining the ornately protected tubes that front up their new MA352 amplifier I am reviewing here. It’s a hybrid though: the power amplifier is transistor – just look at those heat-

sinks either side.

What the MA352 offers is valve sound and romance with transistor power, no less than 200 Watts claimed – but we measured more (see Measured Performance). The MA352 is an integrated amplifier with RCA phono-socket unbalanced Line inputs, as well as XLR socketed balanced inputs. There’s also a Phono stage for a turntable fitted with an MM cartridge, but there are no digital inputs. That’s not to say it lacks microprocessors for digital

control circuitry inside though, as our internal shot shows; this is one complex amplifier in control terms, having a remote control as well as external bus control.

When I pressed the volume control at right to switch on, the amplifier lit up immediately, LEDs beneath the valves glowing bright orange. The big power meters light blue and on came a dot matrix display panel showing status. There’s a small delay of 15 seconds as the valves warm up and when they do



the LEDs switch to bright green. This display can be switched off however, leaving the less obvious glow of the 12AT7 and 12AX7 heaters. Unexpectedly, under test when the amplifier was driven into overload the LEDs reverted to orange, warning of overload – but somehow I don't think many people will be seeing this happen.

An unusual addition is the line of five tone controls you can see at centre, that can be switched in or out by remote control so comparisons can be made. The controls must be set manually and all have a zero-position indicated on the control knob and physically by a centre click-stop. Measurement showed each of these controls offers massive boost and cut values of 15dB (+/-12dB quoted), but they have sufficient resolution to make the small tonal changes that may be needed. Centre frequencies are 30Hz, 125Hz, 500Hz, 2kHz, 10kHz, the first altering low bass, the second upper bass/warmth, 500Hz alters presence of singers, 2kHz affects treble (detail) and 10kHz tweaks upper treble (the hissy bit).

Switching in the EQ system also introduces a sharp bass roll-off filter at 15Hz to prevent the 30Hz control from subsonically over-driving loudspeakers. It can be used as an LP warp filter, something McIntosh don't mention in their literature.

Which brings me to the Phono stage. It's designed for moving magnet cartridges, but is sensitive enough – with input trim set to +6dB – to work with moving coils having strong output. Capacitive loading can be varied in 50pF steps from 50pF (minimal) up to 800pF (large). Increasing capacitance raises the



**An underview, with front panel at right. McIntosh use a complex robotically manufactured board with surface mount components, including a microprocessor just below centre.**

upper mid-band and presence, whilst lowering high treble.

It took two of us to lift the 30kg (66lbs) MA352, largely because it has a massive mains transformer and power supply – explaining huge power output. The chassis is well finished in polished stainless steel but exposed edges from the folded (unwelded) chassis at front were not so nice. Width is 445mm so it will fit a 19in (482mm) rack but with a height of 251mm demands space between shelves. Depth is 440mm so again within 19in rack dimensions. McIntosh say 521mm deep including cables but this appears to include US only banana plugs we did not use.

The styling is trad.Americana, straight out of the fifties/sixties with all that brightwork – totally opposite to the bland black box common today, that makes hi-fi products look so utilitarian. McIntosh work up valve-visuals nicely, pumping up light display to its ultimate: this is an amplifier to be seen, not tucked away. Idiomatic I guess, but I found the MA352 easy and sweet to use. It has no foibles: the controls moved smoothly and the remote switches inputs and controls volume, as well as selecting a wealth of pre-set options displayed large in the dot matrix screen. Amongst them are labelling of the inputs (CD, TUNER etc), mono/stereo pass through to rear phono-socket outputs. An external remote sensor can be used and there is external trigger control. Auto power off to the preamplifier occurs after 30 minutes, but can be switched out.

The loudspeakers (Output 1) can be switched off for headphone listening, a 1/4in (6.3mm) jack being sited on the front panel.

**SOUND QUALITY**

I connected the MA352 to our Martin Logan ESL-X hybrid electro-static loudspeakers and fed in CD from our Oppo BDP-205D universal player connected via Chord Company Epic balanced cables.

For LP our Timestep Evo modified Technics SL-1210 Mk2



**Loudspeaker terminals sit high up, just behind the power amplifier boards. Below are Line inputs, a Phono stage with earth terminal (centre) and balanced XLR inputs at right.**

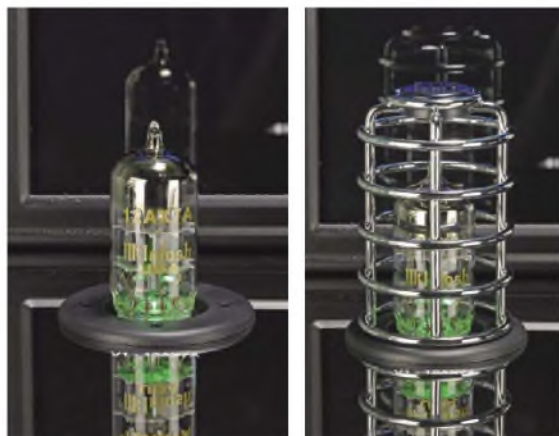


**With top cover removed the screened mains transformer can be seen, with power amplifier boards mounted in heatsinks either side. Convection cooling only (no fan) with thermal cutout; ours ran just warm.**

Direct Drive turntable with SME309 arm was used, carrying an Audio Technica VM750 SH (Shibata tip) moving magnet cartridge.

Playing LP and then CD the overall quality of this amplifier soon became apparent. It is quite dry, super clean and dynamically powerful. And it imposed these qualities on both LP and CD equally, bringing them close to each other.

Spinning uncompressed CD and John Campbell singing Down



**When running the valves glow green, but this display can be switched off if desired.**

In the Hole, there were enormous levels of detail and a great sense of atmosphere coming in from his microphone. This made the MA352 forensically insightful. Bass was tight and clean, if not overly heavy – but this is what high electrical damping

imposes. You get good, solid and tuneful bass, held in an iron grip.

With Nils Lofgren and Keith Don't Go (CD) his guitar strings cut out vividly, being starkly clear. Lofgren's vocals were placed in front of me with stone-solid outlining. There was little sense of valve warmth as such, but at the same time a lovely sense of easy clarity, with good body to the sound. And it was the body in the sound that the valves were responsible for I suspect, plus a broad sound stage with a good sense of space.

This all became clearer with LP, especially with our Mobile Fidelity re-issue of Love Over Gold from Dire Straits (45rpm, 180gm). Your Latest Trick was as clean, clear and composed as CD but had more body and believability. It was a stunner: the MA352 conspired with our Direct Drive turntable and insightful Shibata tipped cartridge to deliver stabbingly powerful dynamics held in place time-wise to give a great sense of pace. Mark Knopfler's vocals had weight and presence, again with stony solidity. The bass line was weighty but rigidly timed, driving this track along with assured pace. Ride cymbals on

the drum kit shimmered and had filigree detail; the MA352 drew out their presence in the mix, capitalising upon the resolution of the Shibata stylus.

Opening kick drum strikes in Hugh Masekela's Uptownship, from his Hope LP (180gm), had powerful slam and hand drums snap in their timing. His trumpet blared out clearly centre stage, sounding brassy. There was a sense of pure clarity here, yet without sharpness. It was a sound that any listener would gurgle at as supreme high fidelity, aided by sheer dynamic thrust. Spectacular, but palatable too.

For classical I turned to a selection of hi-res files on our Astell&Kern AK120 portable player, connected by short optical digital cable into the Oppo player acting as a DAC. Both scale and depth of the Minnesota Orchestra playing Dance of the Tumblers from Korsakov's Snow Maiden (24/96) was strongly established between and beyond the X-Stat electrostatic panels, with smooth yet vivacious strings and big kettle drum strikes at the end. This amplifier finds visceral power in an orchestra and conveys it with some force.



**Safety covers over the valves lift off. The bright orange glow comes from underside LEDs, orange indicating warm up or overload.**

The closely recorded and often bright sounding violin of Marianne Thorsen playing Mozart's Violin Concerto in G Major, backed by the Trondheim Soloists (24/96) came over as solid and clear, and the edginess I occasionally hear with this piece was absent. Cool and forward – yet smooth and svelte at the same time, and with fantastic internal detailing to the strings of the violin. This is a riveting piece and the MA352 did a fine job with it.

The tone controls added usefully



**Big power meters give clear indication of output. They are electronically driven to capture peaks accurately. Centre scale is 2 Watts.**

subtle changes, but I did not feel they were especially necessary – at least with our well honed sources. I heard no discernible difference between EQ (set flat) on or off, but I played flat, heavy 180gm LPs without warps so this is to be expected. Good though that the EQ circuits do not affect sound quality when switched in.

The meter needles swung around 2 Watts at centre scale, hitting 20 Watts only on occasion when playing loud. From previous tests I know that McIntosh use meter driver circuits that ensure an accurate peak reading; it was nice to see yet again that 20 Watts is about it, even in our large 6550 cu ft room. This

information from the meters was discernible 12ft away, as was volume level as a percentage and all settings on the large dot matrix display. All of which made driving the MA352 by remote control and getting feedback from it a no-problem experience. McIntosh do a fine job with the whole user interface, courtesy of much digital control circuitry.



**The remote selects inputs, alters volume and can change operating conditions like gain Trim.**

**CONCLUSION**

In the MA352 McIntosh offer an integrated amplifier with massive power – 350 Watts into a 6 Ohm loudspeaker. Whilst the power amplifier has grip and insight, the valve stages add in body and dimensionality to the sound stage. Result: an awesome sound. The Phono stage was no after thought either, LP sounding better than digital. It's grippy and powerful, rather than warmly romantic, yet there was body in the sound that eludes most others. With an easy and engaging user interface as well, this is a fine amplifier.

**MEASURED PERFORMANCE**

The McIntosh MA352 delivered 264 Watts into 8 Ohms and doubled this to 530 Watts into 4 Ohms, making it massively powerful. Few loudspeakers can handle such power so it is a tad academic. The meters are logarithmically calibrated and show true power use, which means centre scale of 2 Watts where the needle hovers; it was difficult to get to 20 Watts at right, let alone 200 Watts at end of scale. The green upright LEDs flash orange at overload.

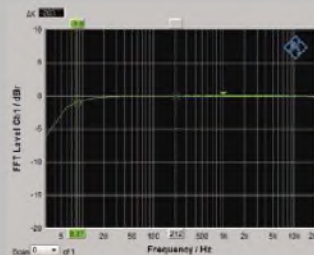
Output impedance measured a low 0.09 Ohms, giving a very high damping factor of 88, keeping a good grip on the cones in terms of electrical damping at least.

Frequency response with Equalisation switched out measured flat from 8Hz to 100kHz – wide. Switching Equalisation in introduced a low bass filter, sharply reducing gain below 15Hz, with all five tone controls set to flat, so EQ can be used to switch in a subsonic filter with LP without affecting frequency response, although this does switch in the EQ circuitry.

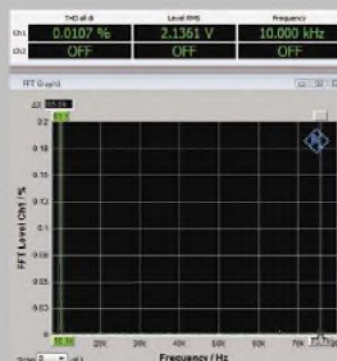
Each of the five tone controls introduced massive lift and cut of 15dB –

far beyond the maximum of 10dB needed or 12dB quoted. But small amounts of boost and cut can be applied for subtle variance and they can be switched out by the remote control for A/B comparison.

**FREQUENCY RESPONSE**



**DISTORTION**



Distortion levels were very low at all frequencies and outputs. There is no crossover distortion: at 10kHz, 1 Watt distortion measured a very low 0.01%, our analysis shows.

The Phono stage was accurately equalised to give flat frequency response from 10Hz to 20kHz. Switching EQ in introduced a steep subsonic warp filter that cut bass below 15Hz, introducing -20dB attenuation at 4Hz to prevent cone flap with warped records. Sensitivity was high at 3mV (for full output) at 0dB input trim, +/-6dB trim being available. Since adding 6dB halves the input sensitivity to 1.5mV this is adequate for moving coil cartridges (as is a 47k MM input load). Noise was minimal at -81dB.

The MA352 measured well in all areas. It has massive power, almost no distortion and no weak points. **NK**

<b>Power (8 Ohms)</b>	<b>264 Watts</b>
<b>Frequency response (-1dB)</b>	<b>8Hz-100kHz</b>
<b>Separation</b>	<b>70dB</b>
<b>Noise (IEC A wtd)</b>	<b>-98dB</b>
<b>Distortion (10kHz, 1W, 4Ω)</b>	<b>0.01%</b>
<b>Sensitivity</b>	<b>0.3V</b>
<b>Damping factor</b>	<b>88</b>

**MCINTOSH MA352 £8,495**



**OUTSTANDING - amongst the best.**

**VERDICT**

A stunning amplifier in sound quality and dynamic thrust. Visually alluring too.

**FOR**

- enormous power
- insight and clarity
- great phono stage
- ease of use

**AGAINST**

- weight
- size

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# Living the stream

**They say good things come in small packages. But will Chris Frankland think so in the case of Project's Stream Box S2 Ultra?**

**W**hen I first clapped eyes on Pro-Ject's tiny Stream Box S2 Ultra streamer, I thought it underwhelming. Not the kind of product to impress your friends. No big displays or flashing lights. But I found it big on performance.

Inside, this tiny (37mm high x 103mm wide x 115mm deep) high-resolution network bridge is based on a processor running a tailor-made version of the Volumio OS. It supports DLNA, Shairport (Apple AirPlay) and RAAT data protocols,

runs Shoutcast for internet radio and supports audio formats up to PCM 32bit/352.8kHz and DCD256. Importer Henley Audio says the Stream Box uses only top-quality "audiophile-grade" components throughout.

The front panel is minimal, sporting just a power button, a USB/PC button, LEDs for power, network and the Detox function (of which more later), plus an additional USB input for a NAS drive, server or USB stick. On the rear panel is a USB output for an external DAC, a Boot button that allows "experienced users" to install a different operating

system, another USB input for a network server or NAS drive and an HDMI socket for a TV or touch-screen monitor to control the device. Finally, there is a microUSB input for the Detox function.

The first step was to plug in an Ethernet network cable from a wireless router (you can also connect to it via Bluetooth or wi-fi) and then install the Pro-Ject Play app; it runs on a 'phone or tablet.

My app quickly found the Stream Box, but one odd quirk was that when it came to play from Tidal or Qobuz, I had to log in through the Pro-Ject Play App, not the Tidal app.





I could also access the Stream Box using Roon, but I stuck with the Pro-Ject Play app, which additionally provided access to a wide variety of UK and worldwide internet radio stations, as well playback of music files through the Music Library button.

You can also plug in a CD drive with a USB output, such as Pro-Ject's CD Box S2 T, and use the Stream Box to rip CDs either to its internal 16GB drive or to a drive of your choice.

I decided to start by looking at its rather intriguing "Detox" function. This is said to clean up the signal from a computer before passing it on to the DAC. Henley tells me the circuit was designed by renowned John Westlake, who also designed Audiolab's M-DAC. It is said to clean up the power supply and reclock the signal, filtering out the noise generated by the computer.

**SOUND QUALITY**

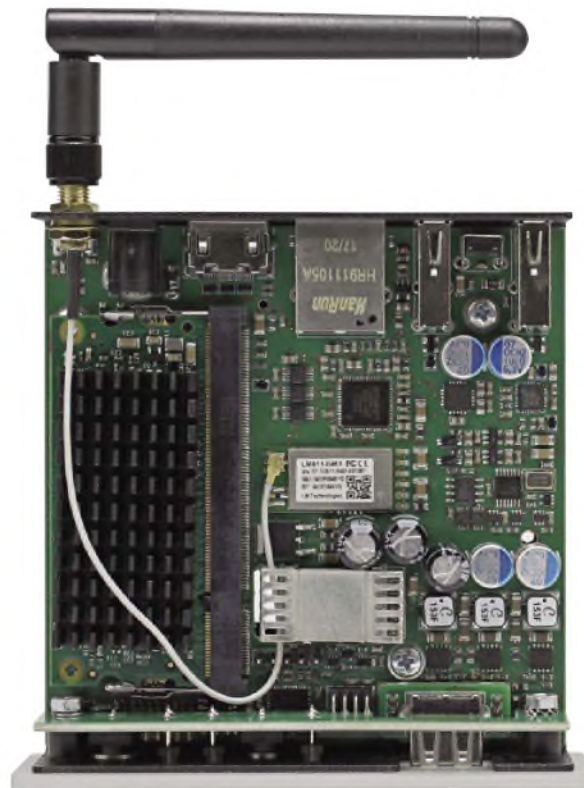
I admit I was sceptical, so I sat down for a critical listen. First I fed my

"the sound was detailed, dynamic, tuneful and musical."

Apple MacBook Pro straight into the USB input on the Pre Box RS2 Digital (see pages 41-43). Then I compared that with the signal fed through the Detox circuit on the Stream Box.

On Ben Sidran's Broad Daylight from The Doctor is In, my jaw hit the floor as Sidran's voice was more open with 'Detox', the bass line was fuller and more tuneful and percussion more detailed. His piano runs were more fluid and the instrument had more body. Hmmm...

Next I tried Days Like This from Van Morrison. Again I was amazed to find that with Detox his vocals were more 'human', more intelligible, the horns were less



*This compact streamer packs a lot of tech in a small box.*

glaring and the bass line tighter and more tuneful. Backing vocals were better separated and the whole thing simply flowed better.

On balance, I have to say that the Detox function worked superbly well. But better to stream directly from the Stream Box itself.

Streaming The Bright Side from Dave Koz's The Dance from Tidal, the direct stream won the day with a more realistically voiced sax, fuller and

snappier bass lines and more detailed and syncopated percussion. Track after track proved its superiority.

On Ben Sidran's Sunny Side of the Street, vocals were more open streaming direct, saxophone had more bite and detail, bass lines were more tuneful and tighter and percussion was better defined.

Comparing the Stream Box/PreBox RS2 Digital to another well-respected streamer/DAC duo proved the Pro-Ject combo was excellent. The sound was detailed, dynamic, tuneful and musical. In short, it sounded great and comfortably outperformed its rival.

I also took the opportunity to play back a few hi-res music files from a separate USB drive through the Stream Box. This was simple. Henley says that most UPnP drives will work, but the drive must be formatted in exFAT format for the Stream Box to see it. It successfully played back my hi-res files in AIFF, FLAC and DSF formats and the sound was excellent.

**CONCLUSION**

Don't let the diminutive proportions of the Stream Box S2 Ultra fool you. It packs in lots of useful features, which work superbly well, and delivers great sound quality. It gets an unequivocal recommendation from me.



*Stream Box Ultra has Ethernet and USB inputs, an HDMI socket for a touch-screen monitor, a USB output to a DAC and a microUSB input for the detox function.*

**PRO-JECT STREAM BOX S2 ULTRA**  
£629



**OUTSTANDING - amongst the best.**

**VALUE - keenly priced.**

**VERDICT**

Excellent sound and versatile. Offers a lot of functionality for the money.

**FOR**

- computer Detox facility was brilliant
- easy network hookup
- easy to control through Pro-Ject Play App
- can rip CDs

**AGAINST**

- some minor quirks in app

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(0)1235 511166  
www.henleyaudio.co.uk



# Six Appeal

**Klipsch's new The Sixes are more than just a loudspeaker – they are a versatile all-in-one system. Jon Myles explains all.**

**I**f there's a big trend in hi-fi at the moment it's the all-in-one system. Think of Naim's Mu-So 2 combining streaming services, amplification and loudspeakers. Or – king of

the pile – Devialet's Reactor 900 that gives you a loudspeaker with a 900 Watts per channel amplifier, plus superb design. Now American manufacturer Klipsch has joined the party – but with a twist.

Unbox The Sixes and they look like a typical pair of Klipsch loudspeakers. Pride of place goes to the six-and-a-half inch mid/bass driver allied to a one-inch aluminium tweeter housed

in a proprietary horn-loaded enclosure.

The difference, though, is that these £800 speakers include amplification and a complete set of inputs – including a phono stage for a turntable. So forget extra boxes - they can accept a variety of sources and handle everything else themselves.

Volume can be adjusted up and down by the right loudspeaker's front-baffle rotary control. The amplification for both loudspeakers has been fitted inside the right-hand cabinet. It includes line-level analogue and TOSLINK/USB digital with a 24bit/192kHz-capable DAC, Bluetooth – plus an MM phono stage. There's also a subwoofer output for those with a stronger addiction to bass.

To call them wireless would be going a bit far. The main (right-hand loudspeaker) needs to be plugged into a power socket while the pair are connected by a supplied cable. That said, afterwards there's little to worry about. The Klipsch's have 100 Watts of power on board and will accept almost any input.

They also boast a rather attractive mid-1970s retro look with walnut cabinets accentuated by gold logos at the bottom of each loudspeaker. All

the controls sit on the right-hand 'speaker where you can use a toggle switch to put the pair into

standby mode or choose which input to use.

Alternatively there's a small remote control that allows you to use everything - including volume, source selection and on/off - from your armchair.

The loudspeakers themselves measure 22cm x 43cm x 28cm and feature a rear-ported enclosure to boost bass response. That means they are not small and do benefit from good, substantial stands to bring out their best - but that holds for any loudspeaker of this size.

On the back are inputs for the integrated phono pre-amp (more of which later), Bluetooth wireless technology, digital optical, analogue RCA as well as USB.

So they are fairly well-equipped and cut down the number of boxes needed to play music. In fact all you need is a source which, at the most basic level, could be an iPhone or Android device equipped with Bluetooth.



**The rear of the main 'speaker includes digital and analogue inputs – all you need is a source for a complete system.**



**The front right loudspeaker provides access to all the various inputs: Bluetooth reception, Aux, Phono, USB and Digital.**



# Bricasti Design



M3 DAC



M20 PRE  
M25 AMP



M3 DAC

Full range available for demo in the UK via selected retailers.

Experience Bricasti's stunning range of networkable DACs and power amplifiers now.



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The only downside is the exposed screws on the top of the cabinets which, frankly, look a little agricultural.

**SOUND QUALITY**

With a large horn-loaded tweeter and sizable mid/bass driver taking up most of the fascia you'd expect these 'speakers to be big, bold and brash. But that's far from the case. Instead they sound accurate and well-balanced, fast and with a good sense of detail.

With New Order's 'Bizarre Love Triangle' via an iPhone on Bluetooth there was a pleasing sense of poise. Bass was deep and taut without being over-dominant while the mid-range sounded smooth. Most impressive, however,

equipped device it sounds remarkably smooth. Yes a standalone device could better it - but that would rather negate the whole point of the Klipschs. They are positioned as an all-in-one system which are capable of handling any input you have. Which is something they do very well. The only difficulty here is that the turntable will be close to the loudspeaker, signal leads rarely being more one metre long.

**CONCLUSION**

Klipsch have hit a sweetspot with The Sixes.



*The tweeter sits in a specially-designed waveguide which works well.*

"the intricate electronic work stood out, each keyboard stroke ringing crisp and clear. It made the whole track a joy to listen to"

Amplification, a DAC and a range of digital and analogue inputs plus a balanced sound make them something of a bargain. Well worth considering if you want a capable all-in-one system that's easy to use and has trad. design.

was the detail on offer. The intricate electronic work stood out, each keyboard stroke ringing crisp and clear. Put together it made the whole track a joy to listen to.

Moving forward I switched to the RCA analogue inputs fed CD from our resident Oppo BDP-205D universal disc player.

On Elvis Costello's version of 'What's So Funny 'Bout Peace Love And Understanding' his voice stood out - strong and powerful. The guitar work was also brilliantly replayed. Again there was real drive on offer but without sounding coarse or harsh.

Turning the volume up via the right loudspeaker showed the Klipsch's can happily fill a medium-sized room with ease without collapsing in on themselves.

In fact they stay refined and well-controlled. That Tractrix horn-loaded tweeter also means they sound larger than they look, the sound expanding from each side of the cabinets in a seamless fashion.

With Mahler's epic No 4 I got excellent separation between the instruments - the violins sounding vibrant and complete air between every element of the orchestra.

The phono stage is also worth a mention. For a sole MM

**MEASURED PERFORMANCE**

Through analogue Phono input set to Aux, frequency response of The Sixes loudspeaker was flat from 50Hz to 16kHz our third-octave analysis of pink noise shows (green trace), measured on-axis. Measuring 20 degrees off-axis there was some small treble loss of a few dB. Overall then, The Sixes are accurate, lacking the treble lift of so many modern designs. In comparison they will sound less bright but are in fact truthful and will be easier to live with in the long term, by not emphasising CD distortion.

Although treble has not been raised, output across the upper mid-band - above 2kHz - is strong from the wide-flare Tractrix tweeter horn, so there will be detail in the sound.

Klipsch have brought up output below 400Hz (ignoring the floor return dip at 180Hz) to ensure a good sense of body but bass rolls off below 50Hz - as expected from a small-ish cabinet with internal volume shared by drive electronics. The port (red trace) is tuned to a high 80Hz, rather than below main driver output as is common, so it supports upper bass rather than low bass. As a result output drops sharply below 40Hz, so no subsonics.

Unusual is the addition of a phono stage. Applying RIAA pre-equalised pink noise The Sixes were perfectly accurate

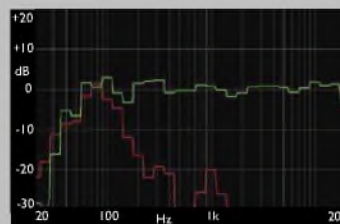
here, as our orange trace shows.

Sending in pink noise from an iPhone file via Bluetooth yielded the same result, so the external inputs maintain accuracy.

The Sixes returned a fine measured performance. They are more accurate than most loudspeakers, which says a lot about the company's design rationale. **NK**

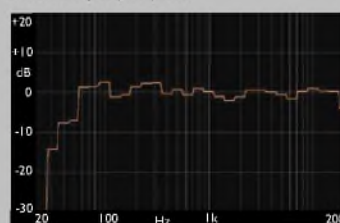
**FREQUENCY RESPONSE**

*Green - driver output  
Red - port output*



**FREQUENCY RESPONSE**

*Phono (LP) input*



**KLIPSCH THE SIXES £800**



**OUTSTANDING - amongst the best.**

**VALUE - keenly priced**

**VERDICT**

All-in-one loudspeakers that include everything you need to be the heart of a system. Just add sources and it all comes together.

**FOR**

- smooth sound
- range of inputs
- easy to use
- powerful for their size
- price

**AGAINST**

- nothing at the price

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# ortofon

accuracy in sound



# 2M

The 2M Series, named after the abbreviation of Moving Magnet (MM) technology, is an affordable range of pick-up cartridges with first-class audio design principles throughout. Featuring Ortofon's trademarked split-pole pin technology for a flat frequency response, all 2M cartridges have a high output for easy integration into any turntable system.

Ortofon's philosophy is to play the record sound as accurately as possible, without colouring the sound in any way. Both the 2M Bronze and 2M Black have diamonds which are cut and polished to the highest standards of the industry. The 2M Bronze and 2M Black also have interchangeable stylus units, and replacement styli are readily available in the UK.

The 2M range has been structured in the same way as the popular Rondo and Cadenza Moving Coil series, with ascending quality as you move from Red - Blue - Bronze - Black. The spectacular 2M Black has become the flagship of 2M, and all Ortofon moving magnet cartridges. 2M was also the last product designed by Ortofon's former chief engineer, Per Windfield, who developed the 2M series over the final 2 years of his 30 year tenure with Ortofon.



## Red

A hugely popular all-purpose cartridge with a Tipped Elliptical stylus that delivers an open, dynamic sound with a slight touch of warmth.



## Blue

An affordable step up in the range, which adds a greater resolution, dynamics, and detailed sound thanks to the Nude Elliptical stylus.



## Bronze

Featuring a superior body, the Bronze picks up even the highest frequency information for a rich, detailed and deep soundstage, and can be further upgraded with ease.



## Black

The musician's choice and flagship of the range, the 2M Black features a Nude Shibata stylus which guarantees a true-to-life sound performance. This is truly the best MM has to offer.



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# Analogue Judgement

A finely judged turntable package from Rega lifts analogue to its best, thinks Noel Keywood.

**R**ega's RB300 arm was always one of my favourites. A unique one-piece design, it was easy to use, affordable yet gave superb sound, mainly due to its rigidity. Their Planar 10 turntable I'm reviewing here gets a modern update, the polished aluminium RB3000, supported by a two-speed turntable

on vestigial plinth, accompanied by external electronic power supply. Price £4499 when fitted with their Apheta 3 moving coil cartridge, as ours was.

Whilst Rega arms have been consistent in basic design pattern, their turntables have differed more widely and the Planar 10 maintains this thrust. It is still a belt drive with

small hub and top-platter, but the plinth has shrunk to minimal size and weight, whilst retaining rigidity. Weighing just 4.7kg total it is easy to move, especially with the heavy ceramic platter removed. The three





**Below the arm sits a bias adjuster that is pulled forward or backward to set force.**

feet are non-adjustable for height and possess little damping so I would recommend this deck is used on a firm and level surface, such as a marble slab, or perhaps sand-filled two-part shelf. A nice project for DIYers!

Being light and compact, however, with dimensions of 429mm wide, 315mm deep and 125mm high (dust cover on) it can be slotted in places other turntables cannot go, a plus point. The simple formed acrylic dust cover must be removed completely during use, having the advantage of not demanding top clearance of hinged lids, again reducing space demand. But you have to put the cover nearby, perhaps standing it vertically on a shelf.

The plinth carries 24V a.c. motor fed by an external power supply – and the latter is large, measuring 218mm wide, 320mm deep and 80mm high, weight 3kg. It must be within 1m length (3ft) of the turntable's connecting cable and accessible, since speed select is located here, as well as speed adjust at rear, should it be needed.

The Planar 10 pays more attention to the issue of speed and speed stability than previous models, perhaps as Technics have drawn attention to it with their recent SL-1200GR and SL-1200GAE Direct Drives that deliver class leading figures. The Planar 10 was speed accurate and stable as belt drives go, our measurements showed, if not quite up to Technics Direct Drive standards.

But there is more to a turntable

than just speed stability – and Rega's glorious arm and impressive Apheta 3 cartridge had a big part to play in what I heard from this package. Technics having no answer to this except in after-market re-fits such as those from Sound Hi-Fi.

As Rega claim for Planar 10, our review sample was right on correct speed. Speed can be changed

it is contributory to stage depth and firm bass I heard.

### SOUND QUALITY

I connected the Planar 10 to our Icon Audio PS3 Mk2 valve phono stage, with its super-quiet input transformer. It fed an Icon Audio Stereo 30SE single-ended valve amplifier via Chord Company Epic



**Rega's lightweight vestigial plinth has a plate coupling arm to centre spindle, to eliminate relative movement between them.**

however, at rear and in small increments, Rega suggesting use of the RPM 'phone app for anyone wanting to do this, or their own quartz locked stroboscope light and disc.

Just in case you are wondering, the Planar 10 is all manual; there are no auto systems of any sort. Press 33 or 45rpm speed buttons on the power supply to start, then manually place arm on LP using the damped lift/lower platform. I hand cue and found the RB3000 has a peculiarly short and strongly curved finger lift I don't recall on the RB300; it did not suit my digit but if you have diddy digits then perhaps it may.

Build quality is very good, the RB3000 arm in particular being superb. It is strapped to the platter main bearing to prevent relative movement between the two and I would guess Rega have made the plinth vestigial so as not to store energy. I also suspect the heavy ceramic platter contributes to sound because platters seem to do this. My favourite platter material is thick acrylic (Perspex etc), not metals or glass. I've not heard a heavy ceramic platter before and wonder whether



**Our underside view shows the three, non-adjustable feet, motor and main bearing.**

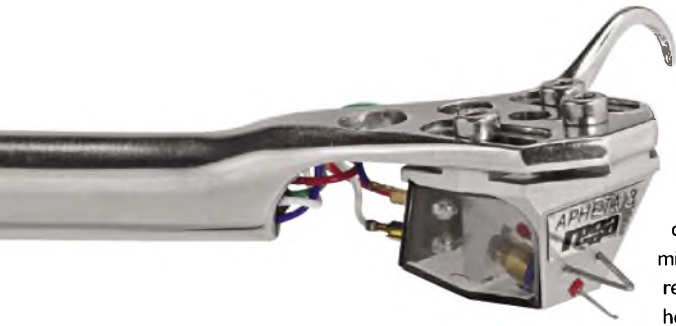
interconnects. Loudspeakers were Martin Logan ESL-X hybrid electrostatics hooked up with Chord Company Signature Reference cables.

Spinning Fanfare for the Common Man, from Two Countries One Heart, a 180gm all-analogue LP that has superb balance, I was immediately engaged by the strength and suppleness of the opening drum rolls, hearing the sort of powerful but

**Belt drive to the hub in classic fashion, speed set by the motor power supply, not by moving belt on pulley.**







**The Apheta 3 MC cartridge has a three point fixing into the headshell, for improved mechanical coupling and rigidity.**

tight bass so many crave. There was insight too, the track coming over as atmospheric. Horns were rich and sonorous, blaring from a deep background. As the grooves slipped by I also became aware of a softly smooth rendition free from spit or groove noise; the Apheta 3 cartridge has a mild top end delivery that makes it gentle in the high regions.

With Time to Say Goodbye, on inner grooves where things can get a bit muddled with a poor stylus, the Apheta 3 maintained its composure, Rosella Caporale's soaring vocal firm and clear, unmuddled by inner groove hash. I use this LP as a balanced benchmark – and Rega's Planar 10 delivered it in fine form, with massive low end power, superb stage depth and mild yet refined treble. For me this was a supremely enjoyable listen – 100% analogue.

Enthused, I put on the Direct Cut of Sing Sing Sing, from the Syd Lawrence orchestra, from Big Band Spectacular – and it was just that – spectacular. The live fast drumwork

came over with grippy timing and resonant power, pushing out at me with eye-popping drama. A recent, miked-up live studio recording, I got to hear the background acoustic and – again

– great atmosphere as a result. It was like being there. The Planar 10 comes over as smooth, clean and muscular in dynamic contrast. Absent were edginess, noise, sibilance or spit, making for a seemingly 'quiet' rendition. Less, but more.

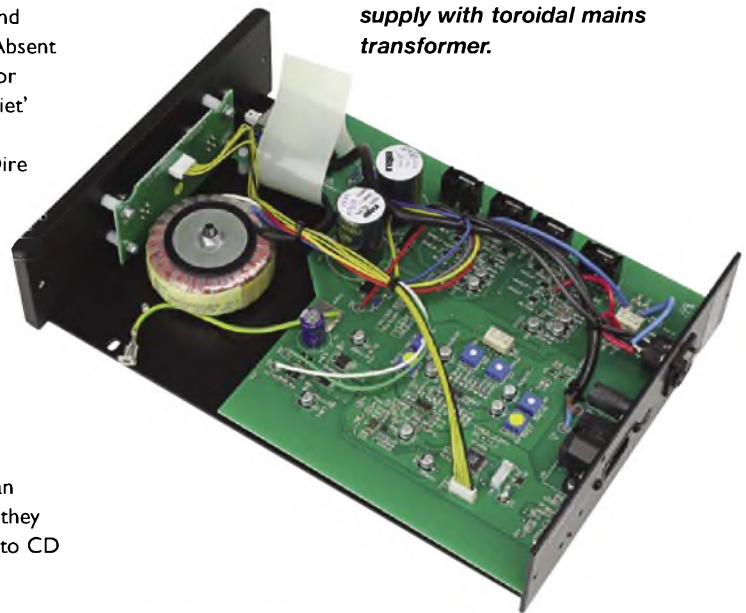
With straight Rock from Dire Straits, courtesy of Mobile Fidelity's 45rpm all-analogue re-master of Love Over Gold, finger picked guitar strings cut out cleanly in The Man's Too Strong, Knopfler's crashing chords having impact, without muddle.

**CONCLUSION**

Rega's Planar 10 is very much an analogue turntable. Yes, I know they all are – but some push closer to CD balance these days.

Not this one. It's fulsome, bass powerful and lush. With great stage depth, pin sharp imaging and no sign of noise – due substantially to the Apheta 3 cartridge in a great arm. The Planar 10 is a wonderfully judged analogue spinner well worth hearing. It is mild up top but all the same I could definitely live with it.

**The external linear power supply with toroidal mains transformer.**



At rear of the power supply motor speed can be adjusted in increments.

**MEASURED PERFORMANCE**

The 3150Hz test tone of a DIN 45-452 test disc was reproduced as exactly 3150Hz on our Wow&Flutter meter, with little wander of +/-2Hz Hz around nominal.

Low speed wander results in low Wow (low rate speed variation), the Planar 10 hovering around 0.1% and Flutter 0.05% – good results. Total Wow&Flutter (DIN weighted) measured 0.07%, again a good result. Measured to the Japanese JIS Standard for comparison with Japanese turntables total Wow&Flutter (wtd) measured 0.05%, JIS always giving a lower reading than German/European DIN. Our analysis shows the usual peak at 33rpm (0.55Hz), at low-ish level, plus harmonics and minimal flutter (right).

Frequency response of the Apheta 3 cartridge shows pronounced roll down in

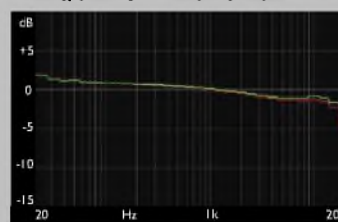
high frequencies, enough to give a mild sounding balance, likely full bodied though and with strong bass. Inner groove tracing loss (red trace) was minimal, due to effective stylus geometry – an excellent result.

Tracking at 2gm VTF was good, slight mistracking occurring on the 80µm (outer) band of Clearaudio's trackability test record LPT 83063 – but this is a high cut. The 90µm band caused severe mistracking.

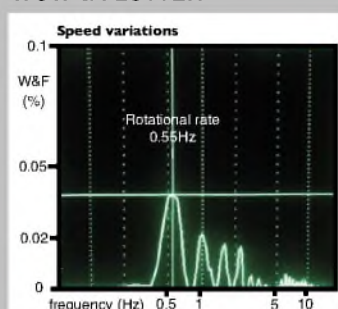
The Planar 10 turntable measured well and the Apheta 3 is distinctive in frequency balance. **NK**

<b>Speed error</b>	<b>0%</b>
<b>Wow</b>	<b>0.1%</b>
<b>Flutter</b>	<b>0.05%</b>
<b>Wow &amp; Flutter (DIN wtd.)</b>	<b>0.07%</b>

**FREQUENCY RESPONSE**



**WOW & FLUTTER**



**REGA PLANAR 10 WITH APHETA 3 £4499**



**OUTSTANDING - amongst the best.**

**VERDICT**  
Great vinyl sound and easy to use, but expensive.

**FOR**  
- powerful sound  
- supremely smooth  
- noise free

**AGAINST**  
- non adjustable feet  
- needs a firm base  
- big power supply

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LS50 Meta

Every note. Every word.  
Every detail.



### LS50 Meta

Introducing the successors to the iconic LS50. Building on the brilliance of the originals, the LS50 Meta speakers provide an even purer sound, which brings out subtle nuances and details you may never have noticed before. That's because our unique Metamaterial Absorption Technology eliminates the high-frequency distortion inside the speaker. So at last, you can hear music as its creators intended.



Listen and believe



# Zen Data

A budget phono stage with unusual ability. Noel Keywood looks closely at iFi's Zen.

**T**he stand-out feature of this little phono stage is price – just £149. Add to that a wide range of ability and some unusual internal electronic trickery, the new Zen from iFi has a lot up its sleeve, even though it appears simple.

In brief outline, the Zen is able to cope with all cartridges, from budget moving magnet (MM) types through to the lowest output moving coil (MC) types. I'll cover this slightly confusing subject later. A small slide switch at rear has four positions, numbered 1,2,3,4. Logically (to an electronics engineer) position 1 offers lowest gain and is intended for MM cartridges. Position 2 offers more gain and is for high output MC cartridges purposed for MM inputs. Then comes position 3 that iFi say is for "low output" MCs, although to my mind this is for standard MCs, all of which have low output. And finally there is position 4 to cater for "very

low output MCs" as iFi put it.

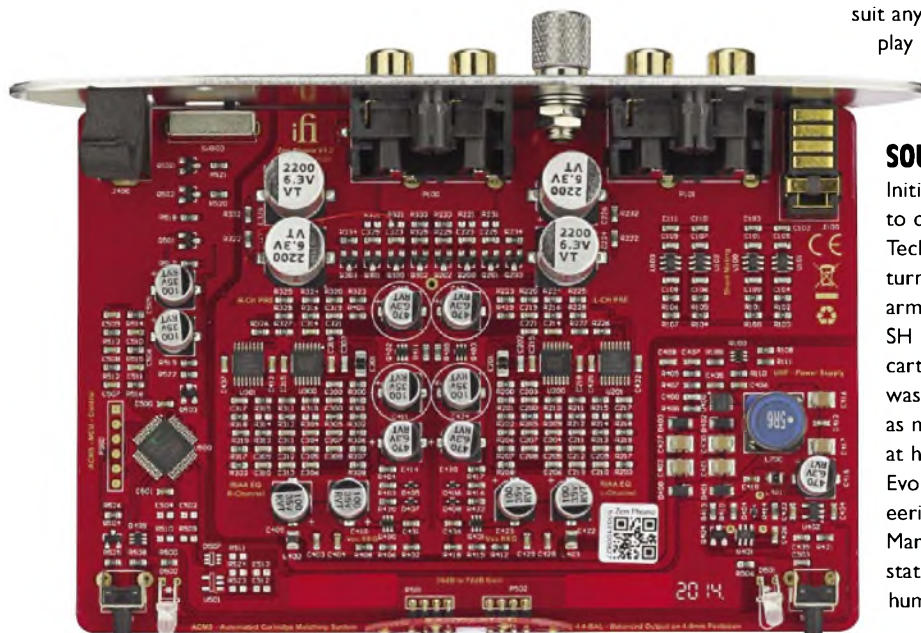
This range covers all cartridges on the market, position 4 being unusual for a phono stage at the price. Very low output MCs are esoteric and usually expensive (Goldring's being an exception). It's common to pay ten times the Zen's asking price for a stage with sufficient gain to cope with a very low output MC, so that's a plus point straight away. Achieving low noise – hiss and hum – becomes the biggest challenge because voltage gain is vast.

Seemingly simple externally, the Zen gets a little more complex and 'interesting' in behaviour when it is turned on. My interest was captured by the presence of a muting circuit that kicked in with a 20 second time delay when changing Gain settings. Why do this I wondered? It isn't usual even though changing gain can cause thumps through the 'speakers if there's d.c. floating around. Measurement suggested the Zen

was not only muting but bringing in quieter input transistors (ICs) for higher gain at Gain settings 3 & 4.

Curiously, iFi don't mention this, nor do they make any claims for low noise, even though the Zen was spectacularly – almost unbelievably – quiet via its 'low output MC' and 'very low output MC' inputs. I had to double check the measurements. Internally iFi say the Zen is fully balanced on each channel, not difficult with ICs yet uncommon practice. Running fully balanced cancels noise and distortion and – I find – in general gives a more pristine, if sometimes surgically correct sound. But the nice point here is that iFi provide a balanced output to exploit this and, they say, it is "the recommended output". Trouble is it uses a rare Pentaconn 4.4mm five-pole jack socket, requiring a 4.4mm Pentaconn five-pole jack plug to carry two balanced audio channels in this case and, I presume, an earth.





**A complex surface-mount (SMD) robot-built circuit board with gold plated 5 pole Pentaconn socket at top right. At top centre is a sturdy earth terminal.**

Currently, this socket is a rare beast from Japan, a recent design from the unfortunately named Nippon Dics Co ([www.ndics.com](http://www.ndics.com)) used by Sony. No major UK parts supplier (Farnell, Mouser, Digi-key etc) has it and Zen does not come with it, for your local dealer to solder up a lead perhaps. So how to use Zen's recommended output is an open question. iFi say they will have adaptor leads available soon.

I get the feeling from this that connecting up to the Zen's balanced output will not be so simple in real life for budget buyers. But if you have an amplifier with a balanced input it is worth doing. The Zen develops a signal twice as strong from its balanced output than from the RCA phono socket outputs and more than enough to transmit audio down a long line from turntable to distant amplifier. Great potential at the price, just difficult to exploit.

There are standard RCA phono socket inputs and outputs, plus an earth terminal. Because power comes from an external wall-wart 5V d.c. power supply vis a short (1m) cable, there is no mains earth connection, eliminating the possibility of an earth loop and hum.

The case is small, measuring 158mm wide, 117mm deep and 35mm high. With no on-board power supply it is light at 0.5kg. Not a lot to see or do either since the indicator lights are small, blue

pindots, there's an on-off button and a Subsonic filter button to suppress loudspeaker cone flap when playing warped records, should this problem arise. The subsonic filter cancels out-of-phase signals below 100Hz, leaving in-phase (lateral mono bass signals) intact and this is an idea – used by others in the past – that works.

"It was an unusual way to hear LP, with massive dynamics and supreme cleanliness"

If you are new to the whole confusing issue of phono cartridges, as a budget buyer may be, then here's what the Zen is offering. It will match a normal budget moving magnet (MM) cartridge at Gain 1, with its 47k input load. Gain 2 is for high output moving coil cartridges posing as MMs. They need more gain and a 47k load also, that the Zen provides with this setting. Things get a little unusual at Gain 3 (MC low) where Zen switches in a 1.4kΩ load, where 100Ω is standard. I suspect this is to cope with MCs that need a 300Ω load (Clearaudio, Hanna). Gain setting 4 does switch in a conventional 110Ω load, but this extreme gain setting is best not used unless necessary because of potential overload. All-in-all though, there is

massive range here, enough to suit any cartridge, all brought into play by internal switching when the rear slide switch is moved.

**SOUND QUALITY**

Initially, Zen was connected to our Timestep Evo modified Technics Direct Drive SL-1210 turntable, fitted with SME309 arm and Audio Technica OC9X SH (Shibata) moving coil (MC) cartridge. The gain switch was set to 3 (MC low) and, as measurement suggested, at high volume on our Creek Evolution 100A there was eerie silence from attached Martin Logan hybrid electrostatic loudspeakers: no hiss or hum. A distinct plus point.

My kick-off LP, Two Countries One Heart (HiFi Direct, Italy), chosen for its good quality and sense of balance, showed the Zen to be dry in its sound, detailed and revealing in the mid-band, and with unobtrusive treble. Opening kettle drum strikes in Fanfare for the Common Man were clean and taut, if not especially powerful. Rosella Caporale singing Time To Say Goodbye sounded distinct centre-stage, but the delivery was more revelatory than cuddly.

Time to spin "heavier" LPs like

Mobile Fidelity's 45rpm of Dire Straits Love Over Gold that has bottom-end wellie. Great vocal clarity: I could hear every word from Mark Knopfler in Walk Of Life and the track came over as fast-tempo'd because of Zen's clear cut timing; no slur or blur here. There was low end clarity if not much low end weight to bass. However, OC9X cartridge has lighter bass than our Ortofon Cadenza Bronze (now in its twilight years so not used).

The warmth of Knopfler's LP Kill to Get Crimson was similarly lessened; Zen was revealing and upper plucked guitar strings were surprisingly sweet in tonality.

Hugh Masekela's Hope LP had hand drums sounding light but fast in Uptownship and the following track,

Mandela, stretched the background chorus clearly across the sound stage. There was a little hardness and glare here.

All the above were using the RCA phono socket outputs. To assess the balanced Pentaconn output it was fed to a Musical Fidelity M8xi amplifier with balanced input and volume control (our Creek amplifier has balanced input direct – no volume control). I could only get a Pentaconn connector from Shenzhen, China, to solder up my own cable; iFi preferred I use a high quality cable, sent by Forza Audioworks (Poland), price £150.

The reason I wanted to hear the balanced output is that balanced circuitry offers clear benefits with low level, high gain signal circuits – I know from designing and building all-discrete fully balanced phono stages. And I was thankfully right in this case. Turning up volume there was no noise, no hiss or hum. Such was the silence I worried something was not working. But all was working and the sound that emanated from our ever wonderful electrostatics was many steps up on that from the unbalanced phono socket outputs. Primarily it grew in dynamic stature and control. The first quick-check LP, our re-master of Fleetwood Mac's Rumours, came

over as having a cleanly outlined sound – even in the time domain where I suspect absence of noise and smear improved definition. But now the bass output of our Audio Technica OC9X SH MC cartridge took up a firmer and more visceral presence, putting controlled power into Mick Fleetwood's drum kit.

As I worked through a wide selection of LPs these primary qualities remained. And so good was the Zen, in this particular and specialised arrangement, that I was a little taken aback. It was almost an unusual way to hear LP, with massive dynamics and supreme cleanliness. Musical Fidelity's M8xi amplifier, also in this issue, contributed to the final sonic outcome, that's for sure. And

to use Zen's balanced output an amplifier with a balanced input that runs through a volume control is needed (not all do).

**CONCLUSION**

This is an almost weird phono stage for LP. There's utter silence from high quality moving coil cartridges from an ultra low noise input stage – and a balanced output that delivers extraordinary sound quality, for just £149. The low price barely equates to what's on offer here. Run as standard it is very good, run from its balanced output into an amplifier's balanced input it is quite extraordinary. Not a warm or bass heavy sound but dryly correct and coolly impressive.



*At left the Pentaconn balanced output jack. At centre a sturdy earth terminal that accepts bare wire, spades or 4mm plugs – a nice touch. At right the tiny slide switch with four gain settings.*

**MEASURED PERFORMANCE**

Frequency response measured flat at all gain settings, even at highest gain ((gain 4) where phono stages sometimes run out of puff, due to insufficient gain to maintain the 318µS curve at low frequencies. The Subsonic filter rolls off slowly below 100Hz, with a -1dB point at 50Hz. There is some useful attenuation of -8dB at 5Hz where warps are most problematic. iFi says out-of-phase LF signals are cancelled to suppress vertical warp signals from the cartridge.

Gain values were x70 (37dB) at Gain 1 (MM), x277 (49dB) at Gain 2 (high output MC), x1134 (61dB) at Gain 3 (low output MC) and x4314 (73dB) at Gain 4 (very low output MC). These are standard and expected values, but all the same it is a massive gain range, especially Gain 4 that can handle the very lowest output MCs. The Zen will work with all cartridges available.

A high output overload value of 10V results in satisfactory input overload (output/gain) values of 145mV (Gain1, MM), 36mV (Gain2 MC), 9mV (Gain 3 MC) and 2.3nV for very low MC.

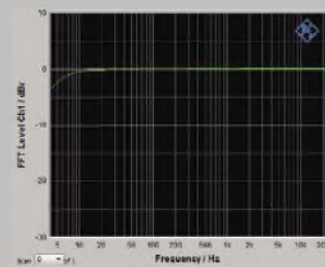
Gain and overload figures doubled for the Pentaconn balanced output, except 18V out was maximum, not 20V.

Noise (equivalent input noise, or e.i.n.) measured 0.5µV for Gain 1 & 2, then descended to an astonishingly low 0.04µV for MC low and very low. I use 0.1µV as a quality threshold for MC, input transformers giving typically 0.08µV – lower than transistors. How iFi have managed half this (-6dB) I don't know since it's pushing the theoretical noise limit of transistors: either a new super-quiet transistor or IC is used, or they are paralleling them. Whatever, no hiss will be audible with any MC cartridge at any gain.

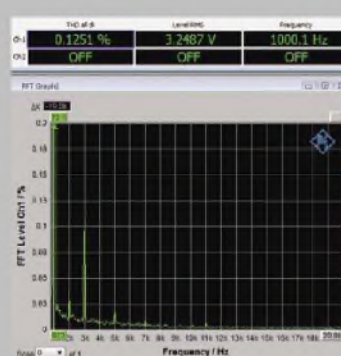
A good set of figures all round, especially at the price – and from the balanced output. **NK**

<b>Frequency response</b>	<b>10Hz-20kHz</b>
<b>Separation</b>	<b>65dB</b>
<b>Noise (e.i.n.)</b>	<b>0.04µV</b>
<b>Distortion</b>	<b>0.1%</b>
<b>Gain (MM, MC)</b>	<b>37dB –73dB</b>
<b>Overload</b>	<b>10V out</b>

**FREQUENCY RESPONSE**



**DISTORTION**



**iFi ZEN PHONO**  
**£149**



**OUTSTANDING - amongst the best**

**VALUE - keenly priced**

**VERDICT**  
Weirdly good phono stage: quiet and extraordinary via its balanced output.

- FOR**
- accepts all cartridges
  - balanced output
  - no hiss or hum
  - very low price

**AGAINST**  
- lacks warmth

iFi Audio  
+44 (0) 1704 227 204  
www.ifi-audio.com

# 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-W10VTG, 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

Audio Technica  
+(0)113 277 1441  
www.eu.audio-technica.com



# Quality time with your X

**ClearwayX, from Chord, is a pretty damn fine budget speaker cable reckons Martin Pipe.**

**F**or several years, Chord Company's Clearway was the 'go-to' speaker cable for the audiophile on a budget. For £10 per metre, it performed better than some cables selling for several times the

price. You can't stop progress, though, and the original cable has just been displaced by the ClearwayX.

The new product is 50% more expensive, at £15 per metre. That's quite a leap, and so I pestered Chord for an explanation. "The price had to

increase for a number of reasons" I was told. "Clearway was selling for the same amount since it was launched in 2015, meaning that for five years Chord absorbed the effects of inflation on labour, materials and shipping – as well as a weakening pound."





With this budget and affordable new cable Chord has made improvements. The ClearwayX has a new and more expensive XLPE (cross-linked polyethylene) insulation, replacing the original's FEP (fluorinated ethylene propylene) that Chord used because it had the "same electrical characteristics" as the PTFE found in costlier cables. The two conductors, built from multiple strands of high-purity oxygen-free copper are arranged in a twisted-pair configuration; this, say Chord, will "reduce interference".

The 14 AWG conductors are "big enough to bring control and definition to both bookshelf and floorstanding speakers". They are covered by a soft PVC internal jacket, over which twin foil shields that reduce radio frequency interference pickup are contra-wound. The internal jacket will also, it is said, minimise any "mechanically-induced noise". Finally, there is a tough outer protective covering of 10.5mm overall diameter.

In all, Chord's construction is carefully-considered. If you buy ClearwayX cables professionally-terminated (standard lengths of 1.5, 2m, 3m and 5m are available) then you get substantial shrouds that cover the 90mm of so of wiring that splits from the cable's body and goes to the plugs. These shrouds look good – and the "ChordOhmic" 4mm banana

plugs (spades can be specified as an alternative) are of a high standard. They are silver-plated, and their colour-coded bodies are ribbed for ease of handling.

However, termination adds significantly to the cost. The 3m pair I tested would set you back £210 – comprising £90 for the cable (2x 3x £15), plus £120 for the plugs (or spades). However, Chord told us that you can buy "off the reel" if you're prepared to attach bare wire directly to the binding posts of your amp and speakers. This is worth considering – avoid stray strands, and tighten those terminals!

We were also told that Chord – and its dealers – would "always be able to help with custom lengths and configurations for customers". If you want cables of specified length – and professionally-terminated at either or both ends – Chord dealers are equipped with the special tools needed to do this properly.

I tried the 3m ClearwayX review samples with a variety of equipment – the Cambridge AXR100D receiver and Q Acoustics 1030 speakers featured in this issue, as well as vastly more expensive Cambridge gear (the Edge NQ streamer and W amp) driving Quadral Aurum Wotan VIII 'speakers.

I compared ClearwayX with 2-core mains flex, of the sort you can

buy at DIY stores. It is typically sold for wiring indoor-lighting to mains plugs and covered by a white jacket. I chose it, because it's cheap – just over 50p a metre – and I've actually witnessed some people use it in their budget hi-fi systems! So, do the audible benefits justify splashing out an extra £87 for 3m lengths of ClearwayX?

The improvements were 'night and day', especially with the higher-end Cambridge kit and 'speakers. Bass was more revealing and bestowed with tangible solidity, a sonic looseness of the cheaper wire disappearing altogether. Midrange clarity – strings and vocals in particular – was better, while previously-elusive treble details now burst out of the mix. The system also conveyed dynamic swings with greater ease, but the biggest advantage is that everything just sounds...more musical. Even with the cheaper system, many of these improvements could be heard – albeit to a lesser degree. If you're still using bell-wire, give your ears a treat and ride the ClearwayX to better listening.

## CONCLUSION

Despite the higher price relative to its predecessor, the Chord ClearwayX is still something of a bargain – especially if you're prepared to use bare wire attached to binding posts. A fine budget cable that is sophisticated in construction and audibly excellent.

**CHORD  
CLEARWAYX**  
£15 PER METRE  
(£210 FOR  
TERMINATED 3M  
PAIR TESTED)



**OUTSTANDING - amongst  
the best.**

### VERDICT

A technically sophisticated budget cable with fine sound.

### FOR

- audible improvements across the spectrum
- musical involvement
- well thought-out design, impeccably-executed

### AGAINST

- terminations add significantly to cost

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# Festive Quiz

Here is a little brain bender for Christmas, compiled by the naughty staff of Hi-Fi World. They've come up with some weird ones for you! Here are 30 questions.

Rate yourself (correct answer = 1 point)

1-10 points: Drink less Brandy at Christmas.

10-20 points: The turkey is having a good effect.

20-30 points: You deserve an extra helping of Christmas pud!

<p><b>1) What musical instrument did Jimi Hendrix play?</b> a) Piano b) Guitar c) Harpsichord</p>	<p><b>8) 1950's Chief Engineer for H J Leak &amp; Co Ltd.</b> a) Ted Ashley b) Terry Thomas c) Tim de Paravicini</p>	<p><b>15) What is a woofer?</b> a) a large dog b) a large waffle c) a bass 'speaker</p>	<p><b>23) What does DAC stand for?</b> a) Dodgy Audio Contrivance b) Dreadful Audiophile Contraption c) Digital-to-Analogue Convertor</p>
<p><b>2) Led Zeppelin's drummer was?</b> a) John Bonham b) John Prescott c) John Wayne</p>	<p><b>9) Burning Love was whose biggest hit single?</b> a) Elvis Costello b) The Flintstones c) Elvis Presley</p>	<p><b>16) What was the name of Rega's first turntable?</b> a) World spinner b) Universal player c) Planet</p>	<p><b>24) What do Origin Live manufacture?</b> a) loudspeakers b) tonearms c) cables</p>
<p><b>3) Which British Rock Band sang Jumping Jack Flash?</b> a) The Beatles b) Genesis c) The Rolling Stones</p>	<p><b>10) Who sang the 1989 James Bond theme Licence To Kill?</b> a) Gladys Knight b) Patti Labelle c) Aretha Franklin</p>	<p><b>17) What year was the first Hi-Fi World Supplement published?</b> a) 1964 b) 1993 c) 1942</p>	<p><b>25) What is Nagra famous for?</b> a) cassette tape b) professional tape recorders c) Minidisc machines</p>
<p><b>4) Welsh singer who made London Underground Warwick Avenue tube station famous?</b> a) Shirley Bassey b) Mary Hopkin c) Duffy</p>	<p><b>11) Who played James Brown in the movie Get On Up?</b> a) Denzel Washington b) Will Smith c) Chadwick Boseman</p>	<p><b>18) What is BEATS famous for?</b> a) headphones b) trainers c) cables</p>	<p><b>26) What is a transformer?</b> a) an electrical device b) robots in disguise c) a doll</p>
<p><b>5) What is a vinyl record made of?</b> a) polyvinyl chloride b) pollen c) pulverised Parrot</p>	<p><b>12) Hit single Ain't Too Proud To Beg performed by?</b> a) The Temptations b) The Deportations c) The Computations</p>	<p><b>19) Mr Blue Sky was a hit for which English rock band in 1977?</b> a) Hawkwind b) Pink Floyd c) Electric Light Orchestra</p>	<p><b>27) Another name for antenna?</b> a) large ears b) aerial c) sensory sniffer</p>
<p><b>6) Who was the composer of the 1945 musical composition The Young Person's Guide to the Orchestra?</b> a) Benjamin Franklin b) Benjamin Britten c) Sir John Betjeman</p>	<p><b>13) Track name of a 1985 duet cover by David Bowie and Mick Jagger?</b> a) Dancing on the Ceiling b) Dancing in the Street c) Dancing The Night Away</p>	<p><b>20) Which turntable featured in the film A Clockwork Orange?</b> a) Luxman PD151 b) Transcriptor Hydraulic Reference c) Roksan Radius 7</p>	<p><b>28) The Rise and Fall Of Ziggy Stardust and the.....</b> a) Mekons From Uxbridge b) Spiders From Mars c) Neighbours From Hell</p>
<p><b>7) When did Arthur H. Radford form Radford Electronics?</b> a) 1897 b) 2006 c) 1946</p>	<p><b>14) Who stole the show at Live Aid concert in 1985?</b> a) Queen b) Elton John c) Cliff Richard</p>	<p><b>21) What does a graphic equaliser do?</b> a) equalise graphics b) equalise the response of an audio system c) equalise light</p>	<p><b>29) Who wrote "Fantasia on a Theme by Thomas Tallis?"</b> a) Kenneth Williams b) Vaughan Williams c) Just William</p>
		<p><b>22) How many symphonies did Beethoven write?</b> a) a couple of hundred b) six dozen c) nine</p>	<p><b>30) Name of the group that wrote songs for the movie Saturday Night Fever?</b> a) Bee Gees b) ABBA c) Aerosmith</p>

## ANSWERS

1) b; 2) a; 3) c; 4) c; 5) a; 6) b; 7) c; 8) a; 9) c; 10) a; 11) c; 12) a; 13) b; 14) a; 15) c; 16) c; 17) b; 18) a; 19) c; 20) b; 21) b; 22) c; 23) c; 24) b; 25) b; 26) a; 27) b; 28) b; 29) b; 30) a.





# Sonic Seduction

**Quadral's Sedan 9 loudspeaker has Noel Keywood smitten.**

**H**ere's a beautifully built and finished stand-mount loudspeaker distinguished by a large ribbon tweeter that gives clear and smooth midrange and treble quite unlike most else. Quadral's Sedan 9

(£2495) was, I felt, a small but significant step up on most around it – to conclude before I haven't begun!

Quadral of Germany go for 'accurate' I know from reviewing and enjoying their loudspeakers over the years – and with Sedan 9 they stay firmly on this path. The problem

with 'accurate' is you get a mild sound balance, old BBC style, that is truthful and subtly revealing but doesn't stand out in the showroom.

How to overcome this? Fit a switch that gives a modern take on things, more vivid highs and apparently greater insight and detail.

At rear of Sedan 9 there is a sturdy toggle switch that can be set to '+' to raise highs so they stand out. With a ribbon tweeter this is more sonically acceptable than the sound from a conventional dome tweeter. Especially with Quadral's quSENSE ribbon tweeter that covers more of the audio band than ribbons of yore – like the Tonigen I struggled with long ago to get it to match a midrange unit in our first World Audio Design loudspeaker KLSI.

I struggled because it was worth it: ribbon tweeters give superb treble quality. Where the Tonigen reached down to 4kHz Quadral's quSENSE gets down to 1.5kHz, making its contribution to the sound more obvious – helping to set this loudspeaker apart. Few compact box loudspeakers have such a wide range ribbon drive unit and it makes all the difference. You get more of the fast ribbon sound.

Sedan 9's solid cabinet weighs in at a sturdy 14.5kg and measures 390mm high, 230mm wide and 350mm deep. That makes it large for a shelf but suitable for a stand. Seemingly, it is purposed for medium sized rooms, around 16ft long, yet it sounded massive in our very large listening room 25ft long and 6550cu ft, capacity, so it suits large rooms too.

Expected positioning is close to a rear wall; bass output has been kept in check to match. What's not said – but hides in the specs – is that efficiency is a little low: 85dB quoted; we measured 84dB. To go

terminals with flexible cable links, and the toggle switch also has a low '-' position to slightly reduce treble – but the reduction is small, pulling the tweeter back to a neutral position in effect.

**SOUND QUALITY**

After a short run-in the ribbon lost a tinsely presence to become smooth and colour free. The Sedan 9s were hooked up to our Creek Evolution 100A amplifier and also an Audiolab 6000A Play amplifier, through Chord Company Signature Reference cables.

CD and hi-res were fed into the Creek via analogue balanced cables from our Oppo UDP-205D Universal player, hi-res coming from a battery driven Astell&Kern AKI20 optically connected portable player.

The Audiolab was connected digitally to the Oppo through a QED Quartz glass fibre optical cable, so here I was using the ES9018 DAC chip inside the amplifier, rather than the ES9038PRO inside the Oppo. There was a big difference.

Wide range ribbons bring seamless consistency to the sound of a loudspeaker and that's what I picked up straight away here.

"vast speed, vast insight, superb coherence with a sound all-of-a-piece, and edge-of-seat dynamics"

loud think 60 Watts – and 100 Watts may be better for very high volume. Quadral quote 120 Watts max. which seems about right.

The quSENSE tweeter is closely positioned to their Altima bass/midrange unit with its damped aluminium inverse dome, making this a two-way design. Close positioning and low ribbon crossover frequency makes for a perfect phase-match between the drivers, for consistent sound all round. The Altima is reflex loaded by a rear port.

The rear carries bi-wire

Josefine Cronholm singing In Your Wild Garden was roundly embodied, the image of her voice hanging between but above the loudspeakers, central in an arc of sound. The sense of cohesion that comes from lack of phase problems brought in a natural, solid presence here. With the tweeter level switch set at central zero position there was smooth balance that remained throughout the listening sessions with the Creek, but I switched to "-" for the Audiolab, with its brighter sound.



**Quadral's quSENSE ribbon tweeter, its front plate profiled to closely fit the Altima bass/midrange for good phase matching.**

I use In Your Wild Garden for its strong unobstructed bass line – and in our listening room it was stronger than expected from measurement, being powerfully obvious. Comments from other side of room: "they sound like floor standers". The Sedans don't shirk from delivering bass.

Same observations with Skunk Anansie's Hedonism (CD) where I wrote down straight away that the bass line and kick drum were made clear, yet there was good grip on timing and fluid interpretation. The jangling distorted guitars in this track become muddled in many loudspeakers, causing messiness. The Sedan 9s kept their feet on the ground, delivering a well interpreted rendition that showed – yes – the guitars are distorted but not messy or unpleasant. And vocalist Skin was right there – singing clearly in front of me. Sorted.

WillyDeVilleg sings Spanish Harlem (CD) close to the microphone, producing strong sibilants. The Sedan 9s revealed spitch without drawing back. Switching tweeter output to "+" it became too much; switching to "-" calmed this issue.

I spent almost too much time trying to sort out Nils Lofgren's strenuous guitar work in Keith Don't Go. Here the Audiolab 6000A drove the Sedan 9s like they were made for each other, both having a fast, intensely detailed sound. Put together I was beyond impressed: vast speed, vast insight, superb coherence with a sound all-of-a-

piece, and edge-of-seat dynamics. Hi-fi like you dream of it – sort of.

I found myself winding back a bit; Lofgren's guitar had body and the strings lacerative speed but I listen to my son playing a superb Canadian acoustic guitar – and it doesn't sound like that: no hard edge, no laceration; this combo was deeply dramatic, yet questionably real. Our Creek Evolution 100A gave a softer rendition but analogue connection from the CD player was hampering it I suspect. All a bit confusing.

To get away from digital glare I turned to LP. With our Timestep Evo modified Technics SL-1210 Direct Drive turntable fitted with SME309 arm and Audio Technica VM750SH moving magnet cartridge, feeding an Icon Audio PS3 MkII valve phono stage hooked up to the Audiolab, it all fell into place. I got to hear a great version of the Syd Lawrence Orchestra (direct cut LP) playing Sing Sing Sing, from Big Band Spectacular. Time to run up the volume here and enjoy what the Sedan 9s were able to offer: strong drumming, fruitily rich brass, and filigree detail from the ribbon tweeter. And so it went with LP generally: fast, punchy and concise.



*An elegantly finished rear panel, with three-way treble level switch above bi-wire terminals.*

**CONCLUSION**

Quadral's quSENSE ribbon tweeter brings lightning speed and honed precision to the Sedan 9, making them stand apart from most else. Even with the treble switch set to “-“ they don't lack light, that's for

sure; you get to hear it all. A deeply impressive loudspeaker very much in the precision ribbon category, superbly engineered all 'round and a “must hear” I would say. Not many 'speakers sound so dramatically good.

**MEASURED PERFORMANCE**

Frequency response of Quadral's Aurum Sedan 9 standpoint loudspeaker was impressively flat and even, our response analysis shows. Lack of peaks and dips demonstrates good drive unit integration and also lack of local resonances within the drive units that cause colouration. Suggesting the Sedan 9 is both accurate and uncoloured.

The frequency response shown was held over a wide number of microphone positions, vertical and horizontal, near and far, showing this is an unusually well phase-integrated loudspeaker that will sound consistent from any listening position. One reason is that the large ribbon tweeter works down to a low 1.5kHz our impedance analysis shows – very low for any tweeter, let alone a ribbon. This – and its close spacing to the bass/midrange unit – results in lack of crossover phase error. The downside is the ribbon does not reach up high, to 14kHz before output drops fast to -5dB at 20kHz. But this has the benefit of suppressing high frequency distortion harmonics, especially from CD. It's a canny trade-off.

Our published analysis shows behaviour with the tweeter output level switch set to zero. Set to '+' tweeter output rises by +2dB to give a subtly bright sound. Set to '-' it decreases a small -1dB to become correct rather than dull.

Being a stand-mounter designed for close to rear-wall use, bass rolls off slowly to 35Hz to compensate for rear wall support. The port has been tuned to 42Hz our impedance analysis shows, the lowest frequency of stringed instruments and a common choice, and the red trace of port output shows both this and output down to a low 30Hz. Like all small ported loudspeakers bass cut-off below this frequency is fast, so no subsonics.

Sensitivity was low at 84dB sound pressure level (SPL) from one nominal Watt (2.8V) of input. The bass unit has a high d.c. resistance of 7.5 Ohms and overall impedance measured with pink noise was 8 Ohms, so the Sedan 9 does not draw current, is relatively insensitive and needs a powerful amplifier of 60 Watts or more to go loud.

A smoothly engineered and technically accurate loudspeaker with ribbon tweeter that reaches low to give clean midrange and treble. Switch selection options are subtle but just right. But needs power.

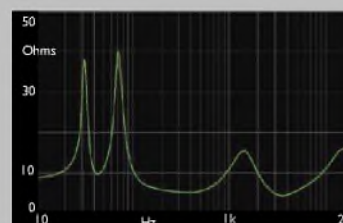
**NK**

**FREQUENCY RESPONSE**

*Green - driver output  
Red - port output*



**IMPEDANCE**



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**AGAINST**

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## 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; **DT** - Dave Tutt; **JP** - John Pickford.



## 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 MR. NICK POWELL, Letter of the Month winner in our December 2020 issue.**

## Letter of the Month

### MAGGIE MOVE

I was intrigued by the letters from Nick Powell and Graham Taylor (December 2020 issue) and associated panel 'speaker placement box-out and would welcome some thoughts.

My system placement is dictated by domestic circumstance (isn't that the case for most?). I fell in love and moved in with my partner, leaving behind a dedicated hi-fi room to a (space limited) kitchen extension. The Maggies are 7ft apart, 2ft from the rear wall and toed-in around 30 degrees. My listening position is 6ft in front, on a comfy sofa. From my listening position the left speaker is a mere 6 inches from the side wall, the right around 2.5ft. Being a kitchen extension (and minimalist in decor) hard surfaces abound (laminated flooring, kitchen cabinets some 10ft beyond my listening position) and a glass window and door behind the kit. (photo enclosed).

My system comprises an Audiolab 8300CDQ, an IFI Micro iUSB Power Supply between that and an Audiostore Vortexbox ripper/streamer, with an SBooster BOTW power supply. I have a Sony SCD-XE670 SACD/CD-Player, Linn Axis turntable with Basik LVX tonearm and Ortofon 2M Red cartridge. The latter feeds a Yaqin MS22B Phono



**Sid Murphy's Magneplanar 1.6QR loudspeakers dominate his listening room. "Can you suggest some improvements/tweaks" he asks.**

Preamp and Raymond Lumley M75 monoblocs connected to Magneplanar 1.6QR speakers, augmented with a corner placed SBS SB-1000 subwoofer. I also have a (rarely used) Musical Fidelity MIHPA headphone amplifier for use with a pair of Meze 99 Classic headphones.

Despite the placement peccadillos I love the Maggie sound: it is mellifluous and fluid with a sweet mid-band, excellent soundstage and imaging, but there is a very definite sweet-spot (which I hog on the sofa, it is my system after all).

Minor tweaks continue to improve and develop the sound; the Lumleys were recently serviced (new capacitors etc. at a not inconsiderable £960) and await a valve overhaul. I think to replace such would cost many multiples of that and I'd be loathed to lose them. When in for the service, my dealer loaned a Hegel 360 that was a proper powerhouse and its level of grip and control was fabulous, but its sound left me a tad flat and underwhelmed!

Can you suggest some potential improvements/tweaks? Significant hardware changes are not envisaged

and for the sake of domestic bliss, specific room treatments (dedicated bass traps etc.) are not probable. I enjoy listening to my CD collection and ripping them to the Vortexbox is an ongoing endeavour that really does sound excellent; addition of the IFI Micro iUSB gave tangible improvement to the noise floor and instrument separation.

I have been accessing streaming services too, Spotify, Tidal and Qobuz with the latter getting my vote for sound quality. I was keen to listen to MQA (via Tidal) and find it's just not worth the premium: Qobuz will do for me!

The turntable gets the occasional outing, but I am underwhelmed by it and the sound seems restrained in comparison to my other sources. I expect an upgrade to the cartridge might help.

Any thoughts and sage advice would be appreciated.

Regards,

**Sid Murphy**

Hi Sid. Great system and what a picture! Your 1.6QRs look impressive if – shall we say – “significant”. No wonder you have been banished to the outhouse.

You are firing a lot of energy backwards and the rear wall plus a large area of glass is close. I would be tempted to experiment with heavy rear curtains, and possibly diffusion panels, or bookshelves at rear (but not those CD racks). Also, a very heavy floor rug in front would help; Ikea did have heavy sound absorbing carpet that we use in the office.

There are many sound absorbing panels on the 'net, from UK suppliers, most of which are cheap – £22 for a foam panel for example. See [www.soundproofingstore.co.uk](http://www.soundproofingstore.co.uk). There are even heavy sound proof curtains available, John Lewis advertising lined curtains with deep folds to absorb sound (£134). It's quick and easy to install these things on hardboard or plywood panels, standing them up behind. They can be adjusted, moved or removed later if need be.

The Ortofon 2M Red is a budget MM and not my favourite cartridge. I suspect your phono stage might be holding things back too. Consider an Ortofon 2M Black or an Audio Technica VM750SH, both high quality MMs at not high price.

I find LP more dynamic than



**John Lewis lined heavy curtains, good for absorbing sound – and just £134. Use them behind Maggies.**

digital, not less so, but our SME309 arm contributes strongly here. A Rega Planar 10 package with Apheta 3 cartridge would definitely suit but it is a tad expensive at around £4500. I hope this helps. **NK**

### **MAGNEPLANAR 0.7 LOUDSPEAKERS**

Based upon your fairly recent reviews of Magneplanar 'speakers, I investigated the possibility of an audition. I found that, within reasonable travel distance of my home town Chelmsford, there are three Magneplanar dealers.

The first of these is HiFi Lounge in Biggleswade, who have other Magneplanars on demo, but they won't supply the 0.7s for home audition because they say there's insufficient financial inducement to do so.

There's another dealer in West London but, for me, that would involve travel by train and tube (a risky venture in this era of Covid 19).

I then contacted the importer, Decent Audio, who put me on to a third stockist – Home Media in Maidstone (about 50 miles from Chelmsford). The good news was their

willingness to provide fairly a lengthy home trial. Not only that, but they provide a deliver and collect service. Within 24 hours of contacting Decent Audio, Simon Burton of Home Media arrived here with the items that were the subject of your review! No deposit required; no credit card details taken, no character references needed. Simon's parting words were “Hang on to them as long as you like, I'll collect them at your convenience”.

Crikey! There must be hundreds of Hi-Fi World readers living within the delivery range of Home Media who would love to avail themselves of their generous services. Would this news be worth mentioning in a future edition of 'World'?

Best wishes,

**Peter Ruane**

Hi Peter. Reviewer Chris Frankland lives within striking distance of Home Media and – like you – finds them very helpful. But did you like the .7s? Did you buy them? Tell us a little more. **NK**

### **Peter Ruane replied:**

Here is a jointly formed opinion emerging from an afternoon listening to the Magneplanar .7 speakers.

We consider the soundstage to be very good in every dimension.



**Magneplanar .7 loudspeakers. "Neither of us would be tempted" says Peter Ruane.**

Instruments and vocals warmly presented with clear definition and separation. Level of bass acceptable and better than we anticipated having read various reviews – perhaps lacking ‘punch’ compared to my Spondor D7s and my colleagues Spondor A9s.

Excellent value for money given their sonic qualities.

Suggestions in the handbook regarding placement indicate much trial and error; we had them 1m from the rear wall and 2m apart with our listening position 3m away. We may not have achieved optimum position in the 18ft x 18ft listening room.

Amplification was a Music First Baby Classic passive amp, linked to a Naim NAP250 DR (70W) power amp.

When driving the Spondor D7s, the volume knob on MF passive never needs to reach 2 o'clock; to drive the Magneplanars we had to set it to at least 3 o'clock (and for some albums, 4 o'clock).

Overall, we love the sound of these speakers, but the expanse and darkness of their physical presence was too intrusive for us, particularly since they had to extend well into ordinary living space. For this reason, neither of us would be tempted by their wonderful quality and their extremely attractive selling price.

Best wishes,

**Peter Ruane and Murray Todd,  
Chelmsford,  
Essex.**

Oh! Well that always was the problem with panel loudspeakers: they loom large, unlike your Spondor D7s and A9s that are slim floorstanders. Some accept this, as Sid Murphy's preceding letter shows, but for others the visual intrusion is not worth sound quality benefits – such as they are perceived to be. Good to hear about your experiences though, that I'm sure others will find interesting. **NK**

### OPPO UDP-205

Just a quick email to correct Noel Keywood; almost every time he refers to the Oppo UDP-205, he quotes the DAC chip as being the ESS ES9018. I own an Oppo 205, using it mainly as a DAC (from my Auralic Aries G1) so I was a bit confused; the Oppo website states; "For the analogue output stages, the UDP-205 utilises two flagship ES9038PRO DACs, which are the flagship of the ESS SABRE PRO series delivering best-in-class audio performance". I believe one is used for stereo and the other is used for the rear and centre channels.



**"The Oppo UDP-205 uses an ES9038PRO DAC" Dave Herd says, "not the ES9018".**

Anyway, no matter what the DAC chip is, this really is a great machine for spinning all types of disc!

Keep up the good work,

**Dave Herd,  
Edinburgh.**

P.S. I can't agree with Noel on his opinion on the KT 120 valves either, I owned a Rogue Audio Cornus Magnum integrated running KT120s; smoother, with more "headroom" than the KT88s they replaced. Better soundstage too!

Hi Dave. Yes, looks like I have retained memory of the Oppo UDP-105D we once used that had the ES9018. As you say, the UDP-205D that we now use has the ES9038PRO. Please accept my apologies.

The issue of the KT 'upgrades' to the GEC KT88 is an interesting story. I relate what two experts – who know far more than I – on this. The KT90 and KT120 were simple and crude East European upgrades of the KT88 constructed to provide higher power. To do this the anodes were increased in surface area and beefed up to withstand higher temperature

use. That means they not only had to dissipate more heat, but also not deform from heating and cooling. But the electrode assembly of these valves was crude. It is possible you have heard better constructed versions than those I have heard; these valves in early form were not widely used by manufacturers because of poor sound quality and unreliability.

The KT150 was introduced by Tung-Sol (New Sensor Corporation; Mike Matthews, financier to Jimi Hendrix) to overcome the crudities of the KT90 and KT120. Not only does the anode dissipate more power, but the electrode assembly and glass envelope are superior. The heater has greater emissivity – why it draws higher current. Listen to KT150s and you will hear the improvement: they are smooth and refined and less clanky than the interim KT90 and KT120. The KT150 shows the 90 and 120 were unlovely upgrades to the great original GEC KT88 (as opposed to later East European knock-off KT88s). **NK**

### RADIO TODAY

Adding my views about the state of radio today to the others who have voiced concern is something I cannot resist. I believe the BBC once provided great choice of presenter/DJ and music but like other commentators I now feel listening to Radio 2 is almost a waste of time (some exceptions in my opinion include Johnnie Walker and Bob Harris who offer intelligent comment and marvellous choice of music).

However, there are some other choices: if you have access to internet for radio, then Radio Paradise is well worth a listen: tracks chosen by humans with some wonderful themes and links, no advertisements and all from California running 24 hours a day. The quality



**The Tung-Sol KT150, a high power valve with superb sound and reliability.**



**"Radio Paradise is well worth a listen: tracks chosen by humans" says Mark Eley.**

rate over broadband goes right up to ALAC which is very reasonable. You can choose from a main mix, mellow, eclectic or rock. There is a desktop app for computer and also mobile ones, which additionally provide artist information. Great stuff, I can listen for hours and make new discoveries every day. (Pear Radio is also worth a try, as is the very unusual Radiooooo.com which lets you choose music from all over the world and throughout the decades – give it a whirl).

**Mark Eley**

Hi Mark. And thanks. Internet radio stations are a little talked about source of wonderful music, as you say. Make the BBC's UK output sound narrowly parochial. **NK**

### WITTERING WIMIN

Re: wittering wimin CJs – listen to Radio 3! During the day they seem to have a 50/50 mix of male/female presenters (no CJs here!) all with very intelligent/informative comment (no wittering!). The classical content is of wide scope, but after 11pm the music gets contemporary, new music that's not pop!

Presently, all presenters are female (Mon-Fri) of the non-wittering, intelligent variety (Hannah Peel is a composer,

worth checking out) and the music is brilliant! I listen to Radio 3 all the time (except opera and choral evensong) on FM via Creek T43/Hitachi FT-5500MKII tuners. I'm writing this whilst listening to Late Junction with Verity Sharp, again brilliant!

Cheers

**Howard Phillips**

### TRAD TOPICS

I have always loved your Letters column, and some regulars such as Mike Bickley and Mike Tartaglia Kershaw always present interesting ideas and prompt some great responses from your team, including the marvellous Dave Tutt. So here we go with a ramble over topics which I have meant to comment on for months now and as you'll see, I'm still a Leak/Quad/Tannoy sort of guy.

Power supplies: After my note about LED lights with their little switch-mode supplies producing RF noise + the follow-up (April letters) I was more aware of other comments on filtering e.g. using Ferrite blocks over cables. Russ Andrews is up-front, and RS and others offer various products. Houses are electrically noisier and noisier – most washing machines now have high-power switch-mode supplies and as for computers – Oh dear! I now sense an upsurge in interest in filtering, and for example, Jim Lesurf's column in the April HFNR offers fascinating insights into broadband RF pollution and the rise of surge protection overtaking proper RF filtering, e.g. the widely-used Schaffner filters.

There also seemed to be lots of interest earlier in 2020 with both HFW and HFNR talking about power treatment via the introduction of balanced power supplies (earth moved to between neutral and phase, rather than left close to neutral). Somewhere I had read that using filters after such units (Airlink, Russ Andrews, etc.) was a no-no as they go bang! But having checked diagrams for commonly-used

Schaffner filters, I could not see how increasing the potential between neutral and earth could cause this problem. A short query to Russ Andrews prompted the ever-alert John Armer to reply that no, it won't blow up, but your system will sound better and more life-like if any other filtering is done before the balanced transformer is introduced. Useful information indeed, and based on experience.

Tannoy: Richard Beane's letter in HFW May and Mike Bickley's follow-up in August provided good food for thought – and they raise the point on optimal cabinets for older Tannoy drivers with Alnico magnets. This is a topic I have been fascinated by for years and one of the best discussions is on a web page from Steven Spicer, the Australian hi-fi wonder-fellow he will show up again in the Leak notes to follow! Alas, it's harder to find his info these days, but it is mostly still out there. The conductive nature of Alnico (Aluminium-Nickel-Cobalt) magnets used in the older Tannoy drivers, such as my favourite the HPD385, plus the coil layout and suspension yield a very low Q driver so if you follow pure Thiele (Aussie) and Small design parameter theory, derived by KEF in the 1970s, you end up with a ridiculous outcome best explained by Steve here: <http://www.44bx.com/tannoy/lowq.html>.

There are hundreds of other Tannoy cabinet designs out there e.g. see the vast resources on <https://www.hilberink.nl/speaker.htm> Somewhere in all this is an Aussie design for a huge reflex cabinet, tuned way down low.

I currently have Tannoy Ardens and Mansfields, both with HPD385 drivers. They are lovely but the old-style box colourations and reflex contributions in the Ardens can sometimes be just a bit too much even in a big room. I do love the smaller sealed-box Mansfields, and my current best simple solution to LF roll-off is to add a little low-bass boost to lift those lowest two or so octaves a bit up, using tone controls – then it's just lovely with my large collection of Organ music.

In lockdown, I have reverted to using small Marantz amplifiers, either the older PM4400, or the PM6005 which is currently driving the Ardens, since my Quad 2905s and Mac gear are all in storage for the house alterations. Likewise in France, I use a wee Marantz PM4400 to drive old KEF reference 4s in a lovely big room – not much power needed. My wife now tells me after 30+ years of my various speakers, that the big KEFs are her favourite. Tough luck Quad and Tannoy!

### SOUNDS



**Radio 3. "Presenters are female of the non-wittering, intelligent variety" says Howard Phillips.**

The PM4400s are lovely-sounding little amps from days of yore so all credit to Marantz and even now they are not that much money, and seem to be very reliable.

Leak: There seems to have been an outbreak of Leaks in the latter part of 2020, October getting more serious, then culminating in a veritable flood for your Dec issue! Lovely to see the Leaks discussed again with the Stereo 20 being a very old personal favourite. My Dad had one in 1958 and it never broke in over 30 years, driving RCA Photophone speakers from a Garrard 301; I still have these latter pieces.

In Australia and New Zealand the ST20 power transformer, crowded in between the output trannies, was rather prone to failure through thermal overload in hot weather, being probably designed for London temperatures. That was how I got my first (free!) ST20 – and I've since looked for years at car boot sales etc, but not had the luck of your reader Malcolm in the Dec issue. The nice professor said firstly there was much smoke (from the potting wax), and then the amp just stopped – and he gave it to me! <http://www.44bx.com/leak/Stereo20.html>

The good local transformer company in Auckland unwound the mess and counted the turns, then rewound me a new transformer using the original core and covers. I replaced all the resistors and capacitors, which is quite easy given the lovely point-to-point tag board wiring setup, and also the valve rectifier with diodes. Little did I know this latter act would change many parameters owing to the increased supply voltage, but thank goodness for cathode bias!

Now I know more and the valve rectifier is probably best left in, unless you're very clever with it. Anyway, this first time I used huge WIMA HT polyprops for the coupling caps. which were so big I had to add feet to the base of the amp – good for more air, as I never had a Leak ST20 come with a base plate – hence Dave Tutt's comments about lack of safety. I currently have four ST20s and I am still alive! You can now buy replacement caps, even the paper-in-oil types, at a price. Interestingly, for their big cores, the ST20 output trannies seem to have a roll-off at the low end. I had always thought that meant too few turns-per-volt in the design, but John Howes (private communication) implies that driving them differently gives virtually another low octave! Incidentally, I have never heard of an ST20 output tranny being burned out.

I have always thought that the Leak ST20s drove the Quad ESL57s far better than the original Quad II did. Of course the Quad 57s often needed refurbishing by the 2000s, but what a combination! Stacking them for more bass (done) + an amp for each panel (not yet done) will be tested fully soon. I hope my stack frame design means you can adjust the angle between the top and bottom 57 to focus/tune the two to the room etc as you need. My self-restored stacked Quad ESL 57s await their pair of Leak ST20s.

The book you note by Steven Spicer I have from a while back, but a quick online search shows it's not easy to get currently. I seem to recall there's an online PDF somewhere, but here's the link to Steven Spicer's Leak website: <http://www.44bx.com/leak/> He is a truly amazing guy!!

Best regards,  
**Dr Richard H. Barton,**  
**Imperial College UK.**

Hi Richard. Since switching power supplies are now appearing everywhere from light bulbs to hi-fi amplifiers and washing machines, perhaps we should be using d.c.

letters. Guess you have read Steven Spicer's explanation of this amplifier's 1960s protection mechanism, where a series resistor overheats and desolders itself. Hmmmm... ingenious!

Leak have always had an audience. It was when International Audio Group (IAG), owner of the Leak brand name, decided to go ahead with revival recently that we could all rejoice, hope for new products in similar vein – and yatter about Leaks of the past. The Stereo 20 in particular epitomises high fidelity: beautiful sound from a modest amplifier – one that your father enjoyed for so long, like so many others. Harold Leak deserved his Rolls Royces.

Stacked Quad ESL57 electrostatic loudspeakers are something to behold and hear. You should



**"I do love the smaller sealed-box Tannoy Mansfields" says Dr Richard Barton.**



**Leak Stereo 20 amplifier. "My Dad had one in 1958 and it never broke in over 30 years" says Dr Richard Barton.**

supplies in the home to eliminate them. Fascinating to think about what arises with high current d.c. supplies in the home, such as d.c. to d.c. conversion – but no hum in the hi-fi!

Glad to hear that as the proud owner of four Leak Stereo 20s you are still alive and able to write us

contact One Thing Audio (<http://onethingaudio.org>) about restoration. An old ESL57 will need a rebuild to hear what it is capable of. Modern films and their coatings give better results from the basic design. Our One Thing renovated ESL57s were beyond superb. **NK**



# WIN CAMBRIDGE AUDIO'S SUPERB CXA61 AMPLIFIER WORTH £750 IN THIS MONTH'S GREAT GIVEAWAY!

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**H**ere's your chance to win a Cambridge Audio CXA61 'digital' amplifier, reviewed in our January 2020 issue. Read the review excerpt below and answer the questions at right.

"The CXA61 integrated amplifier includes both analogue and digital inputs. The Wolfson 8740 DAC of the previous model has been replaced by an ESS Sabre ES9010K2M digital-to-analogue convertor – one of the best on the market – allowing conversion of 32-bit/384kHz PCM files as well

256 DSD data streams. That just about covers all files most users will possess. Other upgrades include new op-amps, improved capacitors and a simpler circuit designed to reduce distortion.

Bluetooth is built in and power output comes in at 60 Watts per channel – a figure that to some might sound a little limited, but to be honest most of us only really use a few Watts of power even to drive the most demanding of loudspeakers.

Connections include four analogue inputs, plus coaxial and Toslink digital inputs. The input chosen is indicated on a front panel display, to

the right of which sits a large rotary volume control. However the easiest way to control the CXA61 is via its supplied remote control which is one of the best I have used in terms of ease of use and layout. It feels solid and works with no lag at all.

Build-wise the Cambridge well befits its £750 price tag. There are no rough edges in any sense of the phrase and it feels solid and well-constructed, being quite large at 115mm x 430mm x 341mm (H/W/D) but still fits a standard 19in (483mm) wide hi-fi rack with room to spare".

For a chance to win this great prize, just answer the four easy questions at right. Send your entries on a postcard only, by 8th January 2021 to:

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## QUESTIONS

**[1] What DAC is used?**

- [a] Philips TDA1541A
- [b] ES9010K2M
- [c] AK4331ECB
- [d] Wolfson 8740

**[2] Power output is-**

- [a] 6 Watts per channel
- [b] 66 Watts per channel
- [c] 76 Watts per channel
- [d] 60 Watts per channel

**[3] Input is indicated by -**

- [a] Semaphore
- [b] Aldis lamp
- [c] front panel display
- [d] hand signals

**[4] There are -**

- [a] no rough edges
- [b] furry edges
- [c] rounded edges
- [d] edgy edges

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# Play Day

**Audiolab's new 6000A Play amplifier has DTS Play-Fi internet connectivity. Noel Keywood tunes in.**

**A**udiolab's 6000A 50W amplifier (£699) has made a name for itself, with clean open sound and plenty of facilities including Bluetooth wireless link and a Phono stage for LP. The new 6000A Play I'm reviewing here adds DTS Play-Fi technology for streaming music from online sources

such as Spotify, or domestic sources such as a networked PC. There is a Play-Fi app to control this, plus a conventional remote control, the two working side-by-side. Price £799.

The 6000A Play is similar in basic spec. to Quad Vena II and Leak Stereo 130 50W amplifiers also in the IAG stable, but there are differences. Measurement revealed

this is a wideband amplifier, the others are not. So think a brighter, more open, even 'fast' sound than from Quad or Leak brands, even though power is the same.

The Audiolab has a Mode function of Integrated / Pre-Power, or Pre alone, adding flexibility for those who want to play around with different combos. As with its stable



mates there's a digital section based on the ESS ES9018 digital convertor chip. This amplifier is technically complex, especially at the price – and that's ignoring Play-Fi. Missing are balanced XLR inputs and USB for computer link; also the remote does not source select.

That's a quick outline of what's on offer here in terms of hardware. Now on to Play-Fi.

There is a generation brought up on wi-fi for whom wires are a lurch back to the past. I'm alluding to my 20 year old son who's not going to be convinced that an ethernet cable is better than wi-fi for watching Netflix. Those who similarly demand a wi-fi link can gaze in happiness at the Audiolab's two external wi-fi aerials at right (looking from front); the aerial at left is for Bluetooth. External aerials give best reception

/ data rate over long distance, but I used ethernet back to the router – as recommended by Audiolab if not by my son – for best results. However, the Play-Fi app connects into the network via the phone's wi-fi link, in my case from an iPhone 10X Pro talking to a recent BT Smart Hub 2 router.

The Play-Fi app isn't the easiest to understand, its user interface is plain peculiar I find, but you get used to it. In addition to commercial on-line music sources, including Amazon Music, Tidal, Qobuz, Internet Radio and many more, it can also play music stored on the 'phone or on a PC (with Windows Media Player set to Streaming), both of which worked fine for me. My router's client list and Windows 10 PC picked up the Audiolab straight away, identifying it as a PlayFi Device, and both sources

could be controlled from the 'phone, volume being synchronised between app and amplifier. I played 24/96 Flac files from the PC without problem, but whilst checking all this I realised Windows Media Player cannot stream DSD natively and the 6000A Play has no USB input for computer connection to stream DSD via DoP, even though the ES9018 DAC has DSD conversion on-board. A work around seems to be loading BluOS onto Windows or Mac – but I shied away from this one! The easiest way to load DSD is from flash memory but that option is not available on the Audiolab either.

Talking digital brings me on to digital options available. There are three filters: Fast, Slow and Phase. Fast is a filter that gives widest bandwidth and best measured performance figure (which is why



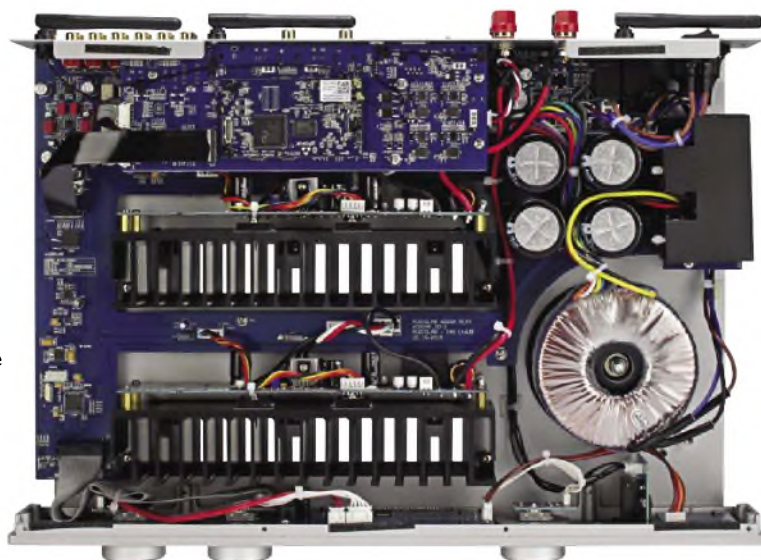
it is commonly used), but a time-domain impulse response that has pre and post ringing of transients. Slow cleans up the impulse response and, I find, sounds easier and more natural; I end up choosing slow filters. Audiolab's Phase option I do not know but they say it is a Slow filter with better phase characteristics. Unfortunately, these are not M-DAC style (John Westlake) filters, but add-ins to the ES9018 that have little effect measurement showed, so no reason to get excited here.

Then there are Normal or 'Phase Lock Loop' (PLL) options. They have nothing to do with phase in the filters, rather it is about capturing a digital signal. The electrical and optical digital 2 inputs can be switched to Wide to capture a signal that has wide phase variation, typically from old digital tape sources, to prevent stuttering.

I was heartened to see that the optical digital input accepts 192kHz sample rate and that the internal ES9018 DAC gives good dynamic range to tease high quality sound from hi-res digital. Not Audiolab M-DAC+ quality but respectable.

And finally the MM phono stage has been given very high gain measurement showed, allowing it to work with moving coil cartridges – another peculiar wrinkle in this product's make up that goes unmentioned.

And then a finally finally. High gain in a phono stage makes it very sensitive. Popping sounds came from one channel whilst the wi-fi system was searching for a local network: the phono stage was picking up RF.



**At right a linear power supply with circular toroidal mains transformer. At centre base plate cooling vents beneath the amplifier's heatsinks. Circuit boards are packed with miniature components placed by robots. A complex amplifier.**

To listen to LP I ensured the wi-fi was not in search mode by plugging in an ethernet cable link to the server, to over-ride wi-fi linkage. So, providing Play-Fi works on this amplifier, LP works too!

### SOUND QUALITY

The Audiolab 6000A Play was connected to our Martin Logan ESL-X hybrid electrostatic loudspeakers via Chord Company Signature Reference cables. Sources were an Oppo UDP-205D Universal player acting as a CD transport, connected with a QED Quartz glass fibre optical cable. I spun LP on our Timestep Evo modified Technics SL-1210 Mk2 turntable, with SME309 arm and

Audio Technica VM750 SH (Shibata) moving magnet cartridge, also an Audio Technica OC9X moving coil.

Running through a slew of uncompressed (high dynamic range) review tracks from CD, as measurement suggested the 6000A Play is very different in sound character to IAG's Quad and Leak amplifiers. It has a bright, clear hue that not only forces out detail but made the close miked guitar strings of Nils Lofgren's guitar in Keith Don't Go quite challenging. There was a sense of forensic insight and the ability to dig up detail.

Skunk Anansie's Hedonism brought out many strengths, notably a powerful and expressive bass line at



**Twin wi-fi aerials (left) and a Bluetooth aerial (right) ensure good radio reception at long range. Crucial to wi-fi connectivity was a tiny activation button beside the central RJ45 ethernet connector (centre). The Digital 1 and Digital 2 inputs (centre right) differed in that the latter can have Wide digital capture applied – an unusual function.**

start, whilst the jangling (distorted?) guitars did just that – jangled – rather than sounding harsh and muddled; this is a strength of the ES9018 DAC. With Skin clear and strongly

open sound stage, power to kettle drums and good separation between orchestral sections made for drama. I enjoyed this too.

Initially, I used an Audio Technica

"powerful and expressive bass outside expectations of a 50W amplifier"

embodied centre stage the track sounded better than I am used to – impressive.

The same with Willy DeVille singing Spanish Harlem (CD). He came over as full bodied, his voice rich with textural content, giving this performance real presence. There was some hardness on vocal pushes – not a soft sound – but also a convincing sense of plausible balance even though I know this recording, where he shouts into the mic, has plenty of sibilant content.

With its ability to dig out atmospheric detail the 6000A Play made a great job of the London Symphony Orchestra playing Holst's Mars, from The Planets. A wide

OC9X moving coil cartridge in our turntable and it worked fine, even though volume had to be turned right up. There was no hiss – but. The OC9X has a hard sounding beryllium cantilever and I felt this was not a best match for the Audiolab. Changing to Audio Technica's VM750SH with its tapered aluminium cantilever and less hard sound was like waving a magic wand. The Audiolab then showed exquisite ability, bettering CD. I was assaulted by the fast drumming in Sing Sing Sing from the Syd Lawrence Orchestra, this Direct Cut LP again showing the Audiolab has powerful and expressive bass outside expectations of a 50W amplifier. It comes over as fast and

easily clear – not crystalline – yet places and keeps images firmly on the sound stage.

**CONCLUSION**

Audiolab's 6000A Play is a comprehensive package, if with a few omissions such as lack of USB computer link, no XLR inputs and no source select on the remote control. However, balancing that are a raft of great strengths, notably powerful detailed sound that belies its 50W quoted output spec. Add smooth, tidy digital from a great ES9018 DAC and the final deal is very attractive, especially with Play-Fi able to route external digital sources like Tidal, Qobuz, Spotify and Amazon music, plus internet radio, through the fine internal digital section. The tight integration of good digital with a fast detailed amplifier was impressive. I ended up using it as an alternative to our Oppo UPD-205 and Creek Evo 100 combo: it had greater focus. Well worth hearing.



**MEASURED PERFORMANCE**

The Audiolab 6000A Play produced 50 Watts into 8 Ohms and 90 Watts into 4 Ohms – enough power to go loud in most set-ups.

Distortion measured 0.01% in the midband and the same at 10kHz (both at 1W), showing absence of crossover distortion. At high power the figure remained 0.01% across the audio band.

Via the Aux 1 analogue input frequency response measured flat from 1Hz to 100kHz (-1dB), so this is a very wideband amplifier, unlike IAG's Quad and Leak amplifiers of otherwise similar characteristics. Wideband amps lack warmth but sound 'faster' and apparently more detailed.

The optical S/PDIF digital input worked to 192kHz sample rate, frequency response extending to 37kHz (-1dB) with all three filters, rolling down slowly to the 96kHz upper limit (-5dB). The electrical input gave identical results. The filters had little affect on a 192kHz sample rate input but Slow did slightly curtail CD.

The ESS ES9018 Sabre 32 Series digital-to-analogue convertor (DAC) gave a 115dB EIAJ Dynamic Range value from the loudspeaker outputs and same from Pre-out – good if not exceptional figures.

There's no USB input to accept higher sample rates or DSD.

The MM phono stage has very high gain, making it unusually sensitive, just 1.2mV for full output; overload was high at 54mV. Accurate RIAA equalisation gave flat frequency response, but gain rolls down below 20Hz to lessen loudspeaker cone flap from LP warps. The noise figure in dB below full output (21V) looks poor at -66dB, but this is due to high gain. Equivalent input noise – a better measure that reflects what is heard – computes to be a low 0.12µV. High gain allows use of MC cartridges.

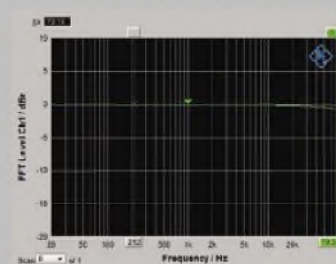
Measurement reveals the 6000A Play to be unusual in some areas, but overall it measures well all round. **NK**

<b>Power</b>	<b>55W</b>
<b>Frequency response (-1dB)</b>	<b>1Hz-100kHz</b>
<b>Distortion (10kHz, 1W)</b>	<b>0.01%</b>
<b>Separation (1kHz)</b>	<b>92dB</b>
<b>Noise (IEC A)</b>	<b>-103dB</b>
<b>Sensitivity</b>	<b>300mV</b>

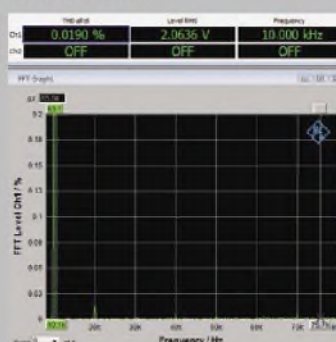
<b>DIGITAL</b>	
<b>Frequency response (-1dB)</b>	<b>4Hz-26kHz</b>
<b>Distortion (-60dB, 24bit)</b>	<b>0.04%</b>
<b>Dynamic range (EIAJ)</b>	<b>115dB</b>

<b>PHONO (MM)</b>	
<b>Frequency response (-1dB)</b>	<b>20Hz-20kHz</b>
<b>Distortion (1kHz, 5mV in)</b>	<b>0.03%</b>
<b>Separation (1kHz)</b>	<b>68dB</b>
<b>Noise (IEC A)</b>	<b>-66dB</b>
<b>Sensitivity</b>	<b>1.2mV</b>
<b>Overload</b>	<b>54mV</b>

**FREQUENCY RESPONSE**



**DISTORTION**



**AUDIOLAB 6000A PLAY £699**



**OUTSTANDING - amongst the best.**

**VALUE - keenly priced**

**VERDICT**  
Fast powerful sound underpinned by great bass. Not warm, but insightful and gripping.

**FOR**  
- strong insight and detail  
- powerful, tight bass  
- good digital quality

**AGAINST**  
- no USB  
- no XLR  
- must have network connection

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JONI MITCHELL

Archives - Volume 1  
Rhino

Subtitled, 'The Early Years (1963-1967)' this book-like box set spans five CDs and includes a healthy six hours of music. The content covers a lot so that means plenty of unreleased songs, live work and radio recordings.

The latter is the scene of her first known recording in 1963. It took place when she was a strip of a lass, nineteen in fact. The place was CFQC AM, her hometown radio station of Saskatoon, Saskatchewan.

Her home demos span ten tracks from June 1967. You'll also find forty seven songs from her time performing at the Canterbury House in Ann Arbor, Michigan in October of that year.

But there's so much more here. More live work, tracks at her parent's home and even tape compilations done as birthday presents for others. This is a treasure trove of goodies that also

includes a 40-page booklet.

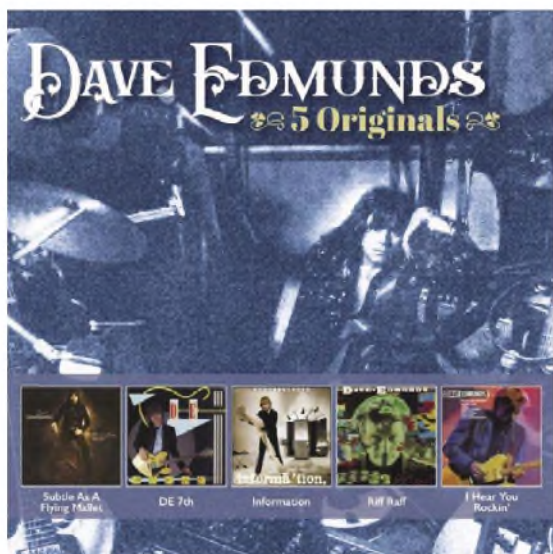
As you might imagine, the quality of the recordings here varies in quality. The radio recordings from CFQC (1963), for example, are generally good in presentation terms but do sit on a bed of hiss while there is an edge in the upper midrange which is accentuated at higher volumes.

The two sets from the Half Beat (1964) are intriguing because there is far less space and air in the soundstage. That gives the sound a more focused, tighter presentation although again, there is an edge in the upper mids, understandable in a live environment.

Oddly, the three songs from Myrtle Anderson's Birthday Tape (1965), despite the hiss, sound more balanced in sonic terms.

Of course, all of these technical shenanigans play second fiddle to the fact that the box exists at all – and the joy the songs will bring to Joni Mitchell fans.

AUDIOPHILE CD



DAVE EDMUNDS

5 Originals  
Floating World

You don't see too many double jewel cases these days. Is the industry phasing them out? More slim-line pocket collections seem to be the vogue but not here as this Edmunds collection, spanning three discs, is carefully packed into this friendly anachronism.

The issue I have with this package is that the track listing runs as one list. You have no idea what tracks belong to what album unless you do a bit of Internet research. That holds true for CD case and the booklet.

So 'Subtle as a Flying Mallet' is but twelve tracks on the 25 track-filled CDI but you're never told that. This gives the package a rushed, uncaring feel and it's a shame because these albums deserve an airing.

Mastering varies from album to album. 'Subtle as a Flying Mallet' (1984) is melodic, inventive and includes the pseudo-Motown-esque,

'Baby I Love You'. It's spacious but does feature a smattering of compression.

'D/E 7th' (1982) – featuring a wonderful rocking cover of Some Other Guy – pushes the upper mids to the limit but never too far. A solid rock'n'roller.

'Information' (1983), produced by Jeff Lynne, has received criticism but I like it. Pretty balanced in mastering terms, it does have an ELO-esque feel that only adds to the Edmunds' recipe and I think it works.

'Riff Raff' (1984) sticks with Lynne and adds synths. I should hate it. Everyone says I should but... I don't. The new textures fit nicely while Edmunds retains a rocking strength that never allows the synths to dominate. The mastering is slightly peaky though.

As is the live 'I Hear you Rockin'" (1987) but the music provides a more open and organic soundstage. For a live presentation, it's surprisingly balanced.

**I**t was the group's fifth LP and it's out now to celebrate the album's 50th anniversary, packaged in a large format, book-type box set. Released in February 1970, the LP has been newly remastered by the man who has taken on the mantle of the keeping-of-the-Doors-flame, Bruce Botnick. A very nice man. That last time we chatted, he sent me a lovely photo of his rather beautiful cat.

But back to the plot as this box features the original album on vinyl but there are two CDs included too. And that's where all the 'good stuff' – as it were – resides.

What I mean by that is there's more than an hour of unreleased recordings taken from the sessions for 'Morrison Hotel' on those silver discs.

As Botnick said, that means different "...takes, different arrangements, false starts, and insightful studio conversations

between the band – who were in the studio – and producer Paul Rothchild – who was in the control room".

So you'll find rough versions of 'Peace Frog', 'Blue Sunday' and 'I Will Never Be Untrue', 'Money (That's What I Want)' and B.B. King's 'Rock Me'.

In terms of mastering, the CDs offer a mature and balanced sonic presentation from the original LP. There's no sonic nasties here, each frequency maintains a discipline so listening fatigue is not an issue. More than that, the imagery is nicely structured with a notable 3D affect around the stereo image area.

What surprised me was the general quality of out-takes, offering plenty of air and space infused around the music – but also the studio chatter, presented in a neutral fashion. That chatter emphasises the size of the studio. You feel that the band are in a 3D space here. Very nicely done, Bruce.



## THE DOORS

Morrison Hotel  
Elektra

# AUDIOPHILE CD

**I**t's difficult to separate New York from Lou Reed and vice versa. They went so well together. The city was part of the man, his story and his music – and the city was bolstered by Reed's fascination whilst also being revealed by his attention.

The duo got on so well together that you could declare that this was Reed's best solo album. OK, some might disagree but this 1989 release was well put together and the songs were created with obvious enthusiasm.

When you hear someone talking about a subject they enjoy, you can't help but be entertained. Even if that subject holds no interest to you. That's what this album does for the listener. You're infected by Reed's passion for New York on the fourteen included tracks of the original album.

The subjects are not pretty, though. From urban decay to child abuse, to the homeless and AIDS –

but all subjects are handled with care, incisive commentary and wit. The latter is especially resonant when he refers to himself. An album for adults, you might say.

This special edition includes two pieces of vinyl but also three CDs and a DVD.

The original album gets a 2020 remaster and includes a live version of the entire album on CD assembled from various performances on Lou Reed's 1989 tour. The second CD features the non-album track 'The Room', the solo acoustic rendition of 'Busload of Faith' and the single version of 'Romeo Had Juliette', as well as 'Work Tape' or 'Rough Mixes' of tracks from the album. A couple of encores from an August 1989 performance at The Mosque in Richmond, Virginia, complete this disc.

The DVD includes 'The New York Album', a 1990 concert video previously only available on VHS and Laserdisc, plus an interview. It's quite an album and quite a box set.



## LOU REED

New York  
Sire

# Driving a Tesla

Martin Pipe discovers the AK T9iE IEMs – and that there's more to Astell&Kern than solid-state music players.

**A**stell&Kern has been making earwear (mostly IEMs – in-ear monitors) for almost as long as it has the personal music players. Much of the South Korean operation's IEM output has playfully been given female names with musical connotations, like 'Layla', 'Michelle' and 'Roxanne'. Other

models are for, some reason, instead known by model numbers. Among the latter is the AK T9iE examined here, a pair of which can be yours for £1,099. They aren't A&K's most expensive IEMs by a long shot; for example, the Layla Aion – launched about the same time – sells for over £3,000.

These two A&K models

represent two wildly-different approaches to high-end IEM design. Whereas the Layla Aion packs no fewer than twelve band-optimised balanced-armature drivers into each earbud, the AK T9iE equivalent relies on more conventional headphone technology – a single dynamic (moving-coil) transducer, which covers the entire audio frequency





range. The Meze Rai Penta I tested recently is closer in price to the AK T9iE, but relies on an interesting 'third-way' hybrid of balanced-armature and dynamic. If you have a grand or so to spend on IEMs then, there's plenty of opportunity to choose what suits your needs and listening preferences.

Balanced-armature 'phones tend to be 'faster', crisper and more efficient than those based around dynamic drivers. On the other hand, the advantages of moving-coils include a more even tonal response and deeper bass; that's why some IEMs – like the Penta – employ both types to get the best of both worlds. 'Phones reliant on dynamic drivers can however sound pretty damn good, as anyone who has listened to upmarket designs from Focal, Meze, Sennheiser and others will know.

Another headphone brand with a lot of experience under its belt is Beyerdynamic — like Sennheiser, a venerable and respected German firm.

Funnily enough, Beyerdynamic is as much part of the AK T9iE story as A&K; my curiosity was piqued by the sales bump, which refers specifically to 'Tesla' magnets. The proprietary roots of these potent devices are closer to Germany than South Korea. Enquiries were then made as to who contributed what to the AK T9iE. I was told that A&K was responsible for "design", while Beyer handled "electronics and production". Both firms tuned the devices "to A&K's specifications...a neutral/flat sound without being biased towards any low, medium or high frequency response". Partnerships of this nature are nothing new to A&K.

Some of its other products (notably the aforementioned Layla Aion) are the fruits of collaboration with the American sound engineer (and IEM pioneer) Jerry Harvey.

So, dynamic drivers with Tesla magnets apart, what defines the AK T9iE? The ergonomically-sculpted 6g per bud that hosts the 16 Ohm driver features a "new acoustic vent port" for "deep bass that is extremely well-controlled" as well as a sound outlet with "two-layer filter". The latter, we are told, ensures "very pure and neutral treble".

Fitting to the nozzles is a choice of nine eartips, spanning various sizes. Connections to the outside world are made via the now-familiar MMCX terminal; A&K supplies a rather hefty hybrid cable (4N pure silver and 7N OCC copper) for connection to playback equipment. This is





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terminated in a 2.5mm balanced plug, but a 2.5mm to 3.5mm adaptor is provided for unbalanced headphone amps.

## USE AND PERFORMANCE

The aim of all this technology, supplied in an excellent travel case, is to “make sound more natural, especially when playing back hi-res audio through an A&K player”. Surely the make of player doesn't matter? After all, any decent equipment should play to the AK T9iE's strengths!

Unfortunately, I didn't have access to an A&K player at the time of writing. I did however have at my disposal kit from FiiO as well as headphone DACs from Prism and Chord. All made use of the unbalanced headphone connection. Sources were the X3 and a Cambridge CXN v2 with access to a library of high bitrate Internet radio, CD rips and hi-res music.

I found that the AK T9iEs were comfortable to wear, the Comply ‘Sport Pro’ tips providing a snug fit that also passed my sound-isolation test – listening to music in a large air-conditioned data-centre full of noisy IT equipment like servers and switches! However, I personally prefer ‘double-barb’ tips of the sort that Meze supplies with its Rai Pentas. Although its performance cannot be faulted, the cable is substantial – getting it to bend around your ears is rather awkward.

braid of silver-plated copper Litz wires, also worked well with the AK T9iEs. A problem I had initially was that the sound tended to ‘cut out’ when I first donned them – thankfully, this stopped after a good few hours of everyday use. I suspect that the MMCX connectors needed to bed in.

Comparing the AK T9iEs with the Penta Rais was interesting. The A&K devices are notably less efficient than the Mezes, the volume control having to be upped a notch or two. I also found that the AK T9iEs lacked their rival's ‘excitement’ and bass extension. That's not to say those low frequencies are poorly-reproduced – indeed, nothing could be further from the truth. There's plenty of definition on offer, and although they seemed to have taken a step or two back in the auditorium the double basses and cellos of Gorecki's Third Symphony (Polish National Radio Symphony Orchestra/Gibbons/Pendercki, CD FLAC rip) were rich and vividly-portrayed. Indeed, detail is a strong point of the AK T9iEs; the sounds of



**As well as a pair of A&K T9iEs, you get a 1.2m “4N pure silver and 7N OCC copper hybrid” cable with 2.5mm balanced TRRS plug, a “trailing” adaptor with 3.5mm unbalanced TRS plug and nine sets of ear tips catering for various sizes of ear canal. Everything you need on a ‘day-to-day’ basis can be stowed away safely in the circular ‘designer’ carrying case, when not required for listening.**

Meze IEMs, which were themselves fine in this regard.

Also apparent were the individual textures of the various strings that are core to that melancholy first movement, and Beth Gibbons' emotive singing – all of which were locked into a believable stereo image. I was also impressed by how convincing Hania Rani's Esja (CD FLAC rip) sounded. Throughout this set of mostly-unaccompanied piano pieces the keystrokes, breathing and sense of performance space helped to take me ‘into the room’.

Electronic music (such as Roxy's unique Melody AM, and the electro of Anthony Rother's Basic Level) demonstrated a good grasp of rhythm, although it lacked that low-end ‘punch’ I know should be there! In other respects, the presentation is more neutral than that of the Rai Pentas.

## CONCLUSION

The AK T9iEs may not give you copious amounts of bass, but their tonal balance, resolving power and good sense of timing add up to a commendable degree of musical involvement. Couple this to their comfort, and you'll be able to listen for extended periods without fatigue. My only criticism extends to the practical aspects (rather than the performance) of the rather unwieldy cable they come with.



**The AKT9iEs, hand-built by Beyerdynamic in Germany, are sculpted to fit the auricle. Here we can see the gold-plated MMCX terminals, which can accommodate balanced or unbalanced connections. Also visible are the outer shell's vent port and the nozzles to which the eartips are attached. What you can't see are the 16 Ohm dynamic drivers that feed the nozzles. These are built around Beyerdynamic's patented high-efficiency “Tesla Technology” magnets.**

Thanks to those MMCX terminals, it can be upgraded if need be. I found that Meze's equally-exotic cable, a

the audience shifting in their seats and other ‘noises off’ could clearly be made out – even more so than the

### ASTELL&KERN AK T9iE, £1,099



**OUTSTANDING - amongst the best.**

#### VERDICT

Musical and detailed, with quality over quantity at the frequency extremes.

#### FOR

- revealing and musical
- tonally-balanced
- balanced-ready

#### AGAINST

- lack of bass impact
- supplied cable rather unwieldy
- randomly cut out initially

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# Christmas Wishes

Here are some Christmas present ideas for audiophiles – or their families perhaps! If you want to make subtle hints, leave the magazine open on this page.

**NAME:** Paul Rigby

**STATUS:** Hi-Fi World's music reviewer



**RÜSS ANDREWS RF ROUTER MK.II PRICE: £199 [www.russandrews.com](http://www.russandrews.com)**

Aimed at reducing masking noise in and around your hi-fi system, the RF Router basically grounds your hi-fi components to lower the noise floor. A filter box connects to the Ground in your mains or a copper pole buried in the garden on one side and, on the other side of the filter box, numerous cables plug into Ground connections in your components or are hooked to chassis screws. The result is a heap more detail and information. Heartily recommended.

**KNOSTI DISCO-ANTISTAT VINYL RECORD CLEANER PRICE: £46.50 ([www.tonar.eu](http://www.tonar.eu))**

A subject of one of my recent Opinion Columns in this august journal, the Disco-Antistat has been around forever but there's a very good reason for that: it's the best manual vinyl cleaner currently for sale on the market. Why? Because it allows you firstly to bin the supplied cleaning liquid and insert your own superior bath supply instead – and the fact you can do such a thing is a bonus anyway – but also the Disco features those scrubbing, goat-hair brushes that use attrition to physically, yet gently, remove those stubborn stains. The sort Katie Boyle used to talk about on Fairy Liquid adverts.



**ORIGIN LIVE GRAVITY ONE PRICE: £195 ([www.originlive.com](http://www.originlive.com))**

Strictly speaking – and despite what Origin Live itself says – this is not a turntable stabiliser and it's certainly not a clamp, yet it does what both of these accessories are supposed to do – better and more efficiently. Fitting over the turntable spindle and resting loosely on your vinyl record, this puck is made from plastics, low-density wood, polymers and plastic screws and is formed by linking various discs together in a shaky mass. It lowers noise effectively, increasing air, space and detail. Quite brilliant.

**Q ACOUSTICS 3030I SPEAKERS PRICE: £329 ([www.qacoustics.co.uk](http://www.qacoustics.co.uk))**

Quite possibly the best value and best sounding speakers you will find for under £500. They comprise a 165mm mid/bass unit featuring a new motor with aluminium windings covered in copper. This unit has been designed specifically for use in stand-mounting speakers.

Above is a 22mm tweeter that has been transferred directly from a more expensive, floor-standing 3050i design.

The result? A wide soundstage that is infused with space and enough clarity to improve vocal diction and the natural, organic emergence of shy details at the rear of the mix.



**SOUNDECK DF DAMPING ISOLATION FEET PRICE: £52 – FOR A SET OF FOUR ([www.sounddampedsteel.com/hifi/](http://www.sounddampedsteel.com/hifi/))**

The difference with Sounddeck, in terms of making isolation feet that lower noise, is they know what they're doing. They've been doing it in heavy industry for years, removing noise and vibrations from entire railway networks, for example. The hi-fi accessory wing of the company offers these coaster-flat mat objects that are ideal because, being low and wide, your amp or CD player is not going to topple from them anytime soon. Noise lowers and sound quality rises. Simple as that.

# Christmas Wishes

**NAME:** Martin Pipe  
**STATUS:** Hi-fi historian



**RTM ANALOGUE REEL-TO-REEL RECORDING TAPE RTM SM468, £50; RTM LPR35, £22. [www.recordingthemasters.com](http://www.recordingthemasters.com)**

Vinyl's made a comeback and cassette sales are up. Could reel-to-reel be the next rediscovery? Those on modest budgets can buy well-maintained second-hand machines. Until recently, unpredictable second-hand or NOS ('new old stock') tape was essential. However, Record The Masters (RTM) is making new tape in France. A couple of reels of their SM468 (500ft. NAB 10.5in reel) for my Revox wouldn't go amiss! RTM's LPR35 long-play, available on 1800ft. plastic 7in. reels, is more suitable for smaller homedecks. These tapes are closely-modelled on the Agfa and BASF originals, and so machines might not require recalibration.

## THE COMPLETE GUIDE TO HIGH-END AUDIO (BOOK) £30, ALL GOOD BOOKSHOPS

The days are short, it's cold outside...and lockdowns are with us. Do you need any more excuses to curl up in a snug room with a good record – and a good book? "The Complete Guide to High-End Audio" is the accumulated wisdom of Robert Harley, whose day job is editor-in-chief of American magazine Absolute Sound. His book, now into its fifth edition, covers the key elements of buying, installing and enjoying high-quality hi-fi - including computer-based hardware. It will also help you identify the 'weak links' in your system, and even improve your listening skills! Harley keeps things readable – and for a reference work he doesn't get inaccessibly technical.



## PRO-JECT VC-E RECORD CLEANER £299. ([www.project-audio.com](http://www.project-audio.com))

If you want to hear your collected vinyl at its best a record-cleaner is essential. Although the VC-E won't squeeze into a stocking, its price isn't big.

The VC-E is a 'wet' cleaner. Its special cleaning solution is spread over the record's surface and crud is sucked up by an onboard vacuum cleaner.

As it stands, the unit is only suitable for 12in. records; however, Pro-ject has recently announced a £115 kit that will allow the VC-E to clean 7in. singles.

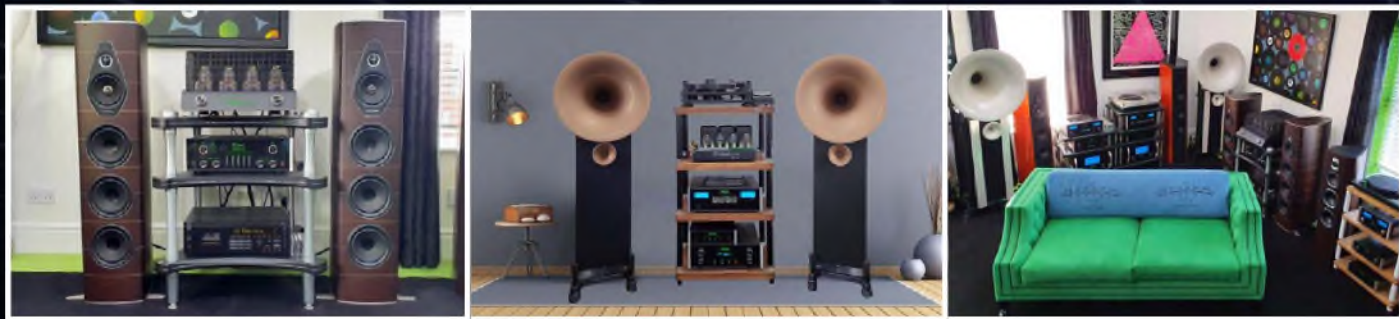
## CHORD COMPANY CLEARWAY X SPEAKER CABLES £15 PER METRE. [www.chord.co.uk](http://www.chord.co.uk)

Speaker cables of appropriate quality are an important part of any serious hi-fi system. They can cost a fortune – but don't have to. An upgrade of a much-praised product, Chord Company's budget Clearway X performs audibly better than some cables selling for much more. Boasting XLPE insulation, high-purity oxygen-free 14AWG twisted-pair conductors and foil screens, Clearway X is available 'off the reel' or with spade or banana-plug terminations. In Dulci Jubilo will sound better...even on a modest system.



## SURROUND MASTER V2 SURROUND DECODER \$AUS599 (APPROX. £330 PLUS SHIPPING/DUTY). ([www.involveaudio.com](http://www.involveaudio.com))

A few years ago, I came across the Surround Master, an interesting device from the Australian firm Involve Audio. It was what enthusiasts of quadraphonic sound had been waiting for – a unit that could decode matrix LPs, using the latest digital techniques. However, you needed one unit for the most successful 'SQ' standard, and another for the rest ('QS', for example). The V2 does everything in one box, boasts level controls and is claimed to offer "enhanced" performance...oh, and it's much better-looking! What's not to love?



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**McIntosh MT100**

- Turntable, vacuum tube preamplifier and amplifier all in one
- Includes Bluetooth and auxiliary inputs
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- 2-Channel: 350 watts per channel
- 8-band tone control
- DA2 digital audio module
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- Includes Sentry Monitor™



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Wi-Fi Streaming Audio Player
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**SME Turntable**

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- 120kHz ultrasonic cleaning system
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- Coreless direct drive
- Separate control unit
- Probably the best DD turntables in the world



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- 2.0 Non-Destructive Click & Pop Algorithm
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- Moving coil

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2 Years Warranty



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AT-ART9XI  
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ON DEMO

**Evoque Eco SE2**

- High density carbonized bamboo
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- Evoque Eco SE1 also available



2 Years Warranty

**Atacama**

Natural Bamboo  
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**Mytek**

ON DEMO

**Brooklyn Bridge**

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- Reference headphone & phono stage
- Includes remote control
- Also available in silver



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**Sonus Faber Passive Loudspeakers**

ON DEMO

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- 3-Way floorstanding loudspeaker
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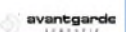
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# Christmas Wishes

**NAME:** Dave Tutt  
**STATUS:** Hands-on audio engineer

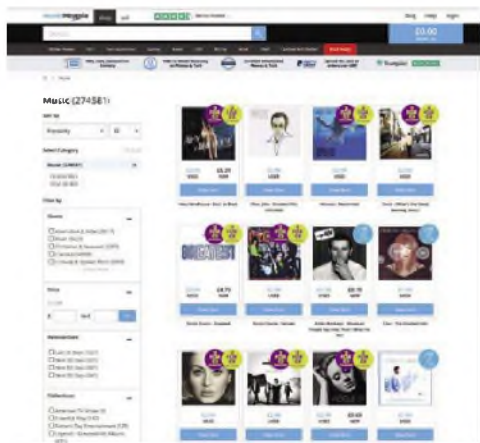


**MARANTZ PM6007 AMPLIFIER AT £499 ([www.richersounds.com](http://www.richersounds.com))**

First is a Marantz PM6007 amplifier at £499 from Richer Sounds. The front panel layout is just a standard design: input selector, volume, tone controls etc. It's what's under the bonnet that interests here. The DAC, an AK4490, is one of the leading ICs currently available, so this amp fits the modern digital world. There's an MM phono input too, so also LP friendly.

**MARANTZ CD6007 £399 ([www.richersounds.com](http://www.richersounds.com))**

Second item is for all those cheap CDs I have been buying at MusicMagpie: a Marantz CD6007 £399 – from Richer Sounds again. I have always liked the sound of Marantz CD players. Having a CD17 in the workshop at the moment seemed to suggest that buying anything other than Marantz would be a miss match in looks as well as sound.



**MUSIC MAGPIE ([www.musicmagpie.co.uk/store/category/music](http://www.musicmagpie.co.uk/store/category/music))**

Music Magpie has become a major browse site this year. I could easily spend money here every day on both new and used CDs and vinyl that are not on my shelves. So £100 here could buy me 30 CDs of music to add to my collection. I haven't had a damaged CD yet – unlike the local charity shops. I can just sit at home with a cuppa for Christmas!

**SENNHEISER HD25 £200 ([www.ebay.co.uk](http://www.ebay.co.uk))**

I promised myself that at some point in the future I would buy a really good pair of professional headphones. The ones I was really happy with whilst at the BBC were Sennheiser HD25s that now cost between £140 and £200 a pair depending on where you find them. These are not true hi-fi headphones but broadcast standard items – so relatively cheap compared to the esoteric stuff. Comfortable too!



**TWIN OFC AUDIO CABLE £32 ([www.cpc.farnell.com/pro-power/jy-8022/20-0-12mm-twin-ind-scd-black-100m/dp/CBBR6313?st](http://www.cpc.farnell.com/pro-power/jy-8022/20-0-12mm-twin-ind-scd-black-100m/dp/CBBR6313?st))**

Finally, a reel of cable – useful in the workshop. OFC twin 'Figure of 8' format I have used not only for long interconnects but also as replacement headphone cable for both Sennheiser and Marley headphones. At £32 a 100mtr reel it's a bit of a bargain!

# Christmas Wishes

**NAME:** Chris Frankland  
**STATUS:** Audiophile of ages



**ISOACOUSTICS GAIA II SPEAKER ISOLATION FEET SET OF FOUR, £299**  
 (www.isoacoustics.com)

These feet are designed for use under floorstanding loudspeakers up to 36kg. They are said to provide a high degree of isolation while resisting lateral movement and oscillations. They are simple to set up and are designed to be used with the logos facing the listening position so as to align them correctly with the direction of the speaker's motive forces. The idea is that they isolate the speakers from internal reflections from the supporting surface and that by attenuating these, the result is greater clarity and openness.

**CHORD OHMIC SILVER-PLATED BANANA PLUGS £32, SET OF FOUR (www.chord.co.uk)**

I remember being very impressed by these silver plated plugs when they were launched at the Bristol show. Considering it was a typical hotel-room dem, they sounded extremely impressive in an A-B demo against gold plated versions. The company points out that gold is used for its resistance to corrosion but that copper and silver have superior conductivity. It adds that "silver-plating gives an audibly superior result". The demo I heard tends to support that. Talk to your retail stockist about soldering them in if you don't feel up to the job.



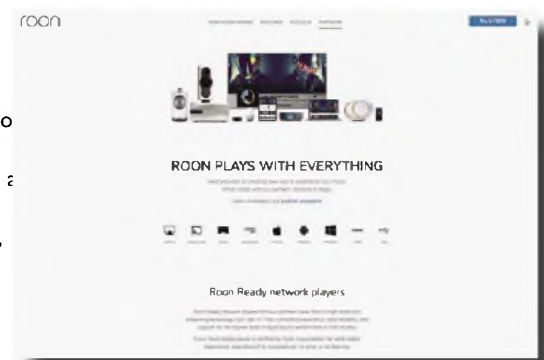
**PRO-JECT VC-S RECORD CLEANING MACHINE £429 (www.project-audio.com)**

I have used one of these machines at home and can vouch for its effectiveness. Records sound clearer, crisper and annoying clicks and pops are usually eliminated. It is said to be suitable for 78rpm shellac records as well as 33rpm and 45rpm vinyl. Pro-Ject also supplies the fluid, although other proprietary brands are available. Fluid is applied manually to the disc and the machines' powerful suction arm removes it and crud. It is the perfect gift for the vinyl addict who has (almost) everything.

**ROON \$120 A YEAR (www.roonlabs.com)**

This music management and streaming software package is winning many admirers. It claims to deliver "bit-perfect playback of lossy and lossless file formats, including high-resolution audio content". In addition to a control apps for laptop or mobile device, Roon Core is installed on a computer or Roon dedicated server on a network.

Roon works with all digital sources, including Tidal, Qobuz, NAS drives, USBs, hard drives, delivering output to a streamer, laptop, networked speaker or headphone amp/DAC. It is compatible with Tidal Masters, MQA and DSD and provides extras such as photos, lyrics and



**SONY WH-1000XM3 NOISE CANCELLING HEADPHONES £249 (www.sony.com)**

These noise-cancelling headphones are designed not only to block out vehicle noise while travelling, but also background noises such as voices. Adaptive sound control automatically adjusts to the level of prevailing noise. Sony also claim that the LDAC technology in these 'phones transmits three times more data than conventional Bluetooth wireless audio, making them ideal – Sony says – for Hi-Res Audio.

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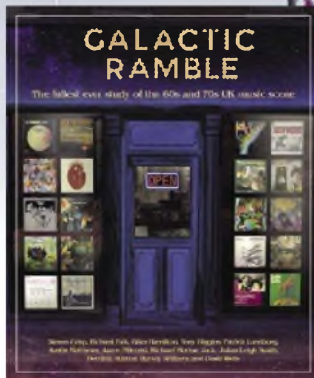
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# Christmas Wishes

**NAME:** John Pickford  
**STATUS:** Vintage, valves and vinyl



## **GALACTIC RAMBLE: £60 (www.galacticramble.co.uk)**

The most comprehensive guide to the UK music scene of the 60s and 70s, this book lists all known album releases by UK based artists, comprising contemporary reviews along with retrospective expert analysis. Rock, pop, jazz, folk and blues genres are included but not classical or easy listening. Where else could you find major works by The Beatles, Led Zeppelin, Fairport Convention and Stan Tracey discussed alongside mega-rare private pressings and obscure prog-rock, acid-folk and psychedelia from unknowns such as Fuchsia, Stone Angel and Forever Amber. Expand your music library by discovering hidden gems every bit as good as all your favourite classics.

## **VINYL PASSION DUST BUSTER: £21 (www.missinglinkcables.co.uk)**

Nothing ruins vinyl replay like gunk on the needle. The Dust Buster is a small circular tub containing a viscous black polymer gel, formulated specially for the task of thoroughly cleaning your stylus. Simply place the opened tub adjacent to your turntable's platter and lower your stylus gently onto the surface of the gel. Once the full weight of your tonearm and cartridge has made contact, lift off to reveal a gunk-free stylus. Deposits left in the gel can be washed away under running water.



## **ISOACOUSTICS ISO-PUCK MINI: £89 (www.isoacoustics.com)**

The 44mm x 24mm ISO-pucks provide effective acoustic isolation from external vibrations into bookshelf loudspeakers. You get 8 ISO-pucks in the box, with a weight capacity of 2.75Kg (6lbs) per puck. Perfect for bookshelf or tabletop placement, the ISO-pucks eliminate sound smearing and colouration while improving focus and clarity. Heftier pucks with more weight capacity are available and they work well beneath all manner of other equipment too.



## **DENSITY 7 INCH POLYTHENE OUTER RECORD SLEEVES: £7.95 (www.spincare.co.uk)**

These 400 gauge 7in outer sleeves are made from slightly frosted polythene to protect your collection of 45s from wear and tear, dust and UV damage.

Density sleeves are perfect for preserving flimsy picture sleeves and the ubiquitous company 'range bags' that housed so many classic singles from the 50s, 60s and 70s.



## **CHORD COMPANY C-USB DIGITAL INTERCONNECT £50 (www.chord.co.uk)**

Some find it hard to fathom how one digital cable can perform better than another.

I found streaming Spotify and iTunes into a decent affordable DAC from iFi, the C-USB digital interconnect makes a night and day difference to sound quality when compared to a no-name computer lead. Oxygen-free, silver-plated conductors and gas foamed polyethylene insulation helps bring lower-res streamed music up to hi-fi standards with a more vivid, lifelike sound. The proof of this Christmas pudding is very much in the eating.



# Small form

Mission's LX-2 MKII loudspeakers may be small but they have smooth form, thinks John Pickford.



It's been four years since Mission launched their entry-level LX series and now the range has been both expanded and improved. The LX-2

MKII sits in the middle of the series' three standmount/bookshelf designs with a 8.5L cabinet measuring 305mm x 200mm x 250mm (HWD); the terminals add another 8mm to the overall depth of the unit.

A two-way bass-reflex design, the LX-2 MKII features a 130mm (5in) mid/bass driver made of composite fibre along with a 25mm (1in) microfibre soft dome tweeter. They are arranged as per Mission's familiar IDG (Inverted Driver Geometry) principle, in other words they look as if they are upside down as the tweeter is situated beneath the woofer. This arrangement aims to improve 'time alignment' by ensuring sound waves from each driver coincide at the listeners head height, once optimally positioned of course.

Mission has made several

improvements to the original LX-2 model including a brand new tweeter, which has a neodymium magnet behind the lightweight soft dome.

The MKII also boasts an updated DiaDrive woofer, featuring a seamless curvilinear diaphragm directly driven by a secondary subcone connected to the voice coil. This dual-layer fibre diaphragm is allied to a high-strength ferrite magnet that ensures the magnetic field is directed precisely within the area of voice coil excursion, Mission says.

An obvious revision of the LX-2 design can be seen in a side-by-side comparison; the MKII features serrations in the driver surrounds, originally developed for Mission's ZX and QX series models. These are used to help scatter interfering reflections from localised surfaces of the dome and cone. They also dramatically alter the visual appeal of the front baffle layout and whether the bolder, more rugged look is an improvement over the sleeker looks

of the original model is a matter of personal preference.

My review sample came with the more traditional 'wood-style' walnut cabinet finish and here I felt this presented a visual mismatch; the alternative matt black and white finishes show-off the new front baffle design better. Still, the MKIIs look and feel far more upmarket than the modest £230 they command. That's not to say you are paying for unnecessary bling, though. The speakers' binding posts are plastic and the 'red' terminal is in fact a dark maroon, which does nothing to help distinction when cabling up in poor lighting conditions.

## SOUND QUALITY

The Missions came fully run in and this was apparent from the get-go as I was met with a relaxed, easy going sound with no inclination to shout; they were most polite and obviously smooth sounding. Moving my head up and down in the vertical plane of the front baffle confirmed the speakers' excellent phase coherence, so Mission's IDG approach does seem to eliminate phase-induced time-smear issues.

This gives something of the point source sound I enjoy with big Tannoys, though on a completely different scale. No 5 inch woofer is going to match a Dual Concentric Tannoy driver three times its size, however the LX-2 MKIIs did exhibit something of a 'sound bigger than they look' presentation. Placed in front of Tannoys, which I use at home, a casual listener might – just might – be fooled into thinking the sound produced by the little Missions was coming from the bigger boxes.

Odd comparisons aside, I hooked up the 'speakers to my Naim Nait XS3, fed by a trusty Goldring Lenco GL75 fitted with a Denon DL103 boosted by a Leema Acoustics Elements Ultra phonostage.

Playing to their strengths, I selected It's Too Late from Carole King's Tapestry (A&M 1971) to ease them in. The gently rhythmic intro of piano, bass, guitar and congas made for a promising start as the bass



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**Deep bass produced by the LX-2 MKIIs is aided by the rear-firing bass-reflex port.**

sound was rounded and tuneful, with none of the 'one note' symptoms I often hear from small boxes. With vocals and additional backing in the mix, it became clear these speakers have been voiced for naturalness with no top-end hype. King's vocals can sound strident through brightly balanced systems, however the LX-2 MKIIs softened any hard edges.

Switching to something less mellow by way of Led Zeppelin's Whole Lotta Love (Atlantic 1969), a couple of weaknesses I'd observed previously were highlighted, namely the Missions lack a degree of top-end sparkle and three-dimensionality. This was first noticeable during the iconic opening guitar riff, which has the guitar panned hard left with its studio reverb panned to the right channel. As the bass and vocal entered, the guitar reverb was all but obscured and some of the more subtle studio tricks, such as short blasts of reverse reverb, were less noticeable than usual. Wild panning sweeps during the



**Serrations in the driver surrounds help scatter interfering reflections to the dome and cone.**

cymbal/guitar-effect breakdown had less projection, the sound ping-ponging between the speakers rather than the swirling psychedelic surround-sound I usually enjoy.

On the upside, the infectious rhythm was conveyed with enough weight and plenty of warmth, preserving the powerful rock sound leaner speakers struggle with.

Noting the Missions' nature to tame aggression, I played a selection of classic 1960s pop 45s, making use of the phonostage's mono switch to reduce groove noise. Mono tests are perfect for confirming that speakers are finely matched with no tonal imbalance and the LX-2 MKIIs passed this test with flying colours.

Reaching out for The Four Tops I heard James Jamerson's funky bass line in full bloom, while the oftentimes piercing flutes sounded more subdued than usual. Levi Stubbs' lead vocal didn't leap from the speakers as forcefully as it should, sounding more bedded-in the mix, though in this case it made for a better-balanced listen.

Moving to CD (Trichord Clock 4 modded Pioneer) for some acoustic jazz courtesy of Wayne Shorter's Witch Hunt from the classic Speak No Evil (Blue Note 1964, remastered 1998) revealed excellent midrange tone definition and realism, though I missed the last degree of emotional projection and studio atmosphere I have enjoyed from similarly sized (though more expensive) speakers such as Q Acoustics 3030i.

**CONCLUSION**

The new LX-2 MKII is a well-mannered loudspeaker with many good points to recommend

it, not least its superb sound per pound value, yet I couldn't help feeling

some listeners might yearn for a more involving experience. Their calming nature is however extremely forgiving of edgy recordings, never exacerbating harshness, so if you were looking for small speakers to beef up a sharp sounding set-up, these would be ideal.



**The supplied foam port-bungs are useful for taming strong bass, especially if the speakers are positioned close to a rear wall.**

**MEASURED PERFORMANCE**

Frequency response of Mission's LX-2 MKII measured flat to 10kHz our analysis shows, making it technically accurate. The drive units are close together and well phase matched, making our measured response consistent over broad vertical angle; the lateral off-angle response was also stable, treble above 10kHz reducing slightly.

The fall in output above 10kHz will lessen subjective impact of high frequency vocal sibilants and CD quantisation products, making for an amenable sound lacking high frequency aggression.

Bass output rolls down slowly below 80Hz to compensate for room gain (resonances) when positioned close to the rear wall. The rear port is tuned to 55Hz, the dip in our impedance trace shows, correlated to the red trace of port output. The Missions get down to 40Hz so they are able to produce low bass.

Sensitivity was fair at 85dB sound pressure level from one nominal Watt (2.8V) of input. They need at least 50W.

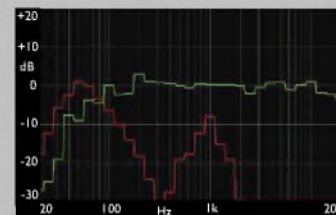
As a load the LX-2s measured 6 Ohms with pink noise. The impedance trace shows crossover to the tweeter occurs at a low 1.7kHz; it covers more of the audio band than most, likely

explaining the roll off in output above 10kHz, there being a trade-off here (dome mass).

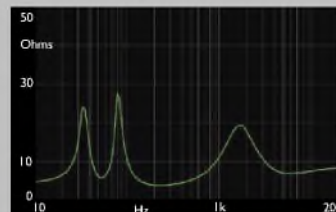
The LX-2 is technically accurate and likely to sound very smooth. It will suit amplifiers of brighter hue, but needs a bit of power for high volume. Very well engineered and likely svelte in sound. **NK**

**FREQUENCY RESPONSE**

*Green - driver output  
Red - port output*



**IMPEDANCE**



**MISSION LX-2 MKII £230**



**EXCELLENT - extremely capable.**

**VALUE - keenly priced.**

**VERDICT**  
Well mannered with a naturally warm and easy sound.

**FOR**  
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- smooth midrange and treble  
- phase coherent

**AGAINST**  
- lack atmosphere and sparkle  
- mediocre image projection

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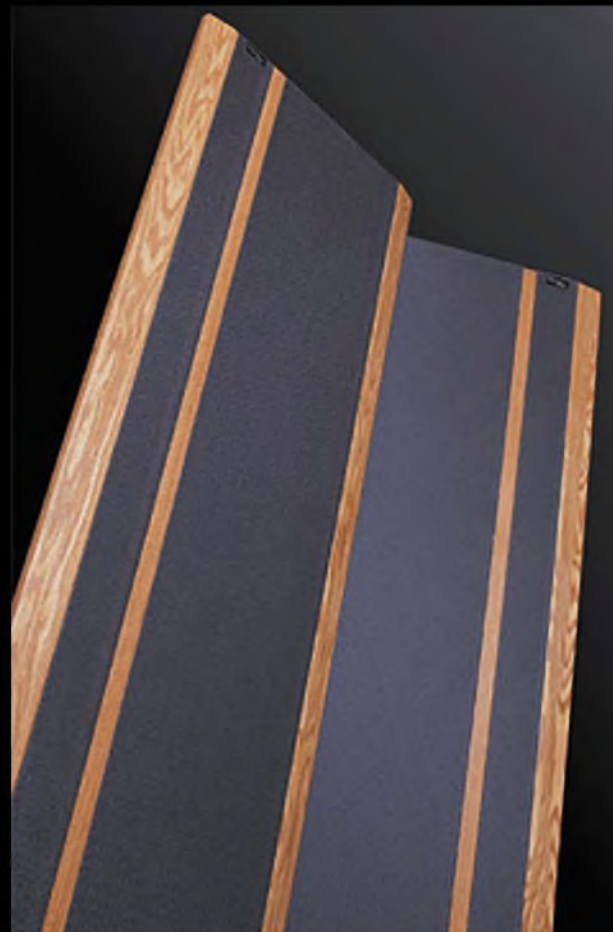
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- Chris Martens, HiFi+



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# "Suddenly you have a sound that separate boxes cannot match"



Noel Keywood

I am beginning to find that as 'digital amplifiers' advance they are improving on the sound of traditional separates, where the digital convertor (DAC) is in one box, the amp in another. What you get is a distinctly more coherent and insightful sound. Plus fewer boxes and potentially lower price – got to be good.

This has not always been so. Until recently 'digital amplifiers' have come with a mediocre DAC, negating their potential advantage. At this level the presence of a digital input is largely a convenience. Plug in an old CD player with digital output and almost certainly the sound will improve, simply because modern standard DAC chips are ahead of what was on offer ten or twenty years ago. But an external DAC would sound better, as Audiolab's M-DAC once showed us with its high quality ESS ES9018 DAC.

As the ES9018/38PRO high-end DAC chips gain ever greater presence in hi-fi products, manufacturers are realising they must fit one rather than some half-price alternative. Sonically, the benefits are clear. And to a useful degree buyers can easily understand this issue by looking at the spec sheets. This expensive digital convertor chip will be flagged up as a plus point in the website marketing bumph. If it is absent then there will be stony silence in the spec – time to be suspicious.

Here's the big technical difference between an all-in-one digital amplifier and separates. In the former, output from the DAC chip is connected directly into the amplifier stages; in the latter it passes through multiple stages, plus an analogue connecting cable with associated connectors.

There is a big difference between these signal paths. The

former is very short, just millimetres, with no cable or connectors. The latter is very long, possibly a metre, with more stages in an external DAC than you may want to know about, for buffering from the DAC chip's balanced output to XLR sockets, plus balanced-to-unbalanced conversion into RCA phono socket outputs.

Then comes the analogue interconnect cable with its mechanical connectors and noise pickup problems.

Most amplifiers are unbalanced designs so a balanced XLR input must go through yet another conversion stage.

It's all a bit of a dog's dinner in electronic terms, and the indeterminacy a mechanically coupled cable introduces is a real X factor. Is it picking up radio signals and general RF rubbish? Are the contacts making contact, or are they tarnished and diodeic? The potential for degradation here is enormous.

A crucial issue with high dynamic range DACs like the ES9018/38PRO is noise: it must be incredibly low for the benefits of the DAC to be realised. The best way to achieve this is to connect the chip directly into – ideally – a balanced amplifier. Why? Because all DAC chips deliver a balanced output.

We have yet to see this design approach in digital amplifiers because manufacturers don't want to deal with the complexity (cost) of going fully balanced.

Nowadays fully balanced circuits are available in chip form however – a lot easier to use than the discrete circuits I have designed in LTSpice and prototyped into effective working form. What this told me is running fully balanced is for expert designers, Dominic Baker of Cambridge Audio explaining I would need to servo the d.c. servos

to make it all work in stable fashion – at which point I gave up!

You have to use silicon chips nowadays, at least in commercial amplifiers that need to measure well. Chip manufacturers like ESS of California and AKM of Japan have massive understanding of such complexities in digital audio conversion.

It's all a bit complicated then. But the potential is there for a quality step up when you place a high quality DAC chip into an amplifier. Connect them up, keep noise down in the amplifier's power output stage and suddenly you have a sound that separate boxes cannot match.

And just think about it. The casework and power supplies of an external DAC go, so less cost and less waste. Less space lost in the home too.

DAC chip fused into power amplifier works, my ears tell me, Musical Fidelity's MBxi and Audiolab's 6000A having a coherent body to their sound that was quite obviously more dramatic than our much used Creek Evolution 100A amplifier fed by balanced analogue cable from an Oppo UDP-205D silver disc player. Both Musical Fidelity and Audiolab have inferior DACs to the Oppo with its top ESS ES9038PRO, so this shouldn't happen!

What are the down sides? You lose flexibility. If you have an ES9018 on-board and would like to hear a DAC from Chord Electronics, it can be connected up alright – but only via external cables. This will put it at a disadvantage. You cannot easily change a digital amp; to change the sound the whole amplifier must be changed.

All the same, digital amplifiers make sense all round it seems to me, providing the digital section is taken seriously – not treated as a budget bolt-on. ●

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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.

Miyajima - Stereo - Mono - Denon DL-103 - Audio Technica AT33 & OC9

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# "We may see local concert venues re-emerging once more"



Paul Rigby

I'm an optimist. I look at any situation – such as the one the world finds itself in – and while there is much that is sad and tragic, I also look at the good things that come from it. Even in a musical sense.

Musicians and the music industry are struggling, as we know. Many artists see live work as their principle source of income. Record sales and streaming and the like don't pay the bills so much as serve as marketing for live performances and – just as important – that's where the merchandising table is located – where more cash is brought in.

Because of the Pandemic, some people in the music business see the current situation as seismic in how the industry will move forward from here on in. They believe that things will never be the same, in music terms at least. Change was coming anyway but has been accelerated. Industry figures are wondering if we're about to come full circle, returning to the situation artists found themselves in during the early sixties.

To give you an example of what I mean, let's look at The Beatles in 1963. They toured the UK with Helen Shapiro, along with other luminaries such as Kenny Lynch and The Honeys.

Which is a fun fact but get this: this bunch of creatives turned up, not only in the larger population venues but also in smaller places like Bradford, Doncaster, Southport, Romford, Croydon, Slough and even Kirkcaldy.

Why did they do this? Why did these big names travel and seek out 'the people'? After all, we are so used to the public trekking for many miles, sometimes from other

countries, heading for a massive single massive venue holding many thousands.

Up to recently, artists have expected us to go to them. Back in 1963 and 1964 and even 1965, the artists came to us. They turned up at halls and cinemas and any public space they could find. Why?

Firstly, because there was less cash about to spend on travel. A basic but important fact. Cars were expensive to buy back then. Not everyone had one.

There was also relatively less transport infrastructure out there. Motorways had only been around for a few years. Around 1960, there were just over five million cars on the road (now there's over 28 million). Public transport was not the best either, in those days. Beeching was closing down swathes of the rail network and passenger numbers fell off a cliff.

So to make sure that they could secure consistent and high audience numbers, musicians would seek out audiences.

And it's that situation that we might be revisiting.

The theory is that London is about to be decentralised in concert terms. That is, its importance is apparently about to be diluted. What we may very well see is the re-emergence of concert venues who fell off the touring circuit in the sixties and seventies re-emerging once more, as viable and important places for artists to do business.

Why? Because young people can't afford to live in London anymore. Also students leave University with around £32,000 of debt which doesn't help matters.

Next? The one thing that this Pandemic has shown us all is that working from home is viable for many of us. It's been tried and it

works. Many people who would never have dreamed of doing such a thing are now thinking to themselves "Hmmm, you know what? This is pretty good. It works for me".

Remember. It wasn't long ago when the government was begging people to leave their homes and go back to their offices. Many home workers refused. They liked the improvements that home working brought to the quality of their life. Pandemic excused, of course.

These days, you can work for a London company and remain in your home 100 miles away. So more people will stay in their homes, in their villages and towns – and the musicians are going to have to come to them.

More so now that people think twice about using public transport, especially if that use is non-essential. Are you going to accompany hundreds of other concert goers and get on a super-packed train, late at night, with the possibility of infection swilling around the carriage? Especially if some late-night revellers have well, had a few and are not masked?

Pre-Covid, some users would leave their offices in the City, go to the pub and then go straight to a gig from there. If you're not working from your office, you won't be going to that pub and won't be going to that concert venue, either. There won't be time to get there if you work from home.

Staying local may become more of a 'thing' in the future. You stay local, shop local, socialise locally. You see concerts – locally.

The concept of 'the commute' is under threat. Entertainment may have to change with it. But that could be good. I'm an optimist. ●

The image features a close-up of a car's taillight with a glowing red LED border. A black cable with a red stripe is draped over the taillight. The background is a dark, metallic surface.

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# "B&O is releasing the 'new' 4000c turntable in limited quantities"



Martin Pipe

**A**lthough Denmark's Bang and Olufsen is designed, it nevertheless has real audiophile heritage. How many firms employ their own tonmeister to fine-tune the sound of their products?

Across the 1970s and 1980s, B&O was best-known for three product lines. First was its sophisticated colour TV sets, which outperformed most of the competition's - as well they might have done, given their expense. Then there were the high-quality music centres - 'Beocenters' - which were unlike anything else being produced at the time.

Perhaps most iconic of all, though, is the Beogram 4000. Regarded as one of the world's best linear-tracking turntables, it was launched in 1974 - long before the Japanese made them fashionable. The belt-driven Beogram 4000 is remarkable even by today's standards, being as impressive to watch in operation as it is to listen to. As far as I'm concerned, it's as legendary a deck as the LP12, 401, Oracle or SL-1200.

Its only drawback is that - like other B&O turntables, including those built into those Beocenters - it relies on proprietary cartridges with 'fixed' stylus. At the end of a Beogram's straight tonearm, you might have found a 'Moving Micro Cross' (MMC) cartridge fitted with a Pramanik-profile line-contact stylus - named after the B&O engineer who invented it.

The 'official' supply of cartridges dried up after B&O pulled out of vinyl in the 1990s. Today, some firms (such as Soundsmith, in the USA) sell compatible models. As they are

rather expensive, that usually means 'the end'; over the past five years, I have retrieved two Beocenters with snapped cantilevers from skips.

So it goes without saying that I was genuinely excited to discover that B&O appeared to be relaunching the 4000. And why not? Technics killed the SL-1200, and was subsequently persuaded to reintroduce not only that DJ delight but also its more upmarket relative the SP-10. Sales potential was a key reason, but so too was the genuine affection and loyalty shown for these decks by the public.

The 4000 is just as loved, especially by the 'B&O crowd', and so why shouldn't it get similar treatment? Technics exploited technology advances to make their classic turntables better than ever. Just imagine what B&O could do with a microprocessor or two; the design of the 4000, after all, is approximately fifty years old.

With a selling price of £9,000 (the original cost £185 in 1974 - roughly £2,000 of today's money), we should expect something special; money was presumably no object to the lads and lasses in Struer. Like Technics, B&O is releasing the 'new' 4000c in limited quantities to celebrate an anniversary; 2020 marks B&O's 95th birthday. Those 95 decks would have to fulfil international demand. Why they couldn't wait until 2025 to round it off to a more meaningful centenary is anyone's guess!

However, a closer read of the triumphant press release reveals that B&O isn't actually launching a new turntable. It has instead acquired 95 second-hand turntables and treated each of them to a thorough overhaul, bringing them

back to "factory-fresh" condition. I had a fleeting vision of enthusiastic B&O managers scouting eBay, or asking their staff to scour Danish flea markets for 1970s hardware to restore. To be fair, B&O's UK PR told me that each unit is "stripped to its components, some of which are replaced wholesale...for consistency of operation".

When the 4000 was last seen in hi-fi shops, vinyl was the pre-eminent source of pre-recorded musical entertainment. As this is no longer the case, B&O found space within the Beogram 4000c for an internal phono stage. The cartridge that feeds it is a now a Soundsmith SMMC20CL.

As we're talking B&O, much attention is also devoted to the appearance. "The aluminium has been refinished in champagne gold, while the new frame is hand-carved from a wood that matches current B&O products. It's sourced from Bjerrum Nielsen, the same Jutland-based family company B&O has been using since 1949".

£9,000 nevertheless buys you a fine modern turntable/arm/cartridge combo...although it will lack the 4000c's retro charm. I've seen unrestored decks of this type, in good working condition, fetch less than £500 at audiojumbles. They are internally sophisticated, though, and will require much ingenuity to keep going - especially as so many proprietary components lurk behind the aluminium elegance. Might the 4000c be followed by an 'all-new' B&O turntable? Sadly, I was told, "B&O has no plans for an all-new turntable model...although the demand is obviously there". Our PR man admits that he'd add such a beast to his personal collection "in a heartbeat...". ●

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"compared to what we have today it was a little primitive"



Dave Tutt

**W**hilst renovating an old digital piano it struck me that some of the modules I use to get these things going are really hi-fi items that just so happen to fit the bill when working on musical instruments.

I use several different 20-50 Watt stereo Class D modules to replace the amps in many a broken digital piano. The original amplification design can be unrepairable – or at least have parts that are unobtainable. There has to be an alternative that works and is repeatable and reliable. So a little Class D module with more power and no more than the size of a couple of match boxes works wonders. And of course if I need something to resurrect an old piece of obsolete hi-fi equipment, while at the same time giving it a very modern sound, then one of these is entirely valid.

I had an old Sinclair project 605 kit amp in during last summer and it worked a treat once the tired old bits had been replaced. The Sinclair Z30 amp modules were never great when new. I know! But the 605 with the addition of the active filter module was my first step into hi-fi. My new Class D replacement modules are especially useful as their power requirements of a single rail supply fitted in with what the Sinclair had.

Back in the 1970s Garrard's SP25 turntable with its Goldring G800 cartridge worked well enough to make a very worthy alternative to the Dansette record player – popular for some unknown reason. The Sinclair 605 I had in for service was built into the plinth of an SP25 and had given service more or less

continuously for nearly 50 years, together with a Rotel RT 222 tuner; again something I had early in my audio life, though no matter how good an aerial I built I couldn't get Radio 3 on it.

The tone controls of the 605 had probably not been moved in most of that 50 years and were set to suit the speakers – a pair of 8 inch Goodmans 10 Watt units cannibalised from an old 405 line large console cabinet TV being discarded at the time – mostly Pye or Ekco sets if I remember correctly.

So the rather less warm sound of the Class D replacement amps with these speakers would brighten the sound and speed it up somewhat.

The Z30 module was good for about 15 warm sounding Watts if you were lucky, although to get much more than that you needed to fit heatsinks and distortion still went through the roof if you expected anything more than a whisper. Heatsinking was never explained in the Sinclair documentation.

The horrid pots used by Sinclair were just cheap trimmers and should be scrap but in this case responded to a little cleaner spray. But the new Class D amp I installed in its place can run almost flat out with little or no heat into an 8 Ohm load – delivering far more oomph.

I saved up my pocket money to buy the Sinclair 605 as a teenager, to go with my Garrard AP76 and Shure M75ED cartridge that had also taken a year to save for.

I too had a pair of the self same Goodmans drivers on their original TV baffle boards and came across another one only a week ago in a speaker cabinet for a 16mm film projector.

At the time, no cabinets of any kind existed for my Goodmans drivers, they were left open and connected with bell wire to wherever I could put them.

The Goodmans 'speakers from my customer were in cabinets that, when I looked closely, were not cheap but were solid oak. They were made, I understand, from a spare set of pews from a now bulldozed church not far from where I used to live. Constructed with beautiful dovetail joints these cabinets were a work of art. I have asked that should they ever need a new home I would be happy to buy them. I must be mad!

The Sinclair 605 was a single supply rail design with no ICs, and BC108 transistors in the preamp. I do remember the power amps had a wider range of transistors as well as a BD131/132 output transistor pair.

The scratch and rumble filters were something you never saw anywhere and have never been seen since. They were a variable Sallen and Key second order active filter with, I suspect, a Q of around 1–1.2, although I haven't got any here to test. Perhaps I should scour eBay to try to find some! They certainly were not high Q as the spike prior to the roll off would have been clearly audible.

I lived with my Sinclair 605 for a long time and it really wasn't that bad – although compared to what we have today it was a little primitive. Four inputs and a tape output but no monitoring or DIN connectors. No headphone socket unless you bought an external socket and resistive dropper box – which obviously I did and stripped it to fit inside my plinth.

Ah – those were the days! ●

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# Tube tales

**When QED launch an IEC mains cable, you expect it to be different. Martin Pipe finds out how.**

**T**wenty five years ago, QED published an appraisal of speaker-cable technology that it somewhat-graciously entitled "The Genesis Report". Factors including insulation materials, 'acoustic crosstalk', the electrical parameters of the conductors and their effects on what we hear were discussed. QED's research also influenced the design of its own cables, one aspect of which was the clever 'X-Tube'. Here, the signal-carrying strands of wire are not bunched together. Instead, QED uniformly wraps them around a 'polycore' insulator - the 'tube' that gives the technology its name.

Why is this approach taken? "At high frequencies", QED tells us, "current flow is highest at the periphery, with rapidly-deteriorating current-density towards the centre of the conductor". With conventional speaker cables, its effect is to "reduce the actual cross-sectional area of the cable at 15kHz to less than 75% of that at low frequencies...resulting in higher distortion and performance compromises". X-Tube gets around this "self-inductance" problem by effectively eliminating the centre.

And now, X-Tubes are a key component of a QED mains cable, the mid-priced XT5. But surely, X-Tube technology is irrelevant to mains cables? After all, these only have to carry low-frequency high-voltage a.c. and don't have to respond to musical harmonics. Indeed, a mains cable that conducts well at high frequencies could actually cause more problems - as mains-borne interference such as powerline-networking data-signalling and power-supply switching noise from other equipment could be passed with greater ease to your hi-fi equipment.

QED assures us, however, that the XT5 features an "adapted version of X-Tube Technology...specifically-tuned for this new application". When I put my observations to QED's R&D team I

was told that it was "natural...to employ the same solution to this (mains cables) as we do to speaker cables using X-Tube". QED was however constrained by safety standards; instead of "preferred" dielectrics like LDPE, it had to use PVC to support the 1.5 mm<sup>2</sup> OFC conductors. This was however "about the only change from the normal X-Tube configuration".

QED defends its use of X-Tube for mains cables in a white paper, stating that "variations in the current demanded by the amplifier resembles the output (audio) signal". The implication is that there are similarities between the two ("modulation of the cable impedances is the same") and so the use of a technology designed for audio cables can therefore be

justified for mains cables. A more tangible feature of the XT5, though, is an ferrite-impregnated inner jacket that helps to keep external interference at bay.

## USE AND PERFORMANCE

In physical terms, the XT5 chunky-looking cable is lighter than it appears, on account of that X-Tube internal construction. In other words, it won't drag smaller items like DACs and headphone amps to their doom! The XT5 - which is available in 1m, 2m



and 3m versions - looks the part with its 'black pearl' finish, and is robustly constructed. It's also reassuring that the XT5 terminates in IEC and I3 Amp mains plugs of appropriately-high standard. I tried it with a number of pieces of equipment - including a Cambridge Edge W/A combo, Arcam A49 integrated amplifier, Quadral Aurum Wotan VIII floorstanders, Prism Callia DAC and Focal

Utopia 'phones.

I noted that, in particular, the XT5 benefitted finely-etched recordings with a wide dynamic range and low-level information. Relative to a cheap moulded IEC cable of the sort that's often bundled with equipment, there was a subtle but perceptible drop in the noise floor - in particular, the subtleties of the performance venue's acoustics become more evident. I could hear this with well-recorded Blue Coast music like Emily Palen's *Light in the Fracture*.

But it isn't just hi-res music; live evening concerts carried by the 320kbps Radio 3 stream seemed cleaner and

more involving too.

Source gear and DACs tended to derive the most advantage from the XT5 - here, I could hear the difference (notably with basslines) between mains sockets! That's perhaps not as daft as it seems; it turned out that one of my sockets was on a 'spur', while the other was directly on the ring main.

Clearly, these cables are assets if used properly. It should also be borne in mind that although the XT5 sells for £169 in the 2m form tested, you can of course spend considerably more on an IEC mains lead. QED have managed to strike a sensible balance between pricing and performance, thanks in no small part to the proprietary X-Tube technology that once connected speakers to amplifiers.



"XT5 benefitted finely-etched recordings with a wide dynamic range and low-level information"

**QED XT5 £169  
2M VERSION,  
AS TESTED £149**

**1M AND £199 3M  
VERSIONS ARE  
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**OUTSTANDING - amongst  
the best.**

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- improved low-level detail

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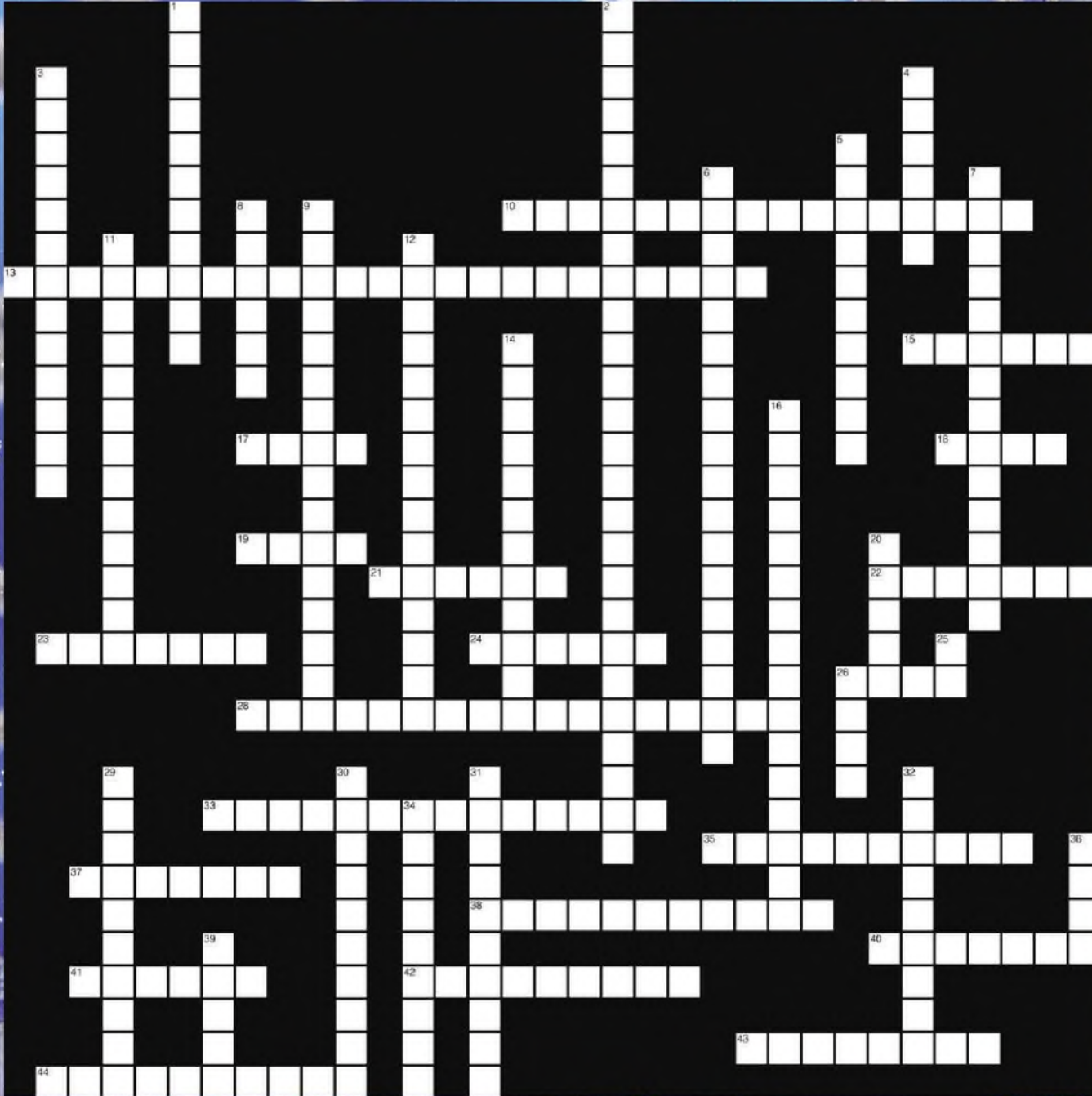
AirPlay 2, Tidal, Qobuz, Internet radio, and more.



Listen and believe



# Christmas Crossword



**ACROSS**

- 10 Famous London recording studios (3 words).
- 13 DSP is short for what?
- 15 Colloquial term for a bass driver.
- 17 Losslessly compressed digital file.
- 18 Harold's pre-war company.
- 19 Julian Vereker founded it in Salisbury.
- 21 Heavy wires.
- 22 Rapper who won UK Album Of The Year at the 2018 Brit Awards.
- 23 Optical fibre connector.
- 24 7in vinyl disc.
- 26 CD's silver successor.
- 28 A measurement of amplifier gain relative to frequency (2 words).
- 33 Latest name of a popular UK hi-fi show close to the River Avon (3 words).
- 35 An 1877 wind-up gramophone was called this.
- 37 UK valve manufacturer started by a Captain, bought by Philips.
- 38 An electro-acoustic transducer.
- 40 He was first to broadcast across the Atlantic.
- 41 Two channel sound reproduction.
- 42 A single channel power amplifier.
- 43 A deck for running analogue tape (2 words).
- 44 Liverpool produced them (2 words)

**DOWN**

- 1 Legendary Japanese hi-fi engineer (2 words)
- 2 UK loudspeaker manufacturers K,B,W,C (3 words)
- 3 He produced a turntable suspension for Acoustic Research (2 words).
- 4 A simple valve with three electrodes.
- 5 Pre and power amps put together become?
- 6 He invented the 'left hand rule' and first valve (3 words).
- 7 First demonstrator of television in UK.
- 8 Acronym for Field Effect Transistor.
- 9 What does DAT stand for (3 words)?
- 11 Wharfedale Wireless Works was founded by him (2 words).
- 12 An old television transmitter in North London (2 words).
- 14 High quality sound reproduction (2 words).
- 16 Early tape recorder from Louis Blattner.
- 20 1970s BBC mini monitor, manufactured by KEF.
- 25 The first silver disc.
- 26 Top Japanese electronics company co-founded by Akio Morita.
- 29 A tube with no air in it (2 words).
- 30 Canadian male artist who spent 16 weeks in UK charts in 1991 (2 words).
- 31 Famous, but shot dead in New York.
- 31 A circular rotating platform for LP.
- 34 Real-time digital delivery over the internet.
- 36 Acronym for high fidelity.
- 39 They nearly signed The Beatles

**Answers**

- Across: 10) Abbey Road Studios 13) Digital Signal Processing 15) Woofer 17) FLAC 18) Leak 19) Naim 21) Cables 22) Stormzy 23) Toslink 24) Single 26) SACD 28) Frequency Response 33) The Bristol Show 35) Phonograph 37) Mullard 38) Loudspeaker 40) Marconi 41) Stereo 42) Monoblock 43) Tape Deck 44) The Beatles

- Down: 1) Ken Ishiwata 2) KEF Bowers&Wilkins/Celestion 3) Edgar Villchur 4) Triode 5) Integrated 6) John Ambrose Fleming 7) John Logie Baird 8) MOSFET 9) Digital Audio Tape 11) Gilbert Briggs 12) Alexandra Palace 14) High Fidelity 16) The Blattherphone 20) LS35A 25) CD 26) Sony 29) Vacuum Tube 30) Bryan Adams 31) John Lennon 32) Turntable 34) Streaming 36) Hifi 39) Decca

# Two Worlds

Copland combine valves with FETs in their CSA100 amplifier. John Pickford looks at what's on offer in "best of both worlds".

Valves versus transistors must be one of the longest running debates in hi-fi circles. I use valves exclusively to drive the Tannoy Berkeleys in my main system, however I don't buy into the philosophy that all valve amplifiers sound fantastic and transistorised models pale in comparison. A good transistor design will outperform a poor valve one. My other LS3/5a based system is purely solid-state and all the better for it.

Danish company Copland take the best-of-both-worlds approach with the CSA100 (£3498) I am reviewing here, an integrated amplifier with a valve preamp stage combined with solid-state power. This isn't the first hybrid design produced by the company but it is the first to employ powerful MOSFET circuitry,

delivering 100 Watts per channel. I'm a fan of this solid-state technology and retain a Magnum MF250 MOSFET power amplifier, which comes in handy when reviewing loudspeakers my lower-powered valve amps struggle to drive.

Copland's thermionic line stage consists of a single 6922 double triode valve, renowned for its long service life and which performs efficiently within this design.

The CSA100's specifications list is unusually long as both analogue and digital connectivity is comprehensive. Vinyl lovers will welcome the RIAA phono stage, however it accepts MM cartridges only; users of low-powered MC cartridges need a step-up transformer. A balanced XLR is provided alongside three unbalanced RCA line inputs. One of these is designated as Tape In, which,

along with the Tape Out sockets and front panel Tape button, provides an old-school analogue tape loop allowing you to monitor recordings directly from tape as you record. If you have a cassette player, hours of fun can be enjoyed making mix tapes from your favourite records and CDs – so much more satisfying than compiling playlists on Spotify.

An onboard ESS ES9018 DAC ensures all types of digital sources are catered for and here we have two optical inputs as well as sockets for coaxial and USB; aptX HD Bluetooth is available as an optional extra. A built-in headphone amplifier is included, which performs well enough for occasional late-night listening, though I suspect serious headphone users would want to use a dedicated external amp. It's worth pointing out that the CSA100



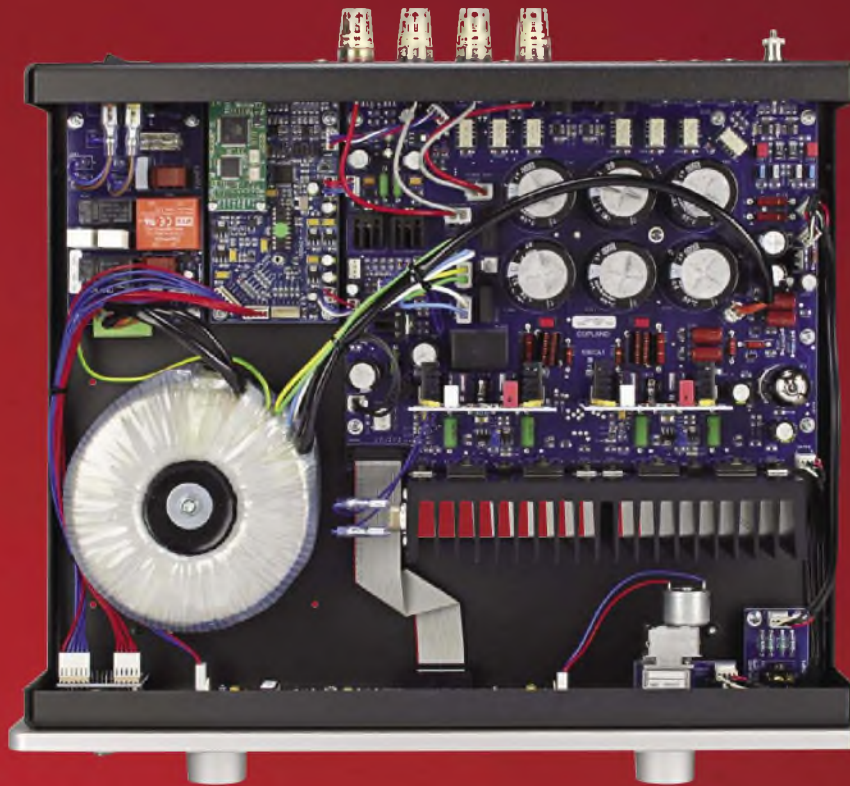
is a phase invert design, so when speakers are connected red goes to black and vice versa.

Front panel layout oozes Scandinavian style, looking elegant yet purposeful. Our review sample came in a high-quality silver finish, though the CSA100 is also available in black. The controls are lovely and smooth in use, adding to the high-end feel and aesthetics of the unit; a small, neat remote control is included for convenience. Copland place a large LED display centrally, flanked by two large dials. On the right is the volume control while on the left is a source selector aided by a smaller digital source selector switch.

Powering up initiates a 30 second start up procedure as indicated by the flashing ON light and a further 20 seconds passes before the amplifier produces sound. While the amplifier is fully functioning in under a minute, I'd recommend at least half an hour warm-up time before settling down for serious listening.

**SOUND QUALITY**

Spinning a few familiar tracks on vinyl courtesy of my Thorens TD124/Michell Technoarm/Goldring G1042 set up, I was met with an open, spacious presentation of music



*The lone 6992 dual-triode valve sits on the far right, the only thermionic device in a sea of solid-state components.*

with a keen sense of air. Cat Stevens' Miles From Nowhere (Tea For The Tillerman, 1970) is an atmospheric recording and the Copland captured the delicacy of the guitar and piano

during the intro beautifully. As vocals enter the arrangement along with bass and drums, the amplifier revealed its relaxed and composed nature, with rhythms replayed in an



*The neat, fuss free remote control is attractively contoured with rubber edging.*

# DIVIDING AUDIOPHILES SINCE 1982



**NVA**





The CSA100's line amplifier uses a solitary 6922 dual-triode valve.

organic, unforced way.

Fixture Picture from Aldous Harding's 2019 LP Designer sounded richly textured with a generous, though not overblown bottom end. I was impressed with how the amplifier resolved top-end detail too as the low-mixed tambourine in the final chorus is easily obscured by hi-hats and the percussive attack of acoustic guitar. Here, all three elements remained distinct while again the Copland's sense of space and separation opened out what is a

fairly dense and dry recording.

Moving the CSA100 into the office, replacing a Naim Nait XS3, I used the USB input to play some tracks from my iTunes library. Orbits from Miles Davis's Miles Smiles (Columbia 1967) had plenty of propulsion, the Copland highlighting the nimble cymbal work of Tony Williams while keeping trumpet and tenor sax tones distinct as they played the melody in unison.

Switching to CD for Marvin Gaye's What's Going On (Tamla Motown 1971), the effortless nature of the CSA100 was once again apparent. Listening to tracks like Mercy Mercy Me (The Ecology) my attention was drawn to the upper

registers, noticing reverb effects on percussion and the natural dynamics of Marvin's vocals rather than latching on to the groove that drives the track along, as I would with the Naim Nait.

### CONCLUSION

The Copland is an extremely refined amplifier with comprehensive functionality and a large slice of high-end authority. Its tonal palate is wide, as is its stereo imaging and though it doesn't hammer home the 'boogie factor' forcefully, it presents the passion in a performance with enough pace and power to drive all manner of loudspeakers with easy grace.



Balanced XLR and unbalanced RCA line inputs, phono input, pre-out and a traditional tape loop. Two optical plus coaxial and USB inputs accept digital sources.

## MEASURED PERFORMANCE

The Copland CSA100 produced 136 Watts into 8 Ohms and 210 Watts into 4 Ohms from its FET transistor output stage – plenty enough power to go very loud with all loudspeakers, even in large rooms.

Distortion levels were very low across the audio band, 0.01% at 1kHz and 10kHz at 1 Watt, with similar figures close to full output. There was no sign of crossover distortion at high frequencies; it is a very linear amplifier that will avoid harshness.

The digital S/PDIF coax input (electrical) worked to 192kHz but the optical input to 96kHz maximum, even with a QED Quartz glass optical cable. Frequency response measured flat to 57kHz (-1dB) with a 192kHz sample rate signal, rolling off to the upper theoretical limit of 96kHz.

Dynamic range (EIAJ) at -60dB with 24bit measured 108dB from all outputs: loudspeaker, Line, Tape and Preamp out – a mediocre result by current standards, where 112dB+ is respectable and 120dB+ excellent. Distortion measured 0.09% with 24bit and 0.24% with 16bit (CD), the 24bit value being mediocre, below what the internal ESS ES9018 DAC

chip is capable of (0.02%).

The MM phono stage 318µS equalisation characteristic has been tailored to gently raise output below 1kHz, with a lift of +1dB below 100Hz. This will be perceptible as a sense of warmth and strong deep bass. There is useful gain reduction below 20Hz to suppress subsonic LP warp info. Sensitivity, overload and distortion figures were all normal.

The CSA100 amplifier delivers fine results generally but the digital section fails to best exploit the dynamic range of hi-res digital, possibly due to noise from the 6922 valve. NK

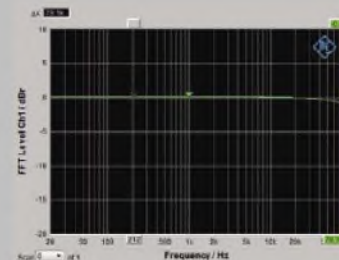
**Power** 136W  
**Frequency response (-1dB)** 8Hz-80kHz  
**Distortion (10kHz, 1W)** 0.01%  
**Separation (1kHz)** 91dB  
**Noise (IEC A)** -98dB  
**Sensitivity (phono/XLR)** 0.4 / 0.8V

**DIGITAL**  
**Frequency response (-1dB)** 8Hz-57kHz  
**Distortion (24bit)** 0.09%  
**Dynamic range (EIAJ)** 108dB

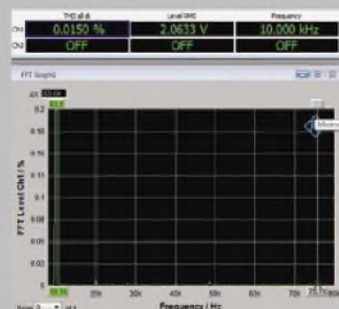
### PHONO

**Frequency response (-1dB)** 12Hz-20kHz  
**Distortion** 0.15%  
**Sensitivity** 5mV  
**Overload** 90mV  
**Noise** -78dB

### FREQUENCY RESPONSE



### DISTORTION



**COPLAND CSA100**  
**£3,498**



**OUTSTANDING - amongst the best.**

### VERDICT

A refined yet powerful amplifier with comprehensive connectivity for both analogue and digital sources.

### FOR

- effortless, spacious sound
- superb resolution of detail
- functionality.

### AGAINST

- MM phono input only
- no tone controls

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# vinyl section

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### HANA UMAMI RED CARTRIDGE 117

A high-end moving coil cartridge from Hana of Japan, reviewed by Noel Keywood.

### AUDIOPHILE VINYL 120

Paul Rigby looks at four classic audiophile LPs.

### AUDIOPHILE BOOK 123

Jimmy Page The Anthology, reviewed by Paul Rigby.

### CLASSIC CUTS 130

The Frenz Experiment from The Fall, reviewed by Paul Rigby.

# news



## BANDCAMP BABES

Ex-Die Heiterkeit member and her second solo LP, Stella Sommers 'Northern Dancer' (<https://stellasommer.bandcamp.com/album/northern-dancer>) she sings in English with a German vocal weight reminiscent of Marlene Dietrich.

The Wannadies are back with 'Before and After' (<https://thewannadies.bandcamp.com>). It's like the nineties never left us and the 'been there...' nature of the songs on this LP testify to that.

Speaking of the nineties, spanning two to three minutes per track, Suit of Lights', 'Hide and Seek' (<https://suitoflights.bandcamp.com/album/hide-and-peek>) hops on the revivalist psyche bandwagon of that decade...blandly.

'New Addition Vol.2' (<https://longdivisionfestival.bandcamp.com/album/new-addition-vol-2-2>) is an attractive and worthy 'newbie' band ten-track compilation. Includes indie rock, dream pop and more from Cowgirl, Life Model, Lemon Drinks and more. Well worth a listen.

## DEXTER GORDON

'The Squirrel' is a 2LP live set from Montmatre, Copenhagen in 1967. Co-starring Kenny Drew, Bo Stief and Art Taylor the concert features one track per vinyl side, mostly covers with Gordon's 'Cheese Cake' added to the mix. Recorded at his powerful, energetic best, including top solos and powerful Taylor drumming.



## CLARE MARTIN

...and Callum Au present 'Songs and Stories' (Stunt) using Au arrangements with Martin singing a host of standards from Jerome Kern, Rodgers & Hammerstein, Matt Dennis and Hoagy. Lovers of classic jazz vocal will lap this up.

## MUNSTER

A trio from the Spanish specialists includes Third Ear Band's 'Music from Macbeth', the Polanski feature combining classical and psychedelic forms.

Also look out for the Valencia's 'Modificacion', an excellent rarities collection of early seventies tracks. If you like psychedelic rock, check out this one. The track, Across the Time features a mean Hammond organ riff.

Kim Fowley's 1977 rarities compilation, 'Living in the Streets', gets a first time vinyl reissue, including B-sides, singles and oddities, often under pseudonyms.

Also, The Silvery Boys self-title outing is the first ever reissue of this Brazilian garage rock, Bossa and samba from 1968.



## INSIDE OUT

Steven Wilson collaborator in No-Man, Tim Bowness' offers 'Late Night Laments' (Inside Out) featuring Richard Barbieri. Thoughtful, introspective rock.

Swedish multi-instrumentalist Richard Sjöblom, the man behind the band Beardfish, offers his new LP 'Gungfly' (Inside Out) with a classic prog sound and a sprinkling of Zappa.

Finally, check out Spock's Beard's Neal Morse's solo outing, 'Sola Gratia', a prog outing focusing on Jesus' principle marketing manager, Paul: the Steve Jobs of Christianity. An epic, grand, complex outing. Not a classic but one to study and absorb.



## GREG LAKE

...and 'The Anthology' (BMG) which spreads over two LPs. It features a lively selection. Everything from ELP to King Crimson, his solo efforts and even the early psychedelic outfit, The Shy Limbs' 'Love' (Single Mix).

Disc two teams Lake up with Geoff Downes. There's a host of live cuts here too which adds to the variety. Add a 28-page booklet to that and you have a fine retrospective on a much missed artist.

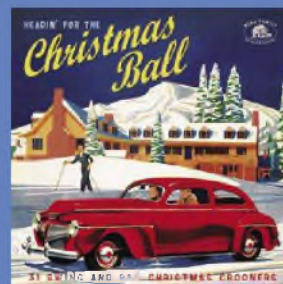
## IAN DURY

'Hit Me!: The Best of' (BMG) is a 2LP gatefold hits release on white vinyl and including early work with Kilburn & The High Roads plus liner notes by Phill Jupitus, alongside rare photographs.



## BEAR FAMILY

'Headin' for the Christmas Ball'? "That was the infinite, the livin', rompin', stompin', whippin', flippin', non-stop end. That's what it was, daddy!" And that was the quality of the script on this forgettable 1965 rock'n'roll film – but the music was good. So there's that. From Bear Family, bands on this 10" include The Blockbusters, The Platters and Nora Hayes.



## KSCOPE

From the Scope label, Gazpacho's 'Fireworker' serves another slice of Norwegian art/prog rock but this time with a philosophical concept twist that examines our existentialist id. Or something. Arrives with an etched LP side.

## ...AND FINALLY

Tara Minton's 'Please Do Not Ignore the Mermaid' (Lateralize) sees the singer and jazz harpist as part of a 6-piece outfit featuring mature, easy-on-the-ear, original jazz compositions that use mermaid mythology to highlight climate change.

Oh Susanna's 'Sleepy Little Sailor' (Stella) is a 2LP from the Toronto-based singer-songwriter who leans towards alt.folk and a slight Dolly Parton lilt.

Jarrold Lawson's mixture of jazz and R&B on 'Be The Change' (Dome) harks back to funky Isley Brothers with a Stevie Wonder-like call to love action.

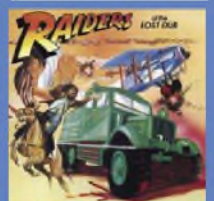
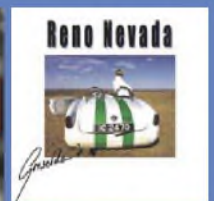
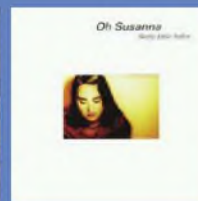
Sounding like she's fronting Fairport Convention or similar, Irish country-pop singer, Griselda Williams' 'Reno Nevada' (Spare Time) slots right down the middle of the pop road.

Denise Sherwood's 'This Road' (Evergreen) is not of the advertised reggae genre but more lazy beats-infused R&B. Romantic and melancholy.

'Raiders of the Lost Dub' (Music on Vinyl) is a compilation featuring Blak Uhuru, Burning Spear, Junior Delgado and more.

From São Paulo, Céu releases APKÁ! (Six Degrees) an album of smooth, polished Latin indie-pop with a few beats to act as musical grammar.

Electronica outfit, Nautilus 'The Mystery of Waterfalls' (Sireena) travels with Captain Nemo on his "20,000 leagues under the sea".



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# Red Light

Hana's high-end moving coil Umami Red cartridge, reviewed by Noel Keywood.

**S**uitably impressed by Hana's smooth sounding budget moving coil cartridges like the ML and MH I reviewed in our March 2019 issue, the new Umami Red at £3399 – a massive price step up – promised a taste of high-end that would have me in awe. Sadly, it didn't turn out like that.

What I said about Hana's back then was they "have a wonderfully smooth sound, unaffected by the special build techniques and materials finding their way into some of today's hi-tech designs – like boron cantilevers". Well, guess what? The Umami Red has a boron cantilever.

What you have to bear in mind here is – so do many other moving coil cartridges these days, like the Audio Technica OC9X SH I commonly use, price £559. They are not now an esoteric item, likely because a specialist manufacturer of industrial micro parts somewhere in this world is turning them out in quantity, and selling at a reasonable price.

Solid boron rods are not easy to work with and I suspect laser forming of the stylus fixing hole has been another recent development that has made them appear in many different brands, including this high-end unit from the Excel Sound Corporation of Japan.

Why use boron? Not only is it strong, but also light. Being light it can accelerate quickly to faithfully follow the wiggles of an LP groove. In theory this means better tracking, especially at high frequencies where mass is an issue.

To the boron rod is attached a Microline stylus at one end and a 6 Ohm coil of cryogenically treated copper at the other, Hana say.

Surprisingly, the magnet in the aluminium body is Samarium/cobalt, not Neodymium that is stronger. But according to Wikipedia "The bulk of current production is from China. Historically, the Chinese government

imposed strategic material controls on the element, causing large fluctuations in prices. The uncertainty of pricing and availability have caused companies (particularly Japanese ones) to use less". All the same, output from Umami Red – affected by generator efficiency as well as magnet strength – was reasonably strong at 0.4mV quoted in the spec. and confirmed by our measurements.

Perhaps to get such output Excel had to use a larger magnet in the Umami, explaining its high weight of 10.5 gms. This is right at the top end of cartridge weight compatibility with tonearms (6-10gms), although many arms accept 12gms. Tracking force is quoted as 2gm only but tracking was so poor I used 2.2gm.

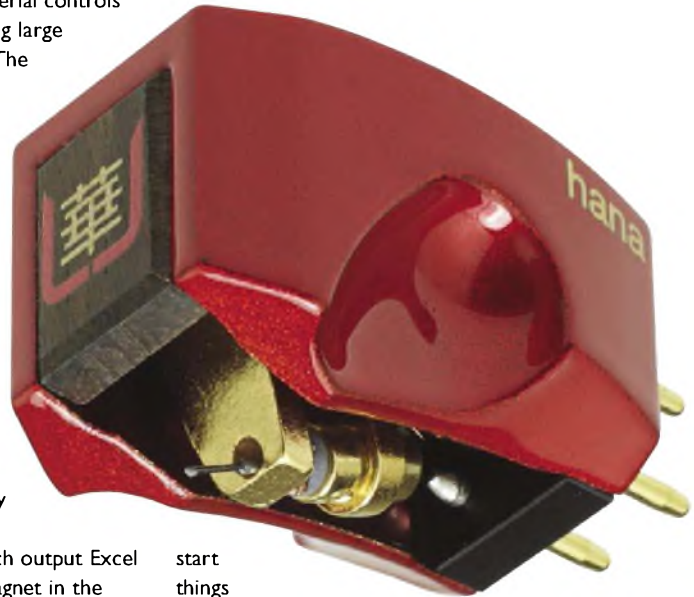
And that was the issue that arose with the Umami Red. Compared to rivals it is poor at tracking, harking back to cartridges of the past. A few times it jumped right out of the groove of test discs, which rarely happens with modern cartridges.

Music LPs are cut conservatively so this will not happen and here tracking was OK – just. I had reservations at times though.

The aluminium body has threaded screw holes and three sets of screws are supplied, making attachment to the headshell easy. Also supplied are two hex keys and a stylus brush, but no stylus force gauge. At the price this was a basic set of components.

## SOUND QUALITY

Hana cartridges as I know them offer a smooth sound at not too high a price. So I went into listening tests well disposed with the expensive Umami Red, but sadly from a good



start things went downhill.

The good start was spinning Moonlight Serenade from the Syd Lawrence Orchestra and their lovely direct-cut LP Big Band Spectacular. The brass section was fruity and rich, densely textured, with instruments standing well apart from each other. No muddle and great insight, a really solid sound that was suitably spectacular. At the opening of *Begin the Beguine* initial rim shots were rifle bolt fast and threatening: again a very solid sound.

Time to spin my favourite googly, the end-of-side track from *Two Countries One Heart* (Hi-Fi Direct, Italy) of Rosella Caporale singing that lovely weepy, *Time To Say Goodbye*. At end she delivers a wonderful crescendo that always has me gripping the settee, expecting stylus to fly out of groove. Few ever do but having found from tests the Umami Red is a poor tracker, especially in the mid-band where vocals can be a severe test, I was glad that it got through this. However, there was both hardness and glare here that tonally altered her voice: not what I am used to from spinning it beneath many fine cartridges. I suspect Umami Red was close to its tracking limit,

# v40s



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# v40s

Blackline





**Our close up shows a stylus held by adhesive bond, inelegantly applied. The mass of the adhesive may explain high tip mass and poor tracking.**

producing evident strain.

To re-confirm what initial measurement had revealed with professional test discs I pulled out Clearaudio's Trackability test disc (LPT83063), put it on and was slightly depressed to hear buzzing from mistracking at the 60µm level – low by modern standards. The buzz of mistracking was severe at 70µm and stylus take-off occurred at 80µm.

Moving on – and being a cruel reviewer – I pulled out Mobile Fidelity's 45rpm cut of Love Over Gold, from Dire Straits. All Mark Knopfler LPs have a big, warm but organically punchy sound: I know 'em well and like them a lot. This LP is not too hot but as a 45 it has well

modulated grooves and they made the Umami Red sound uneasy. Walk Of Life came over as a tad hard of tone with strong upper treble: cymbals were strenuous up top. Time to make system changes I thought.

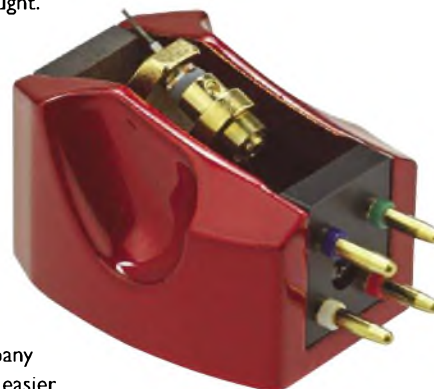
Up to this point I was running the Umami Red in our SME309 arm, sitting in Timestep Evo modified Technics SL-1210 Mk2 turntable. It was connected to our Icon Audio PS3 Mk2 valve phono stage, driving an Audiolab 6000A amplifier connected to Martin Logan ESL-X hybrid electrostatic loudspeakers via Chord Company Signature reference cables. An easier

presentation may help, so I hooked up our Creek Evolution 100A – but this was no salve. Out came our Icon Audio Stereo 30SE single-ended valve amplifier. Now the sound gelled and I got a plausible version of Walk of Life, if one still unusually hard and fast from an LP that is not hard and fast. Hmmmm...

Spinning a wide range of LPs the Umami Red was always clear, fast, punchy and tonally balanced. I was going to say "accurate" but it has hard tone in truth, typical of a boron cantilever, made worse by poor tracking ability.

**CONCLUSION**

Superficially, I liked Hana's Umami Red sound: fast and solid, well textured and tonally accurate. Plenty of insight and fine treble definition from a good stylus. But it was hard of tone in boron fashion and at the price its tracking performance was unacceptably poor. All rivals manage better.



**Hana carve out a solid aluminium body with attractive red lacquer finish. The generator assembly is brightly gold plated, sitting at centre.**

**MEASURED PERFORMANCE**

Frequency response of the Hana Umami Red runs basically flat from 20Hz to 20kHz our analysis shows (JVC TRS1007 test disc). Hana cartridges usually measure ruler flat and the Umami was no exception; there will be no brightness in the sound, rather smooth balance. On inner grooves (red trace) there was minimal tracing loss from the Microline stylus, treble falling just 1dB at 20kHz, as hoped for from a modern stylus well profiled (these days often by laser).

Tracking of 300Hz test tones on CBS-STR112 test disc was poor by current standards, the Umami clearing 45µm lateral track at 2gm down force (recommended) but mistracking at 63µm where 90µm is hoped for and achieved by others.

Tracking at 1kHz (B&K2010 test disc) where acceleration is higher and tip mass more influential, the limit was again low at just 14cms/sec, where 20-25cms/sec

is the usual limit. Modern MC cartridges, manage better than the Umami.

Distortion measured a low 0.7% second harmonic on lateral modulation (CBS STR112 test disc, 45µm) against a typical figure of 1%, so very good here. On vertical modulation the figure rose to 4.56% due to a high measured vertical tracking angle (VTA) of 30 degrees (DIN 45-452 test disc). Optimal is 22 degrees, so the Umami was in significant error. High VTA arises from a short cantilever set for good disc clearance.

Output was healthy at 445µV at 3.45cm/sec on Shure TTR-109 test disc, matching the quoted value.

The Umami Red measured well in many areas, but its tracking ability was surprisingly poor by current standards. NK

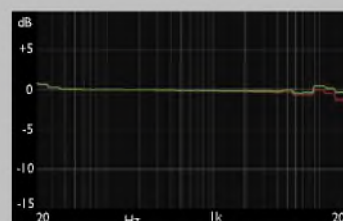
**Tracking force** 2.0gm  
**Weight** 10.5gms

**Vertical tracking angle** 30degrees  
**Frequency response** 20Hz-20kHz  
**Channel separation** 24dB

**Tracking ability (300Hz)**  
**lateral** 45µm  
**vertical** 45µm  
**lateral (1kHz)** 14cms/sec.

**Distortion (45µm)**  
**lateral** 0.7%  
**vertical** 4.5%  
**Output (3.45cms/sec rms)** 445µV

**FREQUENCY RESPONSE**



**HANA UMAMI RED**  
**£3399**



**GOOD - worth auditioning**

**VERDICT**

Fast, hard sound with insight and balance. But edgy at high levels.

**FOR**

- vivid and insightful
- easy to fit

**AGAINST**

- poor tracking ability
- hard tone
- high weight

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**BOB DYLAN**

Love and Theft  
Mobile Fidelity

Originally released in 2001, this album harked back to some of his sixties output, integrating both humour and an easy approach to his song-writing craft that told of Dylan at ease with his music. In this release, there's a sense of the man having room to manoeuvre while his backing band (including Larry Campbell on guitars, Charlie Sexton on guitar, Tony Garnier on bass, David Kemper on drums with Augie Meyers on organ) do their thing without apparent con- striction.

This is a big compliment to producer, Jack Frost, it has to be said. That is, Frost has allowed Dylan and the guys to have their head but kept enough control to see the project through successfully as the chaps rock away on the song 'Lonesome Day Blues' and swing their little hearts out on 'Summer Days'.

Oh and I forgot to add. Frost

happens to be a pseudonym for Dylan himself.

Such is the 'let's hang out' nature of this LP you are easily down in the party. It's this 'down at the bar, relaxing with friends' approach that adds heaps of charm but also bonhomie to the overall presentation.

Guitarist Campbell commented to Rolling Stone magazine "If you get a microscope and plow through some of these tracks, you're going to hear...an errant note here and there...but Bob would feel like something was right when it felt right. I had a few things I really wanted to redo and he said 'No, man, it's fine. That's the way it's supposed to be'".

The easy nature of the presentation is enhanced by Mobile Fidelity's decision to split this album over two discs and run each at 45rpm for better sound. It's the perfect combination.

AUDIOPHILE VINYL



**ULTRAVOX**

Vienna  
Chrysalis

This album was quite a break for the band as, in addition to guitarist Robin Simon, the previous lead singer John Foxx left in search of an ultimately successful solo career that continues to this day.

In came former Rich Kid and Thin Lizzy guitarist (you heard right) Midge Ure and the band transformed from a slightly sleazy, Wiemer-esque, decadent, leather-bound, punk-synth band to a more clean cut, strikingly posed, chin up, fixed gaze, well-dressed, krautrock-leaning, techie-synth group.

To that extent and in an effort to pay off a mountain of debt that had accrued under Foxx's tutelage, Ure pulled the gang over to RAK Studios and asked legendary German producer, Conny Plank, for help.

That worked fine because this LP was the band's most successful album, reaching No.3 on the UK

album charts.

This pleased the rest of the band, no end. And they were? Billy Currie (piano, synthesisers, viola, violin), Warren Cann (drums, electronic percussion, backing vocals, lead vocals) and Chris Cross (bass, synthesizers, backing vocals).

Vienna was a great favourite of mine when it initially appeared because I was experiencing a real love of the synth sound – and it had plenty of that. Chrome-plated synth stabs, punchy bass, sweeping synth soundscapes and Ultravox's penchant for catchy melodicism allowed this synth pop gem to shine.

Now celebrating its 40th anniversary there is a 6CD box set and limited edition vinyl box with four clear vinyl LPs, including a half-speed master of the original album and the full St. Albans 1980 gig. I grabbed the 2LP version featuring the original album and a disc of rarities and live cuts, both nicely mastered at half-speed.



**A** slightly unusual move for Third Man, an LP that presents a previously unheard soundboard recording of the original Stooges final performance recorded just before the release of their 1970 album 'Fun House'.

Restored by Vance Powell and mastered by Bill Skibbe at Third Man Mastering, you'll find liner notes by Jaan Uhelzski, he of Creem Magazine.

The original 1/4" stereo two-track tape tapes were found in the basement of a Michigan farmhouse and are the only known soundboard recording of this line-up which went on to play the album, 'Fun House' in its entirety.

The story behind the performance is that bassist David Alexander hit the hash and the alcohol so hard before the concert that he didn't play a single note during the entire performance – which was an issue because the songs here depend on a bass

foundation.

The story isn't quite true as the bass can plainly be heard but the playing wasn't great. The upshot? Alexander was fired after the show. Maybe for the rest of the band, thrown into a panic and trying to fill in for the missing bass, the event tried their patience too far.

Look out for the limited-edition coloured vinyl options. Rough Trade can provide a purple-coloured version with a standard LP jacket while an indie exclusive version will be on cream-coloured vinyl with a screen-printed LP sleeve.

In terms of sound? It's the best Stooges live concert from the period that you will hear but it's all relative because the clarity isn't there and it sounds like a decent bootleg. Bass is muddy, the mids are veiled and treble is swilling booze backstage somewhere, I reckon. Nevertheless, the performance is excellent, the energy is there and the visceral nature of the performance comes across well.



## THE STOOGES

Live at Goose Lake: August 8th, 1970  
Third Man

# AUDIOPHILE VINYL

**“****I**n the past, we would wait for the record to be released in order to see if it was a success. This time, the feeling of success came with actually finishing it. That feels more sustainable” said Melua.

It may have been because Melua worked closely with her arranger Leo Abrahams on this new LP. He determinedly refused to pen his music until Melua had handed over her lyrics. “It was important for it to feel like the arrangements had a specific relationship with Katie’s lyrics – and, by the way, I’ve never known anyone work so hard on a set of lyrics”.

This put the pressure on Melua. And there was enough of that already, it has to be said, because her marriage was in the process of breaking down “...the pressure to believe that the love of your life is out there somewhere. And when that story doesn’t go the way it’s

meant to go, you’re encouraged to view the whole thing as a mistake. For what it’s worth, my husband and I had a beautiful relationship and there’s still a huge amount of love and respect between us. There are no regrets”.

Melua sings with an orchestral backing. Combining that with highlighted instruments: drums, acoustic guitar, electric guitar and bass, there is a sense, allied to Melua’s purity of tone, of those classic female-fronted singer-songwriter albums you found populating the shelves in the seventies.

The songs are melodic, simple yet they combine with orchestral grandeur, they push out the message but do so while remaining uncluttered and airy in presentation. Her melodicism is natural and unforced. This is an album of effortless beauty. Deceptively simple because the lyrical message is complex and deep. Impressive?



## KATIE MELUA

Album No.8  
BMG





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# Stairway to ...

Paul Rigby reviews a book by Led Zeppelin's Jimmy Page, that includes *Stairway to Heaven*.

**Title:** Jimmy Page The Anthology

**Publisher:** Genesis

**Price:** £45

**B**efore we get to the contents, allow me to talk about the book itself. When it originally appeared, it was limited to 2,500 copies. That was a world-wide figure. Quarter-bound in black leather, with gold leaf blocking and gilded page edging, the book was presented in a felt-lined slipcase.

And not any old case either, the case design was inspired by the Selmer case, from Page's first electric guitar. That is, his 1958 Resonet Futurama.

The book itself was filled with Italian matt art paper, weighing 150gsm. Price? Around £395. Now sold out, I noticed copies on eBay for around £1,000 a pop.

Publisher Genesis is also selling fine art prints of items from Page's archive, limited to 75 each, spanning 50.8cm x 76.2cm and priced around £1,500-£1,600 each, depending on which one you choose.

At £45 then, despite a relatively high price for a new book, this new edition feels positively cheap and cheerful by comparison.

Even so, as it stands, this low cost edition is still beautifully produced, wonderfully put together and expertly constructed on 135gsm matt art paper.

The book provides insight specifically into Page's archive, with over 60,000 words. But the words are only the half of it because this tome is packed with high-quality

illustrations. Many of which are rare, many of which are previously unseen, and others are of mythic status, such as the Gibson double neck guitar, his dragon-emblazoned suit, his white embroidered poppy suit and the outfit worn in the concert film 'The Song Remains the Same'.

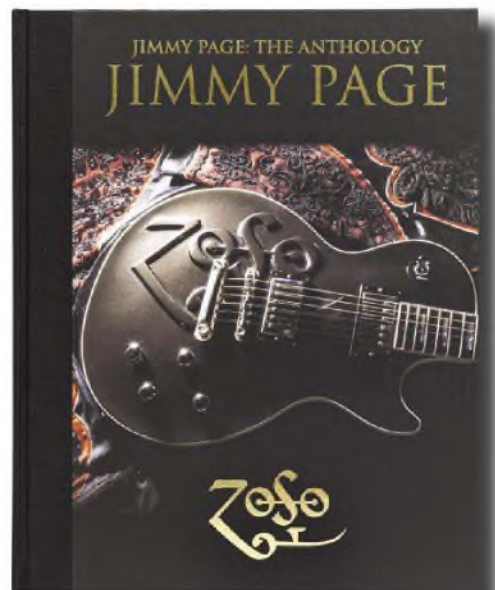
Also, there are handwritten diaries, correspondence, rare vinyl pressings and previously unpublished photographs.

Page selected each piece to be photographed, so he's been hands-on for this project.

Spanning a large format 250mm x 310mm and 400 pages, the new so-called Open Edition includes 1,000 images.

What did disappoint me for a book of this quality was the absence of a Contents page. There are 400 pages to navigate here and while I appreciate the index at the rear, I would have found a front Contents page useful. Each section is delineated though, by a footer at the end of each page. For example 'The Early Years 1951-1958', 'Studio Sessions 1963-1966', 'Led Zeppelin 1975' and so on.

What you get are around a half page or less of text, surrounded by images. Sometimes images or an image will span an entire page. At other times, the text is nothing more than an extended caption. There's plenty of variety to keep the attention while the images are good enough to examine and absorb over



time.

And the text itself? It's packed with memories, anecdotes, thoughts and feelings from the time, often elaborating upon a larger image printed on the same page.

There are also set-piece textual pieces such as Page's description of how the song *Stairway to Heaven* was written. This excerpt was from a U.S. tour in 1970 and a concert in Nashville, the end of a longer piece on how authority viewed the band and its fans. There's some valuable cultural insight. "We came off stage after the last number, we went into the dressing room. The audience were going wild, so I said 'Let's do an encore' but this police guy puts a steel bar in front of me blocking the door and says 'You go out there boy and I'll bust your head'. I thought 'He's not kidding'. In the South in those days there was a lot of bad feeling about longhairs and hippies, let alone limeys".

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## FEBRUARY 2021 ISSUE

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...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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# THE FALL

## THE FRENZ EXPERIMENT BEGGARS ARKIVE



"John Peel stated  
"They've never  
disappointed me  
yet – and I suspect  
won't"

I've been writing this column for some time now. Each one features a classic album or collection of music. Not all of them are personal favourites but I recognise good music when I see it, even when that music does not dovetail towards my own personal tastes. I can respect the artist and their talent, even if I would never actually buy the album myself.

One or two of these columns do ally themselves to my own tastes though and this is one of those.

The Fall emerged from Manchester in the UK as part of the punk scene. And that's where this band began to differ. The Fall, even in that punk sphere, were different. They didn't sound like a typical punk band. The songs were not typically punk. The vocal delivery was unique, in fact.

Mark E. Smith was the core of the band and saw a multitude of line up changes, some of them acrimonious, which actually served to freshen up the band's sound and appeared to invigorate Smith who somehow seemed to feed off the new energies surrounding him.

But Smith retained the soul of The Fall. Now no longer with us, he was a working class genius, a poet, a disheveled and loutish version of Shelly or Byron. The former for his lyricism and the latter for his energy and passion, along with the fondness for alcohol. Byron once exclaimed "I am such a strange mélange of good and evil that it would be difficult to describe me". That's Mark E. Smith, right there.

I first saw The Fall on Tony Wilson's Granada TV music show 'So It Goes' in what – 1977 was it? But I only really got the band - like many others - after hearing them on John Peel's radio show on BBC Radio 1.

That was the place that the band generated a following and grew into a cult phenomenon.

Smith's poetry has to be emphasised because from it emerged avant-wordplay that was coated in a wit as dry as a Martini, cutting political and societal observations, often accompanied by angular guitars, experimental beats and arrangements.

Chart hits were few and far between, while the notion of success was not a concept

that weighed heavy on the mind of this working-class hero. In fact praise was never easily received or accepted. For example, upon receiving an award from the music paper, the NME, his acceptance speech was: "I think the achievement should go to the people who read the NME and can manage to read it from cover to cover".

That said, on this 1988 album, the single 'Victoria' (No.35), a cover from the sixties outfit The Kinks, was to mark a rare entry of The Fall into the upper reaches of the UK charts along with a Holland-Dozier-Holland cover 'There's a Ghost in my House' (No.30), issued a few months previously – also present here but on a bonus disc.

'The Frenz Experiment' was one of The Fall's ventures in melodicism and, because of that, could be viewed as an ideal entry point for non-initiates. It remains inherently accessible.

The track 'Frenz' has a lazy, insidious delivery with a guitar hook that never leaves your head, 'Athlete Cured' offers rhythmic bite and plugs into a harder rock ethos, 'The Steak Place' is a hip, finger-snapping, head nodder while 'Bremen Nacht' is direct, finger-stabbing rock.

If I was going to negatively target any track on the original album it would be Victoria, the hit single which, despite Smith's processing, sounds relatively banal and boringly 'trad' by comparison. I am being harsh and picky though, Victoria is still enjoyable on the whole.

The original LP arrived on one disk but there is a second disc on this Expanded edition, including B-sides and singles.

As John Peel himself once stated "They've never disappointed me yet and I suspect won't. I can't think of any other artist who's managed to do that for 10 years. I simply don't know what it is that I like about the Fall. He (Mark E. Smith) never takes the prevailing trendy attitude. I'm pleased that he does say what he actually thinks. The Fall are always identifiably The Fall but they do seem to evolve".

And I think that was the nub of the band and the nub of this album. The Fall never sounded tired. They constantly moved forwards. **PR**

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