

# HI-FI WORLD

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**CAMBRIDGE AUDIO EVO 150**  
streamer



**TEAC TN-5BB**  
turntable **EXCLUSIVE!**



**SONUS FABER LUMINA V**  
loudspeakers **EXCLUSIVE!**

**RÖHDE & SCHWARZ**  
MEASUREMENT



## ICON **EXCLUSIVE!** AUDIO HP 205D headphone amplifier

headphone amplifier



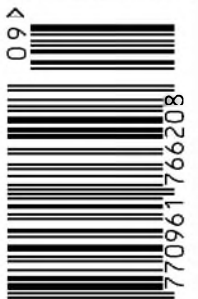
- RX REELS
- JBL TOUR I HEADPHONES
- AUDIOLAB DC BLOCK **EXCLUSIVE!**
- COHERENT 6D LOUDSPEAKER CABLES **EXCLUSIVE!**

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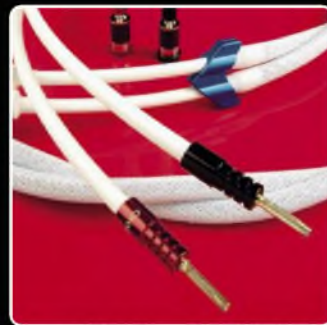


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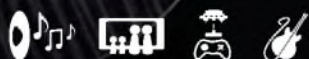


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Chris Frankland



If you want a powerful amplifier in a small case, a Class D amplifier from Hypex (Netherlands) has become a popular choice. The company was started by ex-Philips employees in 1996 they say, and I experimented with early modules that even back then delivered clean low-distortion treble – something Class Ds were not known for at the time. Their modules have since become a go-to for manufacturers, so no surprise to see them used by Cambridge Audio in their remarkable Evolution

150 all-in-one player that you can read about on p17. Yes – it does produce that much power, for all those seduced by a 150 Watt power spec. It also has a remarkable range of ability: I hope you enjoy reading about all its many talents.

How could there ever be a link between this and Icon Audio's thermionic HP205D headphone amplifier that uses valves from 1924? Yet there is a link: both have high quality Bluetooth transceivers (as I'll call them). This way of playing music, from a library on the 'phone, is developing impressive technical ability and sound quality, as the HP205D reviewed on p10 made obvious. More on Bluetooth in future issues I hope, it really is a lot better in latest form than most people think.

Sales of LP are now edging past CD we are told, in a bizarre historical twist. Apparently, young people commonly buy LPs and have no ability to play them (like my son!). This is where slick modern turntables like the new Teac TN-5BB you can read about on p69 fit in. Gloriously easy to use and with all the ability most people will ever need. Now with the potential to be hum free too, courtesy of a balanced connection option. Good to see LP reproduction slowly get ever better.

The archaic and arcane sit side by side in this issue. I hope you enjoy reading about both and what high fidelity brings today in Hi-Fi World.

**Noel Keywood**  
*Editor*



## hi-fi world

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## verdicts

●●●●● OUTSTANDING  
●●●● EXCELLENT  
●●● GOOD  
●●● MEDITOCRE  
●● POOR  
£ VALUE

amongst the best  
extremely capable  
worth auditioning  
unremarkable  
flawed  
keenly priced

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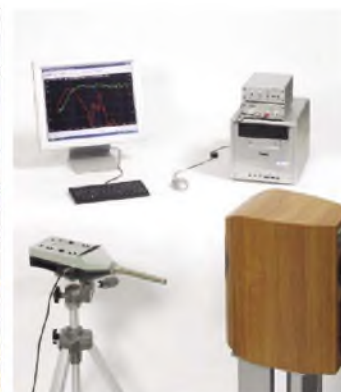
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Loudspeakers are measured using a calibrated Bruel & Kjaer microphone feeding a Cllo-based computer

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.



Distributed by Select Publisher Services Ltd. P.O. Box 6337, Bournemouth, BH1 9EH UK Tel +44 (0) 1202 586848

Printed by Precision Colour Printing Halesfield 1, Stirchley, Telford TF7 4QQ, United Kingdom Tel: +44 (0) 1952 585585

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# news

## LUXMAN LIMITED

The limited-edition (300) L-595ASE integrated amp, which marks Luxman's 95th anniversary, is a dead ringer for the Japanese firm's L-570 - a luxurious £3,500 (1989) Class A design. Evidently, the beautifully-built 595 is aimed at similar punters; its £11,000 price tag is indeed close, if inflation's factored in. It too is Class A, delivering 30 Watts per channel into 8 Ohms (60W into 4) with "bipolar triple-parallel push-pull" amplification. There are obvious connectivity differences. Unusually for 1989, the L-570 had a balanced input; the new model boasts two.

The L-595ASE has four unbalanced line inputs, processor loop, chunky speaker terminals and MM/MC phono stage (albeit with shared terminals) but there are no tape loops. Instead of the 570's 'tone compensator' are more conventional bass/treble controls, with 'line straight' bypass. Completely new features include remote control, headphone output, 88-step 'LECUA1000' volume control...and 'loudness' compensator.

Further details: *Luxman*, <https://bit.ly/3wdhQmm>



## SUMMER SOLSTICE

Naim's Solstice NVS-TT is its first ever turntable. Look closer, though, and you'll note that it's manufactured by Clearaudio. The Solstice turntable offers "multiple levels of mechanical decoupling" and an enormous aluminium platter. Belt-driven from a motor with "self-calibrating" drive, the latter is supported by a magnetic bearing (a tell-tale Clearaudio feature).

Naim founder Julian Vereker considered introducing a turntable before his death; the Aro tonearm was however produced during his lifetime. The latest version of this, fitted with Equinox MC cartridge to an NVS-TT, is available in a £16,000 package. Also included is an NVC-TT phono stage, NPX-TT power supply, various accessories, Naim Records LP and special-edition book. Only 500 of these luxurious packages will be made, so hurry...

Further details: *Naim*, <https://bit.ly/3dBt9JS>

## HOLDING THE FORTE

In a similar mood to Luxman is Klipsch, which celebrates its 75th anniversary this year. The American firm has chosen to mark the occasion by reviving a classic product - in this case, the Forte. One of Klipsch's best-selling speakers, the imposing three-way Forte floorstander was originally produced between 1985 and 1996. In 2017 came the revised 'Heritage Series' Mk.III version, which forms the basis of the "meticulously handcrafted" Forte IV.

Featuring "updated cosmetics and the latest advancements in acoustic engineering", the £5,100-a-pair Forte IV combines a 12in. woofer and rear-mounted 15in. passive radiator for bass impact. Midrange and treble meanwhile are handled by all-new titanium compression drivers, with modified 'Tractrix' horns and wide-dispersion high-frequency phase plugs. The revoiced crossover, fed from bi-wireable binding posts, also contributes to the Forte IV's 99dB efficiency and peak 400W handling. The shallow-footprint (13in. deep) cabinets are available in a choice of four grain-matched finishes.

Further details: *Henley Audio*, +44(0)1235 511166 <https://bit.ly/3dB2j9r>





## BEACH BELLE!

With 'staycations' still likely, why not put some of the money saved on flights toward Ruark Audio's latest - the Beach Hut Blue radio? Pictured here not a million miles away from Shoebury's Common Beach, this £230 'limited edition' of the R1 is described as "feel good" and capable of providing "great entertainment all year round" - courtesy of its DAB/DAB+ radio, international FM reception, USB playback, analogue line-in and Bluetooth functionality. The source of your choice, selected via a top-mounted 'RotoDial' and OLED screen, feeds a 9W Class-AB amplifier. This drives a proprietary 75mm NS+ driver, mounted in a reflex enclosure, for a frequency response claimed by Ruark to be 55Hz-22kHz. Said driver sits behind a complementary-brown slotted grille, which adds to the Beach Hut Blue's visual appeal. An optional battery pack allows it to be used in the garden...or beach hut.

Further details: Ruark, <https://bit.ly/3Am9kom>

## CAMPFIRE HEADPHASE

News reaches our collective shell-like of two new Astell&Kern goodies. First is the £1,499 AK Solaris X, a pair of IEMs that was co-developed with Oregon-based Campfire Audio. Like some other IEMs (Meze's Rai Pentas, for example), the hand-made AK Solaris X - currently exclusive to Harrods and Selfridges - is a 'hybrid' design combining the talents of balanced armature and 10mm dynamic drivers. They're used with a Tuned Acoustic Expansion Chamber. Supplied in an eco-friendly cork case, the Solaris is fed via pure-silver Litz cabling; MMCX connectors on each bud facilitate upgrades or repair.

Astell&Kern would presumably like you to plug Solaris into its second new product, a £1,099 "Urbanely Blue" version of the Kann Alpha DAP. This features Bluetooth 5.0, 64GB storage, hi-res playback, dual-DACs, Wi-Fi, 14.5hr. battery life and newly-added Roon support.

Further details: *Astell&Kern,*

<https://bit.ly/3hipxUd> and <https://bit.ly/3xei9P4>



## BUILDING BETTER CABINETS?

Small speaker manufacturer EJ Jordan has an enviable pedigree, being founded by Ted Jordan of Jordan-Watts fame (anyone remember the Flagon?). Its latest is the Marlow, hand-built into a heavily-damped "furniture-grade cabinet based on pioneering BBC research". Engineers working for the BBC department responsible reminded us those designs are now "very old".

Decades on, classics like the LS3/5a and LS5/8 retain a significant following. Those BBC speakers had multiple drive units; the Marlow, which isn't a licensed BBC design, relies on just one. This is the Jordan Eikona, described as an "advanced, alloy-coned driver that covers the majority of the musical spectrum" (44Hz-18kHz -/+6dB). The standard Marlow is wired with Kimber 4TC, fitted with Swiss-made 4mm sockets and available with walnut (£2352) or rosewood (£2544) finishes. There's a "refined" CE version, with Tom Evans wiring and terminals, and matching stands too.

Further details: *EJ Jordan, (07779) 775356.*

<https://bit.ly/3ybyq41>







## AVENTAGE, YAMAHA!

Yamaha has updated its premium range of AV receivers, which first saw the light of day a decade ago. Intended to exploit the renaissance in home entertainment, the three new Avenge models – the RX-A4A (7.2-channel, £1,299), RX-A6A (9.2, £2,299) and RX-A8A (11.2, £3,299) – are among the first in the world to offer HDMI 2.1 connectivity. Seven of these digital AV inputs, which cater for cutting-edge 8K/60/4K/120 and HDR10+ video, are provided.

More obvious at first glance is the “clean and powerful new look”, dominated by a central volume knob. All three support Dolby Atmos, DTS:X audio and other standards, implemented using Qualcomm’s new quad-core QCS407 ‘smart audio’ platform. Stereo listening isn’t forgotten, with phono inputs and two-channel balanced XLRs on the top models. Your favourite music can be processed using various DSP modes, for which the Japanese manufacturer is famous.

Further details: +44 (0)344 811 1116 <https://yamaha.io/36e4D1T>



## RENEWED PRESTIGE

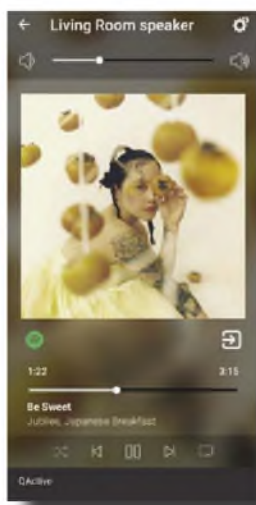
In 1990 New York-based Grado, then best known for its phono cartridges, turned its talents to a different form of transducer – headphones. These headphones, the first of which were handbuilt by John Grado and his wife, became known as the ‘Prestige’ series and are now regarded as design classics. Three decades on, Grado brings us the fourth Prestige generation. Its five constituents – the SR60x (£109.95), SR80x (£129.95), SR125x (£189.95), SR225x (£249.95) and SR325x (£329.95) – feature enhanced 32 Ohm drivers, advanced cable design and “more comfortable” headbands. They differ primarily in terms of cable construction, transducer-matching and the basic materials used. All have ‘vegan-friendly’ headbands – except the SR325x, which has one made of leather.

Further details: <https://bit.ly/2UmN7FY>

## IFI GOES WITH THE STREAM

Latest addition to iFi’s ZEN lineup of pocket-Hercules hi-fi products is the innovative £399 ZEN Stream ‘audio transport’. Its job, according to iFi, is to act as a streaming bridge between a home network and hi-fi gear. Using a smart device as a remote, you can select streaming services (e.g., Tidal, Qobuz and Spotify) or locally-stored music (DLNA servers) for playback. The 64-bit ARM-powered ZEN Stream doesn’t have analogue outputs, being reliant on S/PDIF or USB input. Features include ‘raw’ NAA (Network Audio Adapter) support, Ethernet and 2.4/5GHz Wi-Fi connectivity, a ‘mode’ switch that optimises the Zen Stream for specific applications, an ‘iPurified’ digital audio output, precision clocking, upcoming Roon certification and support for hi-res formats (up to 32-bit/384kHz PCM, or DSD256).

Further details: iFi, <https://bit.ly/3yiMjaj>



## FORM AN ORDERLY Q

The Q Active 200 and 400 from Q Acoustics may look like stylish speakers, but in reality they’re fully-blown high-resolution wireless audio systems with support for Bluetooth 4.1, Apple’s AirPlay 2, Spotify Connect and uPnP. With Alexa or Google Assistant, your voice can be used to access the streaming services offered by Apple, Amazon, Deezer, Qobuz, Spotify and Tidal, as well as initiate playback of your own music servers’ contents.

More conventional control is however now available courtesy of the ‘Q Active’ app (free) for both Android and iOS. Q Active features include playback control, track information and cover-art display, presetting power-up volume levels, Wi-Fi configuration and other behavioural tweaks. You can also select and customise the hub’s HDMI, optical and analogue input.

Further details: Q Acoustics, <https://bit.ly/3cJlrE>

# Hot Head

Nothing like a hot filament to warm the head with great sound. Noel Keywood reviews Icon Audio's new HP 205D valve headphone amplifier.





**W**ell, it does look good doesn't it! Even those not into olde-worlde aesthetics must be intrigued by what is going on here. Icon Audio's new HP 205D is an exotic valve headphone amplifier with a difference – it is equipped with a Bluetooth receiver, to play music wirelessly from a mobile 'phone or tablet. Price is £2999.

There are two sides to this headphone amplifier: functionality and appearance. It's a boutique item with honed good looks, yet it has a function to perform. The two are intertwined.

The HP 205D is available

without Bluetooth but just by fitting a modern technology such as this to a valve amplifier – styled for the steam age – rather makes a point: it's for users who want the best of today and yesterday – in what can be an uneasy match.

Those old fashioned looking onion-shape 205D valves are in fact recent production from China, not originals from 1924 that (untested) are currently priced at £400 apiece on eBay.

Let me go over just what this headphone amplifier does first. It can accept an analogue input from a preamplifier, an integrated amplifier with Pre Out sockets, a CD player or a phono stage, having both sufficient gain and an Alps

Blue high quality volume control. But there's no remote control of volume; this must exist in the source, as it does with Bluetooth.

Whilst there's Bluetooth input, there is no Bluetooth output; connection to 'phones is wired. An independent Bluetooth transmitter can be bought to overcome this.

To slide into valve issues, there are three output settings: for high, medium and low impedance headphones, ranging from 1000Ω down to 16Ω they say (most are 300Ω or 40Ω). The High Ω (250Ω-1000Ω) is suitable for sensitive in-ears (In Ear Monitors, IEMs), the Low Ω (8Ω-32Ω) for magnetic planar types and Medium (32Ω-250Ω) for anything in-between,

meaning most. This function exists because the HP 205D matches its 205D output valves to headphones through output transformers, housed in big black screening cans at rear.

The amplifier is single-ended (SE), not push-pull, avoiding crossover distortion. It means each headphone earpiece is driven by one 205D triode valve only – for purity that comes from simplicity and a valve that, even in its time, was rated at having less than 1% distortion for best audio quality. At this point I'll quickly note distortion measured 0.02% so is not an issue. In front of each 205D is an ECC88 (6922) double-triode preamplifier valve.

In keeping with this level of audiophile sophistication Icon Audio use a top quality Qualcomm



**The open electrode assembly of a 205D valve makes its glowing heater obvious. A visual treat from 1924.**

CSR8675 Bluetooth receiver hooked up to an ESS ES9018 DAC. There is aptX and aptX HD to improve audio quality but note that iPhones don't have this. Think Samsung for aptX. However, measurement shows an iPhones' iOS audio (24bit and 48kHz sample rate) manages full 24bit quality within Bluetooth 5 and that appears to be the case here (see Measured Performance). So this is high quality Bluetooth, not just budget functionality.

There are two Hum adjusters but since all feeds from the power supply are d.c. they presumably minimise ripple on the 4.5V d.c.



**The unit is hard-wired with sturdy discrete components. At low left lies a screened Bluetooth receiver and DAC board.**

heater supply. Icon say they need only be set once; I heard no hum at all. There is no bias adjustment.

Power comes from an external supply that follows thermionic best practice, notably a valve rectifier (GX34, 5AR4, 274B) feeding a choke for smoothing. This delivers out 300V H.T. There is a 6.3V d.c. heater supply for the ECC88s, 4.5V d.c. for the 205Ds and a 13V supply for the digital circuits. This little lot is piped in by a power cable 122cm (4ft) long and the main unit can sit up to 1m above the power unit. The supply accepts 110V or 230V, drawing 50W.

The main amplifier is relatively compact, measuring 220mm wide, 320mm deep and 170mm high. It will just squeeze onto a 12in shelf taking into account rear cables. Weight is 7.5kg. The power supply

is slightly heavier at 8.5kg, and also higher at 190mm with the 5AR4 rectifier but 230mm high with the 274B option. Chassis depth is the same but width is 130mm. The power switch is on the supply so it has to be accessible.

Build quality is superb, as is standard of finish – higher than in products of the past. Icon design and wind their own transformers in-house, by hand they say rather than with auto-winders, for smoother and more dense layering.

Now, take a deep breath. A new pair of Psvane 205Ds will set you back £700 from Icon Audio. There are cheaper U.S. prices but carriage, insurance and taxes will probably make differences small. Tian Jin Full Music also make this valve. Icon say that at a push a 300B can be used as a substitute



**At rear, analogue input and loop-through output. An earth terminal and stubby Bluetooth aerial. At right a 10-pin input socket for power.**

– but they're not cheap either. Few people around the world use 205Ds, making production quantities small so they're made by hand in China. Expect a life of around 3000 hours minimum I suggest, Icon putting it as 4-6 years.

## SOUND QUALITY

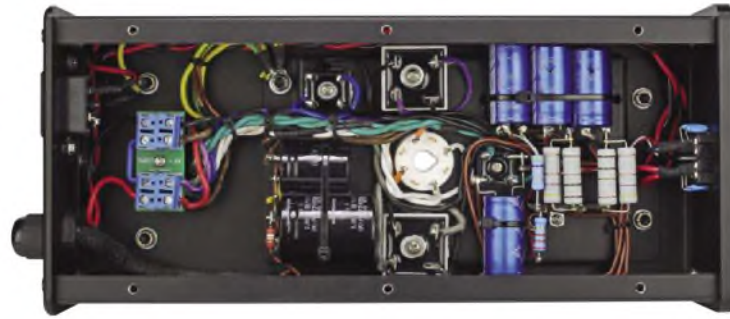
This took me by surprise. I'd expected a deeply smooth spacious sound, emotionally atmospheric like my 300B amplifier. Instead the HP 205D struck me by its speed, solidity of images and cosmic stereo positioning. By this I mean little fine percussive details like a maraca in Holly Cole's Train Song, were coming at me from outside the immediate sound stage, as if from a space beyond. And that effect continued: the HP 205D was



**The 274B rectifier stands high and glows brightly. This is an optional extra.**

peculiar-to-surreal in this respect when driven from the analogue outputs of our Oppo UDP-205D CD player with its ESS ES9038Pro convertor. Pure coincidence that it is a '205D' also.

Warm sound? Not at all. It had a pushy midband, forward and 'in my ears', with extraordinary revelation of timbral richness – to the bouzouki and plucked bass at the start of Loreena McKennitt's Gates of Istanbul for example. For air and space there was little I have heard to compare. There was also an almost peculiar form of tight, expressive bass, something the Oppo PMI magnetic planar headphones I used are intrinsically



**The power supply carries heater rectifiers (centre), a valve HT rectifier, and a supply for Bluetooth and DAC boards.**

good at, but only when driven well. The Icon propelled them along with seeming ease.

Whilst the midband and upper midband were quite forward, high treble was not. There was no sting or tizz.

Bluetooth is – potentially – a big plus point for the HP 205D. It turns it into a mini hi-fi in its own right, of outlandishly exotic nature. I mean, a single-ended 205D amplifier is barely imaginable in thermionic hi-fi land. But hooked up to an iPhone via Bluetooth? I was intrigued by the idea.

Playing hi-res tracks from an Onkyo HF music player on my iPhone 11X Pro, sound quality was exceptional, Norah Jones' vocals sounding silky smooth and breathy in Come Away With Me (24/192). Cosmic imaging made itself known with Cyndee Peters singing House of the Rising Sun (DSD64) where hand drum came from beyond one earpiece and triangle strikes from beyond the other.

Quite how the Onkyo's (paid for) hi-res folder processes music I'm unsure, but it seems to leverage the ability of iOS to handle 24bit resolution, giving a smoother, deeper sound. Even CD tracks like The Eagles 'Somebody' raced out of this folder and through the HP 205D in slick fashion, this being a track that seems to get easily mashed. Instead I heard sparkling cymbal strikes, Glen Frey at the mic and the whirling Hammond that brings feeling to the track. Pity that in actuality this track is compressed upward to an inch of its life, but somehow here it came over as fast, funky and listenable.

On a different tack, playing The Battle of Britain March by the Central Band of the RAF I was delivered a wonderfully wide sound stage with identification of the individual instruments of the

band; there was a sense of their character within the scope of the performance in a big space. Very enjoyable and organically real in true thermionic fashion. Nothing quite like hearing a military band to get a dose of the real instruments.

I do a lot of headphone listening with YouTube, to live performances especially. Would the HP 205D make a difference here? Feeding the analogue output of an Audiolab M-DAC+ in, sound quality took a whole jump up. The HP 205D brought its deep analysis and firm delivery into play, bringing vigour to the sound, bringing vigour to the sound, bringing vigour to the sound, livening up YouTube – even extracting detail from its seemingly bland output.



**A conventional IEC mains input socket, plus sturdy output cable with 10-way socket.**

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Seeing music coming in at 96kHz sample rate from YouTube (displayed by the M-DAC+) sent me to my Mac's Audio/Midi player to re-set sample rate and it was clear that every setting had a different sound, something I have not noticed before. Higher specs were not better: I settled on 24/48 from the Mac to the Audiolab, to listen to YouTube through the Icon. The HP 205D was brutally revealing, but that is to be expected from such purist circuitry.

Listening brought up the fact that there is a lot of gain in



Supplied as standard is a 5AR4 rectifier from Tung-Sol.

the system: with Bluetooth if phone volume was at max then the HP 205D's volume had to be cranked down to little above zero. I ended up balancing the digital control on the 'phone against the 205D's volume control for best result. This amount of gain may explain my need to hook up an earth wire from the rear earth terminal to the M-DAC+ to cure a slight RF whine audible at maximum volume.

### CONCLUSION

The HP 205D is a strange headphone amplifier. Wonderfully wrought, peculiar in concept. But then, valves invite such scenarios. Running Bluetooth through amplifying devices from 1924 isn't the most obvious thing to do but Icon Audio have done it here – in glorious fashion.

Sound quality from the analogue inputs was beyond superb. Bluetooth gave a great result

### A MATTER OF SUPPORT

If you want to see glowing valves then this amplifier is surely it. The 205D was designed by Western Electric (U.S.) in 1924 as a simple, directly heated triode (DHT). There's no cathode surrounding the glowing heater filament, making it easy to see. The wire grid surrounding the heater is also visible, as are the external plates that form the anode. Clearances are enormous but gain is low. This is something of a display valve, showing how they work in basic form.

The electrode assembly must be rigid in itself and well supported to avoid microphony. I have encountered wildly microphonic Chinese onion-envelope valves in the past. Walk across the floor or speak loudly and ringing sounds emerged. Modern valves steady the top of the electrode structure against the envelope to prevent this, but for authenticity that cannot be done here. Psvane instead use a thick internal support pillar. Their 205Ds are improved replicas, not exact copies. Getters are used but there are no flash marks to spoil appearance.

The basic 5AR4 rectifier within the power supply is unlovely in appearance, but the 274B alternative is as attractive as the 205Ds – but you pay an extra £195 for this. David Shaw (MD) says it sounds better however. It certainly looks better.



too, in conjunction with a good software player and mobile 'phone. Eyes wide about long term running costs, with a valve pair coming in at £700 but – hey! – no one else will be using an amplifier so unique.

## MEASURED PERFORMANCE

The High  $\Omega$  setting delivered 14V max and had a gain of x65 (36dB), into a 300 $\Omega$  load (650mW).

The Low  $\Omega$  setting delivered 4.6V max. with a gain of x18 (25dB) into a 40 $\Omega$  load (530mW).

Since headphones need no more than 1V to go very loud, there is enough output swing here. The High setting is for IEMs, the Medium for dynamic types and Low for magnetic planars.

Frequency response measured flat from 30Hz to 20kHz through High  $\Omega$  and Low  $\Omega$  outputs (300 $\Omega$ /40 $\Omega$  loads), via the analogue Line input. Via Bluetooth response was similar except bass rolls off below 30Hz. Response did not change with volume position.

Distortion via Bluetooth (0dB) measured 0.05% at 1V out. There was good resolution, a -60dB signal being well resolved, distortion here measuring 0.3% – mostly noise. EIAJ Dynamic Range

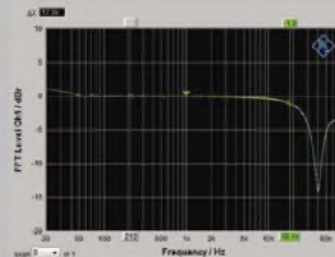
came in at 104dB, which is fractionally above CD (typically 100dB), so the Bluetooth transceiver is a good one, able to provide hi-res, curtailed by thermionic noise in this setting.

The HP 205D gave an unusually good set of performance figures all round considering its archaic valve technology. The Bluetooth transceiver performed very well in a supportive setting. NK

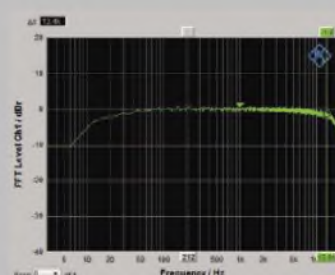
**Frequency response (-1dB)** 30Hz-20kHz  
**Distortion (10kHz, 1W, 4 $\Omega$ )** 0.02%  
**Separation (1kHz)** 88dB  
**Noise (IEC A)** -82dB  
**Gain (High  $\Omega$ /Low $\Omega$ )** x65/x18

**BLUETOOTH**  
**Frequency response (-1dB)** 40Hz-18kHz  
**Distortion (-60dB)** 0.3%  
**Dynamic range** 104dB

### FREQUENCY RESPONSE



### FREQUENCY RESPONSE BT



### ICON AUDIO HP 205D £2999



**OUTSTANDING - amongst the best.**

### VERDICT

Vivid sound from a boutique amplifier, Bluetooth included.

### FOR

- appearance
- sound quality
- Bluetooth

### AGAINST

- two-box size

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Listen and believe





# Modern Power

The powerful, app controlled all-in-one Evo 150 system from Cambridge Audio impresses Noel Keywood.

It's small, it's neat and it has everything on-board except the kitchen sink – as the saying goes. The new Evo 150 from Cambridge Audio I'm reviewing here (there's also a 75) is an all-in-one hi-fi system for today, which means get ready for the app and network connection. Being Cambridge, you get top tech at a good price – £2249.

In a small case measuring just 317mm wide, 352mm deep and 89mm high this is a system that will slot in anywhere. Easy to slot it in too, since weight is just 5.3kg, something anyone can handle. Yet in spite of constrained dimensions all round the '150' suffix denotes power and it truly produced this on each channel under test. As you'll

likely guess, that means there's a Class D amplifier inside – Hypex Ncore.

Class Ds are efficient and run cool; the Cambridge got just slightly warm, never hot, in spite of its power. Inevitably, that power comes via a switch-mode supply, explaining low weight since there's no mains transformer inside. This also means it will work from 100V-240V mains input without voltage switching.

Just look at the screen. Not a touch screen, but it does display album artwork in colour when available. It also shows, in big numerals, volume control setting from 0 to 100. Like most manufacturers Cambridge expect the unit to be used at a distance so the screen conveys only a limited

amount of data, for the most part the source selected when artwork is not available. But it's an attractive feature all the same. The app, running on a 'phone or tablet, is very informative and there is a remote control too – more convenient than an app.

I'm almost reluctant to talk about ability because it is a bit of a modern-day data blast. Cambridge have included almost everything. Being network connected, via ethernet or wi-fi, it can dial into commercial music servers such as Spotify, Tidal, Amazon Music, Apple Music et al, and also internet radio. A nice feature here is that favourite stations come up as immediately selectable sources shown by icons ('tiles' in PC speak). That makes



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**A deeply complex interior of densely packed surface-mount components. At bottom centre is the switch-mode power supply, above it their StreamMagic module.**

the Evo very radio friendly I found. But inputs and sources like stations must be selected and saved first. For example, if you don't have a record player then it won't appear as a source, something I found odd (and clunky) at first, but it has its own logic. I typed South Africa (great for music!) into search, came up with Radio Khwezi, a Zulu speaking Christian station it seems, with lovely choral music; it came up on the screen as a graphic and in the app as an immediately findable icon. Nice synchronicity – and very easy to get Khwezi immediately. I don't understand Zulu but I'm trying!

So much for 'net sources. Now for the extensive rest. I'll cover digital first. There's Bluetooth radio reception from a mobile device, usually a 'phone or portable player. This is a direct link from the device, cutting out the need for internet connection which some Bluetooth equipped portables do not have. Up to aptX HD quality is available here for a very agreeable sound from the unique compression system used. There's also a Bluetooth output for headphones, selectable in the app.

Then there's Airplay, Apple's music streaming wi-fi that carries

data too. The Cambridge came up as an output I could select on my Mac and bringing up any software player like iTunes then sends music through. As the Mac's Audio/Midi panel shows though (and measurement confirmed), this is CD quality no matter what is played, including DSD from Audirvana+. Because Airplay carries volume level as data, all volume controls are linked, computer through to Cambridge. It's all very slick Apple style, without no-play scenarios. You play from the computer here, not the app.

It's the other way around with a PC, where the Cambridge sees it as a music server, allowing me to play from the app. Running Windows 10 I got full hi-res quality measurement confirmed and could also play DSD.

Cambridge fit a USB B input for direct connection to a computer,

where many manufacturers do not when network connection is available through ethernet. It also provides access to the internal ESS ES9018K2M DAC from a computer, allowing hi-res files including DSD to be sent in through a wired link. You will need a software player that packages DSD into DoP for this, like Audirvana+.

USB must be set to Type 2 in spite of a warning not to (for users of old PCs I suspect), whereupon hi-res digital (PCM) up to 705.6kHz can be sent from a Mac, and DSD (via DoP) can be sent up to quad-rate DSD256.

All this is a bit academic: such files would be vast and not sound any better because basic recording quality is commonly little better than 24/48 at present. All the same, Audirvana+ on my Mac was able to play 24/192 and DSD128 without problem, sending it through as true DSD it showed, the Cambridge app flagging up 5.6MHz. Impressive quality levels then, high enough to keep any audiophile happy.

But why bother? My preferred method is to play hi-res, including DSD, from a Flash Drive – so to me a big plus point of this player is presence of a USB media drive (mass storage) socket at rear. Plug in a drive and off you go – no cables. The only inconvenience here being there is no front panel socket for quick and slick changeover. Ferreting around at rear with a



**The side panels are held on by magnets. Different finishes are available.**

torch to plug in another drive was not a delight. Bearing in mind that the internet delivers CD quality at best – forget about DSD streaming – downloading hi-res and/or DSD files and playing them from a Flash drive is easy, wire free and best quality; the Evo would benefit from a front socket.

Descending the list of technological sophistication in date order brings me to that old

1980s wonder conjured up well before USB, the Sony/Philips digital interface, or S/PDIF. It still delivers 24/192 with the wind in the right direction, if not DSD. There are two optical and one (RCA phono socket) electrical input (no BNC or XLR). Plug in an old CD player with digital output and it is sent through the Evo's shiny new ESS Sabre series DAC, transforming sound from CD. Cambridge make the point that their optical inputs accept 24/192 and tests confirmed this.

There's more digital in the form of an HDMI 'ARC' (Audio Return Channel) socket that accepts television sound, plus an RS232 socket for external control, and IR (infra red) socket for an external IR (remote control) receiver. That wraps it up on the digital side.

For analogue input there is one pair of balanced XLR sockets and one pair of RCA phono sockets to accept external analogue sources, plus an MM phono stage. A Pre-Out can send music to external amplifiers. There are two sets of loudspeaker outputs, selectable as A, B, A+B or off for headphone listening, and a 3.5mm stereo headphone jack nestling on the front panel.

Does the Evo 150 convert analogue to digital like Naim's Uniti Star? Not that I could see through measurement. The analogue line inputs don't overload at 2V – a sure sign of an analogue-to-digital convertor (ADC). There was no bandwidth limit either via Pre-out – another sign of an ADC. That was, until I switched in the tone controls, then a brick wall limit appeared at 21kHz – definitely an ADC and to back that up input overload dropped to 2V and noise jumped by 15dB (ADCs are noisy). I suspect this is why Cambridge say little about the Bass and Treble control function in the app, yet they worked well I found, giving concise and useful lift and cut characteristics. It might be better developed as a general EQ function, possibly including an optional warp filter to replace the fixed one in the Phono stage.

Bringing me to the MM Phono input for LP replay. It was insensitive, so not ideal for low output MMs, but suitable for most. Cambridge engineer in an effective warp filter, a nice touch. Here I should mention that the Evo 150

has something I have never seen before – a three position earthing switch. This aims to eliminate hum no matter what is connected, affecting Phono in particular where high voltage gains make hum a potential issue.

Hum and ground noise also affects digital I'll note, reducing dynamic range drastically measurement shows, so good to see this feature. Cambridge have organised it by descending option: use position 1 first and 3 last. I can't explain earthing options here: too technical and too obscure because it depends upon earthing arrangements in external equipment. Best to use balanced inputs and digital optical cable in

screened cables. To judge sound quality I played from a Flash Drive since this removes the jitter and noise introduced by long links, an X factor I have to dial out in a review.

Think immaculately clean and correct. I've heard many Hypex Ncore modules and they always come across as composed and neutral. In the Evo 150 I heard a slightly more couth delivery than usual that was pristine in its correctness. Not a warm or full bodied sound, but not lightweight either. The Chieftain's bodrans at the start of Foggy Dew (CD) thundered out nicely, taut and well defined. There was no hint of surrounding muddle or hash: manicured to perfection. Better,



*The screen can show album artwork in detail, here from a flash-drive. On line sources add captions.*

this regard though.

How did it all work? Slickly, once understood. I connected up to a standard BT Smart Hub 2 router via ethernet cable, downloaded the app and it worked straight away. The only initial difficulty was the app comes with USB I enabled that made USB connection unstable with my Mac running Mojave: it worked then it stopped, then it started then it stopped. Hmm... This is a difficulty I haven't encountered before with USB but all was well with USB2.

Because there are so many options with the Evo 150, battling through them is an electronic obstacle course but once there I found the app interface very easy to use. It defaults to three slideable play screens showing tracks-available, track-being-played and volume.

### SOUND QUALITY

Connected by wi-fi the Evo 150 was all but wireless. Little need for any connection except to loudspeakers that were Sonus Faber Lumina Vs connected through Chord Company Signature Reference

Sinead O'Conner sounded convincingly human, an illusion Class Ds have struggled to achieve in the past. There was plenty of grip and pace too. Best of all though, whatever I played came over as smooth and svelte – no sign of hard digital here. That's probably down to the ES9018 DAC Cambridge use, famed for its smoothness.

With Handel's Love and Madness (DSD64), the voice of Johanne Zomer hung clearly between the loudspeakers, surrounded by the space of the recording venue. This was an atmospheric presentation, clean, clear and correct, but nicely human too. You don't get quite the spacial depth and low end force of a big analogue amplifier, but that's not to say the Cambridge doesn't go low, more that it is dry and controlled.

Airplay seemed to want precedence over Bluetooth on my iPhone 11 Pro, as you might guess on an iPhone. But sonically I preferred Bluetooth. To use it reliably I had to turn Airplay off – which you can do on the Cambridge – then sound quality from Hi-Res in my Onkyo HF



**Two pairs of loudspeakers can be connected to conventional terminals (at left and right). USB B socket and RJ45 ethernet socket are rare partners (top centre). Between them lies a USB A socket for 'mass storage' devices (Flash Drive).**

player connected via Bluetooth was superb. This includes DSD, which I presume the Onkyo converts to PCM before transmission.

Although iPhones do not have aptX the Cambridge was so good when playing from the 'phone it was a surprise – one I had to check. Measurement showed my ears were not wrong: Bluetooth had a massive 115dB dynamic range from Onkyo's hi-res player that uses the iPhones' 24bit capability. Where Airplay had the slightly hard edge of CD, Bluetooth came over as smooth but deep in its sound

through the Evo 150, a quality I really took to.

I hooked up our Martin Logan ESL-X electrostatic loudspeakers but high treble seemed a little muted and I wondered whether the capacitive load of the MLs was unsuitable for a Class D with heavy feedback around its output network. Explaining my use of Sonus Faber Lumina V loudspeakers in this review – a conventional load with a revealing sound.

**CONCLUSION**

The Cambridge Audio Evo 150 is

probably the most complicated all-in-one hi-fi system I have come across. It took some getting used to, there were so many options, but I suspect most users would settle down to their own favoured sources, from the wide selection available. Once I found my way around it worked fine.

Sound quality was superb, helped greatly by the top quality ESS DAC Cambridge use that has huge dynamic range.

This is one slickly engineered system, right up in modern space and very highly recommended.

**MEASURED PERFORMANCE**

The Cambridge Audio Evo 150 produced 112 Watts into 8 Ohms and 225 Watts into 4 Ohms, so into 6 Ohm loudspeakers (which most now are) it's a 150 Watt amplifier.

Frequency response extended to 25kHz (-1dB) before rolling down slowly toward 80kHz from the loudspeaker output, but was flat to 80kHz from the Preamp output so it appears the Class D amplifiers impose a 25kHz upper limit. Response did not change with load – good.

The XLR input had low sensitivity of 600mV and an overload ceiling at 5V, satisfactory figures.

The MM Phono stage was insensitive, so best with normal output MMs. Noise was low and a sharp warp filter cuts in fast below 25Hz, giving high -30dB attenuation at 5Hz.

The digital (S/PDIF) input had a high EIAJ Dynamic Range (24bit) of 119dB, as hoped for with an ES9018 DAC.

USB flagged up a very high 705.6kHz upper limit in a Mac's Audio/Midi utility (24bit) with USB 2 selected in the app Settings. With a 24/192 file the response limit was 96kHz as expected, a slow roll off occurring above 25kHz. EIAJ Dynamic Range measured a high 119dB with 24bit

and distortion 0.02%. Identical results were achieved when reading hi-res from a PC. Reading USB test files from Flash drive gave the same results.

Airplay gave bandwidth to 20kHz and EIAJ Dynamic Range of 101dB from a 24/192 input file – CD quality.

Bluetooth quality from the hi-res output of an Onkyo HF player gave a massive 115dB EIAJ Dynamic Range, with a 48kHz sampling rate analogue bandwidth limit of 22kHz.

The Cambridge Audio Evo 150 gave an excellent measured result. It's ESS ES9018 DAC has been well implemented to give clean digital from all its many inputs. The Class D amplifier also gave near perfect figures. **NK**

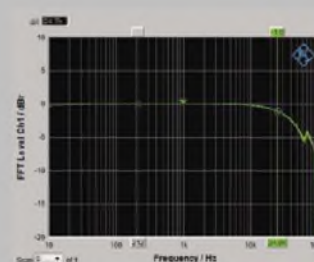
<b>Power (8 Ohms)</b>	<b>112W</b>
<b>Frequency response (-1dB)</b>	<b>3Hz-25kHz</b>
<b>Distortion (10kHz, 1W, 4Ω)</b>	<b>0.02%</b>
<b>Separation (1kHz)</b>	<b>87dB</b>
<b>Noise (IEC A)</b>	<b>-101dB</b>
<b>Sensitivity (XLR)</b>	<b>600mV</b>

<b>DIGITAL</b>	
<b>Frequency response (-1dB)</b>	<b>3Hz-25kHz</b>
<b>Distortion (-60dB, 24bit)</b>	<b>0.02%</b>
<b>Dynamic range</b>	<b>119dB</b>

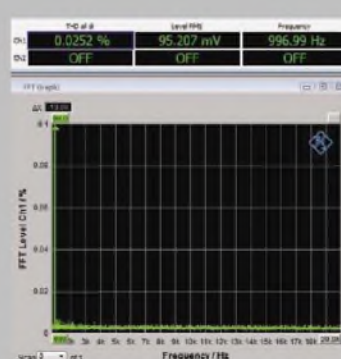
**PHONO**

<b>Frequency response (-1dB)</b>	<b>25Hz-20kHz</b>
<b>Distortion</b>	<b>0.03%</b>
<b>Sensitivity (overload)</b>	<b>6.5mV / 60mV</b>
<b>Noise</b>	<b>-95dB</b>

**FREQUENCY RESPONSE**



**DISTORTION**



**CAMBRIDGE EVO 150 £2249**



**OUTSTANDING - amongst the best.**

**VALUE - keenly priced**

**VERDICT**

A complex but fine sounding all-in-one.

**FOR**

- clear, punchy sound
- wide range of sources
- ease of use

**AGAINST**

- complex
- must have a network connection
- 'unknown' in a BT router

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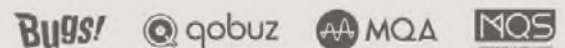
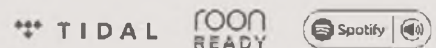
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# Spool's gold!

**Martin Pipe takes up his tape with this superbly-made reel from the USA.**

**C**assettes? Pah! Digital? Not on yer nelly! Once upon a time, every self-respecting audiophile with a need to record had reel-to-reel. And until the early 1980s there were plenty of decks to choose from - Sony, Philips, Uher, Akai, Technics, Tandberg, Revox, Ferrograph and Teac all had their devotees; money-no-object types went for Nagra. This Swiss firm, alongside countrymen Studer (who used the Revox name for their upmarket consumer products) continued to make machines until digital's increasing dominance finally made them unviable. Otari, one of the last manufacturers of professional analogue tape hardware, persisted until 2014 although it still produces heads for them. The only current production decks I know of are to be found in a range from curiously-named German manufacturer Ballfinger. They sell for nearly £10,000...and up.

That hasn't however stalled the resurgence of interest in quarter-inch tape, especially in the more

serious echelons of audiophilia. Indeed, there's money to be made through refurbishing the classic decks of yesteryear - especially if their electronics is replaced with today's state-of-the-art. RTM has resumed the manufacture of blank media with classic BASF characteristics, while audiophile-standard pre-recorded tapes are available for those with deep pockets (£200 and up). But there's something we mustn't overlook - the empty reel that 'takes up' your precious tape. I can remember them being given away in multi-pack deals by tape manufacturers like Maxell, but that was a long time ago. Today they aren't so easy to come by and so tape addicts may have to rely on used reels.

Over the years, these old reels may have bent, cracked or warped. Such deterioration is responsible for a annoying periodic tsch...tsch...tsch sound, caused by precious tape rubbing on the flanges - the two large discs that stop tape from spilling off the hub. In the worst case, damage can be inflicted on the music-carrying tape surface.

Furthermore, winding is usually uneven. This makes the tape more susceptible to dust ingress, and hence playback dropouts. Thank heavens then for the work of RX Reels, a company hailing from the Pacific Northwest. It has come up with a new 10.5in. reel that will never warp, because it's made of an esoteric 12-layer carbon-fibre material originally intended for aerospace use.

In the old days the flanges of 10.5in. spools were mass-made by stamping them from sheets of aluminium. These were then fastened to a plastic hub with cut-outs dimensioned for NAB adaptors. The two halves of the cheaper plastic reels, with integrated hubs designed to fit spindles directly, were cheaply-produced in moulds. None of this was good enough for RX Reels - a video on its website shows just how much effort is expended in its unique manufacturing process. Numerous stages produce the laminate sheets, from which the flanges are cut using CNC (computer numerical controlled)





jets of high-pressure water. Using other CNC tools, countersunk holes are drilled for RX Reels precision hub, a unique serial number laser-etched (you can see this inside the reel) and the finish applied. After the hub is attached, each finished reel is checked for balance.

The review sample arrived in a beautiful presentation box, which itself smacks of luxury. With cut-outs that will be familiar to owners of Technics RS-series decks, our reel had an attractive 'wood-grain' pattern; there are also five other finishes to choose from, plus a



**The flanges of RX Reels, which have a thickness of just over 2mm, are made from upcycled aerospace-grade carbon fibre for toughness and longevity. They don't warp and are resistant to bending. The iconic 'Technics-pattern' cutouts, made using a high-pressure jet of water under computer control, were chosen because they "make tape threading easier".**

custom option. Its exceptional quality, the result of precision manufacturing, was obvious; those flanges are utterly flat. I used the RX Reel to play a number of tapes, some of which are particularly precious because they are late-1950s 15ips masters of experimental stereo material, on my pedestal-mounted ex-broadcast Preco F500. The tape wound smoothly onto the RX Reel with no tell-tale scrapes, and the resulting tape pancake was as flat as – well, you get the idea. This, I noted, was also true when the tape was fast-wound.

Thanks to RX Reels careful balance, fast-winding is quieter than with lesser articles due to a considerable reduction in vibration - which is itself a good thing, for the life of your deck's reel motors. The lack of physical noise during playback isn't the only audible benefit - I also found that the stereo image was more solid and better defined. Quite frankly, it's highly unlikely you'll find a better spool for your deck. RX Reel's considerable attention to detail doesn't alas come cheap - \$239, plus postage and duty - but chances are you'll never need to buy another takeup reel again. I hope that RX Reels also decides to produce a 7in. version for the benefit of those with older pre-recorded tapes to play, or smaller decks!



**The flanges are secured to either side of this NAB hub, which is machined out of solid aluminium to RX Reels' specifications. In contrast, most NAB hubs are plastic mouldings. Manufacturing tolerances for this 23-gram hub are claimed to be "below two thousandths of an inch". Twelve countersunk screws keep the lightweight but strong carbon-fibre flanges in position.**

#### CONCLUSION

If you take reel-to-reel seriously, do yourself a favour and give an RX Reel a spin. It takes better care of your precious tape, will aid sound quality and could even prolong the life of your machine. Oh, and it looks the business too!

**RX REELS  
NAB-HUB TAKEUP  
SPOOL \$239**  
(PLUS \$51.36 UPS  
SHIPPING AND  
CUSTOMS DUTIES)



**OUTSTANDING** - amongst the best.

#### VERDICT

A solid recommendation to tape fans.

#### FOR

- built to last a lifetime
- precision take-up and winding of tape
- imaging improvements

#### AGAINST

- rather pricey
- no 7in. version yet available

RX Reels,  
[www.rxreels.com](http://www.rxreels.com)



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"One of the obvious features of the Quickstep was its use of exclusive rhodium-plated GNI 4mm banana plugs that, like the cables themselves, are hand-made in Black Rhodium's Derby factory. So proud of these 'single-line connect' plugs is Nalty – in his

words, they're "possibly the best speaker plugs for sound quality we know" – that he used his initials in their name.

Great though the Quicksteps were, you can't rest on your laurels in this game; although reviewers and customers alike praised their many virtues – among them clarity and speed, as well as overall musicality – some felt that bass delivery took a back-seat. Hence the Quickstep S, its replacement. This is claimed to deliver "more powerful bass", in addition to "clearer mid-range frequencies and smoother but

well-detailed high frequencies". To meet these objectives, Black Rhodium increased the cross-sectional area of the conductors and used new RFI screening to "minimise distortion from external interference". Unfortunately, all of this comes at a price; the new cable will cost you 50% more than the original Quickstep did.

The GNI plugs of the well-constructed 3m review samples mated securely with the speaker terminals of my Cambridge Edge A power amplifier".

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**September 2021  
Competition,  
Hi-Fi World magazine,  
Office 052  
464 Edgware Road  
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W2 1AH**

## QUESTIONS

**[1] Where is the factory?**

- [a] Deal
- [b] Derby
- [c] Dover
- [d] Daventry

**[2] GNI plugs are named after -**

- [a] Gary Neville
- [b] Geraldine Newman
- [c] Graham Nalty
- [d] Godzilla Nemesis

**[3] They deliver more powerful -**

- [a] bass
- [b] vibrations
- [c] supersonics
- [d] harmonics

**[4] The highs are -**

- [a] well-detailed
- [b] sunlit
- [c] chrome plated
- [d] on holiday

## RULES AND CONDITIONS OF ENTRY

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- MULTIPLE ENTRIES WILL BE AUTOMATICALLY DISQUALIFIED
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**JUNE 2021 WINNER: EXPOSURE XM CD PLAYER  
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# 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.

## LETTER OF THE MONTH PRIZE



### 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 ANTONY PARKIN, Letter of the Month winner in our AUGUST 2021 issue.**

## Letter of the Month

### BEING PRECISE

A precision task deserves a precision tool. This is especially important in the hi-fi arena where we strive for musical excellence, which in most cases requires accuracy of alignment in order to ensure accuracy in reproduction and the harnessing of all recorded information.

I recently solved a long term annoyance relating to SME arms – specifically Model 309, Series IV and Series V when used on Technics 1200 series turntables. Following David Price's seminal article "Step Change" in August 2009 Hi-Fi World and subsequent articles by Timestep's Dave Cawley I suspect I am one of many who has played with the pairing of an SME arm in the venerable 1200 series direct drive vinyl spinners.

My hi-fi-loving wife (no need for WAF compliance in our household – we both appreciate the joys of a house full of LPs and CDs) and I have a 1210 Mk II with SMEV and (currently) G1042 plus a 1210 M5G Grandmaster with SMEV and 2M Black, and no, before anyone suggests, there is no scratching or mixing going on between them. Consider one as a reserve



**The SME V arm of the Watsons. "The SME V is indeed a tight fit on a 1210. In fact, depending on your arm board and cartridge, it can be so tight that it becomes very tricky" to adjust says James Watson.**

We have an Orbe SE too with an Origin Live Conqueror Mk III and Benz Micro ACE SL but that's enough turntable boasting for now.

David Price was quite right – the SMEV is indeed a tight fit on a 1210. In fact, depending on your arm board and cartridge, it can be so tight that it becomes very tricky,

if not impossible, to get the correct VTA. I had to improvise a shim for the G1042 but with a Mike New solid copper arm board and a 2M Black I find VTA alignment is achievable, on the very lower limit where SME's stylish arm clamp bracket is effectively a fag paper shy of touching the 1210 surface

HTA (Horizontal Tracking Angle) is achievable, but hitherto a right old fuff! This is because the HTA key supplied by SME with the arm will not fit in the well created by a recessed arm board, necessary on account of the very thin platter of the 1210, itself recessed into the deck to make the whole affair look minimalist and sleek for those tune spinning jockeys in the bars and clubs

SME lovers will be well aware that all adjustment of the 309, IV and V takes place at the pivot end of the arm. The base features a precision pair of sliders, clamped together in service, but with a rack and pinion style adjustment to give very fine and intuitive control of the horizontal distance of the arm pivot from the spindle. The supplied HTA key makes this a joy to align, when it fits!



**"I am now the proud owner of a bespoke SME HTA key, designed specifically to adjust SME arms on Technics 1200 series decks" says James Watson.**

After many arm and cartridge changes between decks, and experimenting with different arm boards, I have come to know the annoyance of carefully yet firmly tugging the arm pivot post back and forth and constantly checking the cartridge alignment, and inevitably overshooting.

I phoned Technics and SME guru Dave Cawley in Dartmouth who recounted identical experiences, and he must have set up way more decks than I. I couldn't believe that other people did not suffer this same challenge and had not raised this with SME so I called SME's legendary service manager Brian Laker at their Steyning factory who instinctively seemed to know exactly what I meant but assured me I was the first customer to raise it with his team.

I sent Brian some photos illustrating the issue and even included a prototype made with a bendy drinking straw (one I



**We use this Bahco tool to turn the hex head screws from an angle, then push the sled.**

saved from before the ban) so he could get a firm feel for required alterations to the HTA key dimensions. Essentially a 10mm shaving off the shank would do the trick and could then be maneuvered into the adjustment socket.

Brian undertook to fabricate a shorter key on their next production run and I am now the proud owner of a bespoke SME HTA key, designed specifically to adjust SME arms on Technics 1200 series decks. Hooray. I attach a photo of the key in use and the regular supplied HTA key for comparison. The SME part number is 5892 according to my invoice, and the modest price included the usual friendly service and recorded delivery.

I thought I would share this with the Hi-Fi World readership which probably includes most of the users of hi-fi applications of the 1200 series with after-sales mods on the planet, just in case anyone wanted to restore the precision adjustment options they come to expect from SME arms. I expect HFV Towers will want a couple for the listening room and measurement lab. I checked and made minor adjustment to one of our arm / cartridge setups just now and the whole process took me 5 minutes

so I could crack on and enjoy some direct drive precision with the solid grip of a Series V riding the canyon of analogue data.

We continue to enjoy the magazine, **James & Sarah Watson.**

Hi James. Very nice of SME to make you a special key for the fine adjustment rack. We make do without it, using a Bahco key with its clever end-ball, to rotate the hex head screws from an angle. Sad that SME arms are not now available for turntables other than their own. **NK**

#### AGEING ORBE

I'd appreciate your thoughts on a turntable upgrade. Currently I have an Orbe (+) SME IV arm (silver wired) which I've had for over 15 years. My dealer has suggested that I upgrade to an SME Model 15 (+) SME V arm. The cost to change (inc trade-in) would be approx: £10k. And I'm not too sure this makes sense.

I seem to recall that when the Michell Orbe first came out it was at the same price-point as the SME Model 2012 and was generally considered by the press (and



**"I have an Orbe (+) SME IV arm (silver wired) which I've had for over 15 years. My dealer has suggested that I upgrade to an SME Model 15 (+) SME V arm." says Zap (the Orbe here has a Rega arm).**



**Rega's Planar 10 with its three-point fixing headshell and cartridge offers extraordinary sound quality.**

mags) to be a direct competitor and alternative to SME 20, especially when fitted with either an SME IV or V arm.

I notice that SME have stopped selling the IV & V arms direct and that they are only available when bought with a turntable [Model 15, 20 or 30]. The reason given was that the arms were too popular and they couldn't manufacture them in sufficient numbers to supply both their own turntables and as a stand-alone product. This does seem a tad strange: a commercial company refusing to manufacture and sell a product because too many people want to buy it (?) It seems doubly strange when you realise that SME have just bought Loricraft and will now be refurbishing Garrard 301s & 401s and, presumably, producing vinyl cleaning machines.

SME have also released a new range of turntables, complete with tonearm and inbuilt phono stage, aimed at the more consumer end of the market. All of which makes me wonder if they are moving away from their traditional product line and customer base. Perhaps, at their price-point, the SME turntable range is no longer competitive in terms of performance & quality.

And so I'm not convinced that a £10k upgrade from a Michell Orbe (+) SME IV to an SME Model 15 (+) Series V arm is really the best option. My dealer recommends it... but then... Mandy Rice-Davis immediately springs to mind.

**All the best,  
Zap.**

Hi Zap. Your Michell Orbe with SME IV is going to be difficult to improve upon. Why do you want to change it? Is speed becoming unstable, are you getting watery pitch? Perhaps a belt change and

a bit of oil in the main bearing would help. Otherwise you could consider moving to Direct Drive, but this gives a drier sound. There are difficulties shoe-horning an SME into Technics DD turntables, a special adaptor is needed. Timestep were the experts at this but have wound their business down to retire I believe. You could speak to Peak Hi-Fi, or even Michell. If the sound lacks life then it is most likely the cartridge needs changing, not the complete turntable.

If the upgrade bug is irresistible don't ignore Rega's amazing Planar 10 reviewed in our March 20 issue. Mandy would have approved. **NK**

### TRIODE HEAVEN

The sound of a 300B amplifier is the closest thing to heaven to my ears. You've recently reviewed PrimaLuna's Evo 300 integrated amp and a couple years ago you reviewed Icon Audio's 300B amp.

I use Icon Audio's PS1 from my turntable into a Unison Research Unico Primo integrated. I'm currently saving to trade in the Primo for a pure valve integrated. I've listened to David's 30, 40, 60 and 300B in his listening room. Friends have recommended that I audition PrimaLuna's Evo 400 integrated because of the reviews and impressive power for a valve amp. Because of the weight of both amplifiers I can't audition them at home to hear the differences side by side.

I'm wondering (and will understand your exasperation at the question I'm about to ask) if you have any guidance for me given my utter falling in love with David's 300B sonics vs the PrimaLuna approach.

Sincerely,  
**Deanne.**

Hi Deanne. There isn't a lot in it to be frank. PrimaLuna use an automatic biasing system whilst Icon tend to use 'fixed bias', which you have to adjust – but this is easy enough with their metering system. Don't be swayed by power specs, unless you like to play really loud or have insensitive (small) loudspeakers. On sound, both manufacturers get the best from the valves used, but only Icon Audio make a 300B amplifier. The PrimaLuna 300 specifically does not and cannot use 300Bs. They prefer EL34s, but it will accept KT-150s.

If you like the sound of the legendary 300B triode – and who could not! – then I suggest you talk to David Shaw about it. I suspect he will, like me, advise you consider individual 300B types and their cost. Remember, this is an expensive tube and comes in many specialised forms. **NK**

### RUSSIAN MYSTERY

There is no such valve as a 6B33C. I imagine you are thinking of what is commonly called a 6C33C-B but should be called a 6S33S-V as C and B represent in the Cyrillic alphabet



**"The sound of a 300B amplifier is the closest thing to heaven to my ears" says Deanne. Icon Audio build a lovely amplifier for it, shown here.**

what are S and V in the Roman alphabet.

It is not a crazy name. If you consult the article on Russian tube designation in Wikipedia you will find that in the Soviet system 6 means 6.3V heater, first S = triode, 33 is a serial number, second S means glass envelope with a diameter of 22.5mm or more with an octal base and V = special quality.

It is not a transmitting valve but the valve used as a pass element in a



**"What is commonly called a 6C33C-B. It is not a crazy name" says David Mansell. Shown here in an Almarro single-ended amplifier where its low impedance eases transformer design, and bright glow looks good.**

regulated power supply much like the 6080 double triode.

Erno Borbely published a design for a single-ended stereo amplifier using it in *Glass Audio* in 1996 much as Tim de Paravicini published a design for the same kind of amplifier using the 6080 in your magazine in 1993.

In your answer to Alasdair Beal's letter you say "In their day valves were not designed to sound good". What is that supposed to mean? Valves were designed for all sorts of purposes but some were designed for audio. I presume their manufacturers had an idea that they help to make hi-fi systems "sound good".

Best wishes,

**David Mansell**

Hi David. Sorry for my transpositional blooper. I did indeed mean a 6C33B that to me, not understanding Russian, never seemed very sensible – meaning it can't be easily remembered. Bad for business. Even current Russian

valves from Sovtek, for example, have more memorable titles than this strange device. It does look good though! **NK**

### TALKING TIBO

You might be interested in this background information on the Tibo Bond 3 network audio bridge (£53 on Amazon). The internal DAC is a Cirrus Logic Crystal CS8416 with built in jitter correction.

I remain bowled over by its sound quality when taking audio output, via a mini-jack to phono cable, into my Prima Luna valve amplifier and Magneplanar loudspeakers. I listened to a wide range of classical music up to 192/24 for a whole day and was completely satisfied. It gave an accurate portrayal of the sound of each instrument. It was not rolled off at the extremes. It conveyed dynamic range. It set up a believable sound stage and spread of instruments. The only downside compared to expensive DACs

was that instrument location was a little vague and instruments became congested in dense passages. But the overall sound remained enjoyable.

The Tibo is ridiculously cheap and quite apart from my use in a wired network it can provide an enormously comprehensive range of wi-fi services via an easy to use app. It is really designed to be a wi-fi unit and my use is not typical – but I was happy at the price.

It does not seem to output a high def signal to an external DAC but it still allows use with a higher quality external DAC for CD quality files.

The flashing light is a wired network issue as explained and did not occur when hard wired into the main router network. The unit still worked perfectly so my 'work around' is: point the light to the wall !!

Best wishes,

**Mike Tartaglia Kershaw**

Hi Mike. Interesting about your experiences with the Tibo Bond

3 network player, built in the UK but priced as if Chinese. Looks good. It appears to use a Crystal Semiconductor CS8416 network receiver, feeding an AKM AK4388 DAC that delivers analogue output via a 3.5mm stereo jack socket. Can it resolve 24bit for true hi-res quality? Don't know until we measure it.

Here are some hopefully helpful observations about streamers and their apps, based on my experiences.

Firstly, connect up wired through ethernet if you can. The device will talk to the router and appear as a client. With a BT SmartHub2, that most (70%) of the UK uses, check the router's client list through the web browser (Safari, Google Chrome, Firefox etc). Read the router's User Manual for how to do this. When the device appears (often as 'Unknown') you are in business. Wi-fi settings can usually be entered at this point, for later connection via wi-fi.

As you note, apps are interchangeable in that they see inputs and outputs and can address them. They do not read individual device functions however. You can often use mConnect or 8Player to see and play files. I use Onkyo HF player, aimed at audiophiles, and Audirvana now have a player app.

Most wi-fi control systems send signal direct from source to receiver through wired ethernet link, or wi-fi. An exception is PlayFi that runs the stream through the 'phone, making quality and all else dependent upon 'phone technology and reception conditions. Lots of



**If you want an iOS app designed for Audiophiles, Onkyo's HF player with its hi-res (£10) option is worth getting. It exploits 24bit resolution on iPhone/iPad.**



**Tibo Bond 3. "I remain bowled over by its sound quality" says Mike Tartaglia Kershaw.**

fingers crossed here. If you want to check, start Play then turn the phone off. The music should keep playing; if it doesn't then it's passing through the 'phone.

I hope this helps. **NK**

### KIT BUILDING

The mention of kit building in the review of the World Design PRE 4 amp and PSU 3 brought back my kit building experience memories. The kits I built in the 1960s were from the Heathkit brand. I started with an integrated amp, mostly this was wired using tag strips, not printed circuit boards, just like the ready made valve amps of the day, Leak etc. The Heathkit manuals were very well laid out and relatively easy to follow.

When the day came for the big switch on, I asked my dad to perform the ceremony. He duly did so, switching on the amp first then – after plugging the mains plug into the wall socket – he switched the amp on with a long piece of wood!

Fortunately all was well. At the time, I didn't know what a variac was, which I since have learnt is the best way of applying mains voltage slowly if you weren't sure how the item would behave at full mains voltage i.e. the appearance of smoke!

Flushed with success, I went on to build a Heathkit FM tuner and decoder; all went well. I certainly went into smug mode as a result.

As the Heathkit amp was a stereo unit, I had to make another loudspeaker cabinet to go with my existing Goodmans Axiette 8 cabinet. I did this in my school's woodwork club, it actually counted towards my GCSE woodwork exam.

This kit building was a great experience, not sure I would want to do it now though.

I suspect some of the HFW readership will remember the Heathkit brand, it would be great to hear other people's kit building

experiences.

As well as an audio range of kits, Heathkit marketed test gear and amateur radio communications receivers too.

Regards,

**Mike Bickley.**

Hi Mike. I remember them as 'Daystrom of Gloucester' and eagerly built their simple oscilloscope. Gave the right pictures but made me realise I needed something better! As you say though, those early kits

original Denon DL110 is back! Even though my decade old Denon DL110 is still going strong I bought the new one from Amazon. It looks a bit different but it is still the same red colour high output moving coil I love – and made in Japan I am told.

I hope you will test the new Technics SL-100C DD turntable and compare it to the Audio Technica LP5. Is it a worthwhile upgrade from my Audio Technica LP5 which you tested long ago?

Best Regards,

**Keith Fonseca.**

Hi Keith. We hope to review the new Technics SL-100C Direct Drive turntable (£800) shortly. With damped two-part chassis of aluminium and glass fibre, plus a damped alloy platter and quality S shaped arm it certainly looks good. There is an auto-lifter too, for silence when play ends. These are very civilised. Looks like it only lifts at end though; there's no powered lift/lower as in the Teac TN-5BB in this issue. The Audio Technica AT-95C cartridge fitted has a conical



**There are few audio kits available these days. World Design still make them however.**

were a great introduction to DIY electronics and must have given a lot of now-forgotten satisfaction. World Design kits followed in their path, giving superb sound from even better basics. **NK**

### ZZ TIP

I have been buying a lot of re-issue vinyl. Sound quality has ranged from good to poor. I am not sure why – poor mastering?

I was particularly disappointed with the ZZ Top Eliminator reissue (EU). When I first heard the brand new 180gm LP I thought something had gone wrong with my system. I am not exaggerating. Luckily, I had my 30 year old well used original – no comparison! The old record sounds much better

Now for some good news. The

tip and is a bit basic for such a good turntable but the stylus can be upgraded simply and cheaply to Microlinear or Shibata. Looks good that's for sure. **NK**

### THE RIGHT ANGLE

I am writing with regard to a cartridge's VTA/SRA angle and it concerns the Audio-Technica AT-OC9XSH (Shibata stylus) which I purchased recently and I know that you reviewed this cartridge a couple of years back and gave it a good rating.

I have spent quite a lot of time setting up the cartridge exactly: Lateral Tracking Error/Overhang, Azimuth, Bias correction, Tracking weight (2g) but the only 'grey area' of setting up of any cartridge seems to be the VTA/SRA angle which, in the



case of the OC9SXH is supposed to be 20degrees, and by all accounts with a Shibata stylus it's quite important to get the VTA angle as accurate as possible.

At present I have set the arm/headshell slightly down from level at the Pivot/Bearing end but I have no idea if this is optimal for this cartridge and it's a pity that the cartridge manufacturers aren't more



**"Even though my decade old Denon DL110 cartridge is still going strong I bought the new one from Amazon" says Keith Fonseca.**

helpful on this subject! On my tests using my 5 different test records incredibly it sailed through all the test bands I subjected it to, including the low frequency resonance test bands (possibly in part due to the arm damping) with no vertical resonance visible.

I don't know which side of the fence you belong to but there seems to be widely varying views on the relative importance of accurate VTA/SRA angle. On the one side you have people like Roy Gandy, Geoff Husband (of TNT-Audio) who don't seem to place overriding importance in it, and others like Roy Gregory and (possibly) Michael Fremer place great importance on getting the VTA spot on! in fact, Roy Gregory says that under some conditions you should be able to adjust it 'on the fly' and for differing platter mat thicknesses!

Some say that you can only set-up the VTA by listening and adjusting but that isn't as easy as it sounds. If it's not too much trouble, could you tell me how you set-up the VTA angle on the AT-OC9SXH's when you reviewed it: Cartridge Nose down / Tail down or level? Thanks for any info you can give on this thorny subject and I apologise for the length of this query.

Regards,  
**Alvin Kearsley.**

Hi Alvin. Vinyl is a technically ad-hoc medium that suffers substantial variability, as I know

from measurement. Long ago Benjamin Bauer of CBS Labs wrote at length about the variability imposed by the phenomenon of lacquer spring-back in the cutting process, especially with regard to obtaining correct alignment to a Vertical Tracking Angle in the playback cartridge set at the standard of 22 degrees. LPs vary widely in this respect: you can only hope to get the cartridge into the correct operating area unless you are prepared to adjust for each and every LP individually – hardly realistic. This explains the two differing views you mention.

It gets worse. Most cartridges have a VTA higher than 22 degrees, in the 25-30 degree region according to the DIN 45 542 test disc I use. This is to maintain good disc clearance. To adjust for high VTA you need to lower the pillar, not raise it. Trouble is 5mm movement here amounts to 1 degree angular change at the stylus, meaning it's impossible to make useful VTA changes here – something that is overlooked in discussions. However, the AT OC9X is one of the few accurately

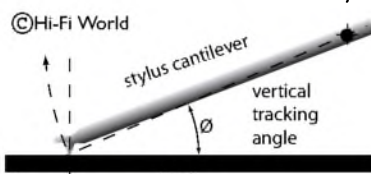
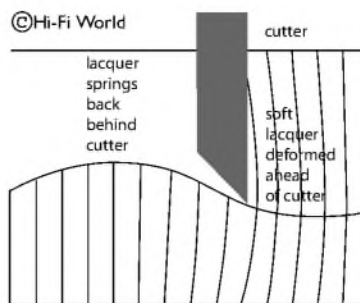


Fig 1  
**Vertical Tracking Angle.**

set to 22 degrees, our review October 2019 issue found.

What are people hearing when changing arm height? More likely change of stylus rake angle (SRA) – a critical factor with modern line contact types in particular.

In your case, because the OC9X SH has correct VTA and because you need to get the Shibata well aligned I suggest you simply set the arm horizontal and relax. **NK**



**Lacquer Springback makes VTA approximate.**

### STILL A STAR

I was pleased to see the review of the Naim Uniti Star in the July issue, though it seemed a bit overdue. Despite what many might regard as mediocre technical performance it was no surprise to me to see it get 5 stars. I have an original Uniti, now 10 years old, which has similar limitations in the digital domain. However, from a sound point of view it is brilliant. I noted the comment regarding the top mounted volume control which I totally agree with. It might have been justified if the colour screen had been touch sensitive, thus giving the opportunity to control everything if the Uniti was in reach, otherwise it is a waste of space and money.

This is a real shame when Naim actually removed one really useful function from the original, the loss of which would prevent me at least from upgrading to a new Uniti. I am referring to the loudspeaker setup capability offering Large+sub / Large / Small+sub. I use the latter where the Uniti curtails the output to the main loudspeakers with a 100Hz high pass filter, thus preventing sub 100Hz signals from getting to my PMC twenty2's. Bass is then supported by a BK sub bass, via a digital signal processor. For a product like the Uniti I think that this is a really useful function. NAD (M10/M33) support such functionality so, if my trusty Uniti does ever fail I may, with regret, need to go to a non UK product. Regards,  
**Denis Holliday, Kent.**



**Naim Uniti Star. "I have a Uniti and from a sound point of view it is brilliant" says Denis Holliday.**

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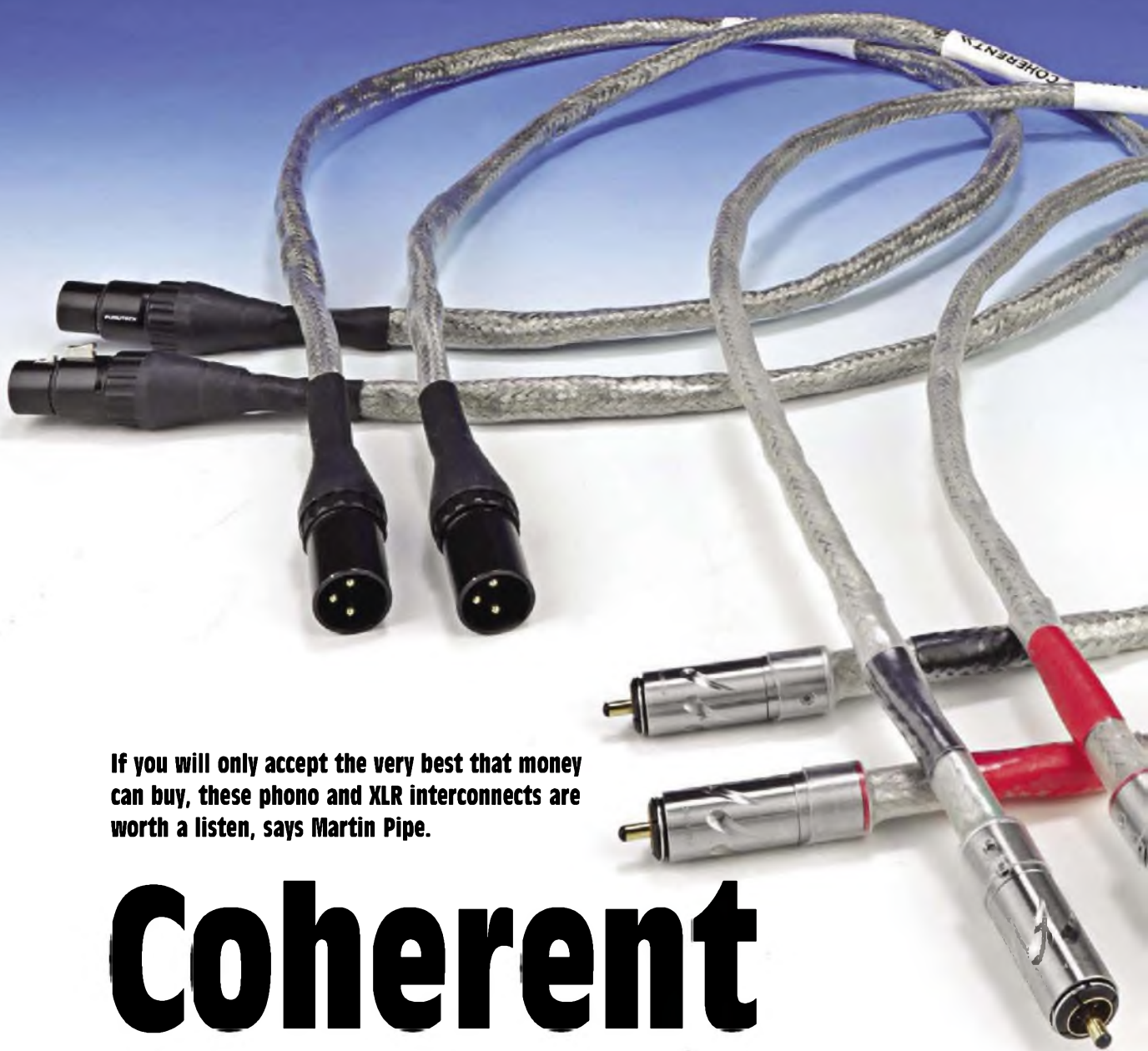
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**If you will only accept the very best that money can buy, these phono and XLR interconnects are worth a listen, says Martin Pipe.**

# Coherent Strategy

**L**ast month, we brought you a review of the 6D 'Generation 2' speaker cables from Buckinghamshire-based Coherent Systems. And we do mean high-end; those 6Ds - £2,800 for a 2m pair - don't even top the firm's range.

It's unusual for retailers to get into manufacturing but the very nature of their business means they have a pretty good idea of what the customer wants. If there's a gap in the market, why not fill it yourself? Coherent has been doing this, in

one form or another, for nearly two decades. It helps of course if you have a strong technical knowledge and the facilities to back it up. Thankfully Coherent is in that position - it has, for example, conducted original research into the effects of radio-frequency (RF) interference using advanced spectrum analysers, not needing to outsource to a third party.

Here we have another take on the 6D Gen 2 story - the cables that interconnect sources with amplifiers, or preamps and power amps. Coherent supplied for review

unbalanced (RCA phono; £2495, for a 1m pair) and balanced (XLR; £2995 per 1m pair) versions. In other words, we're talking pretty serious stuff here. As with the previously-examined speaker cables, they are hand-built to exacting standards. All of the materials are specially-made by Coherent; few other companies go to the trouble of drawing, plating and then cryogenically-treating their own wire! It's far more common to buy in such materials, and then implement your design with them - compromises may have to be

accepted, though. Various purpose-designed dielectrics are also used, but Coherent is keeping to itself the precise

by the firm's technical director Tony Sallis that "the RCA and XLR use the same conductor material and dielectric make up...there are three dielectrics on the 6D Gen 2 analogue cables". Coherent also confirmed that the



phono version is terminated with collar-locked Furutech FT-111 plugs. Before settling on this connector, Sallis explained he had evaluated "over 30 RCA plugs". For the XLR version, the FP-701M (male) and FP-702F (female) connectors have been specified. All are serious audiophile-grade components, but Coherent doesn't use them as supplied from Japan. They only make the grade after a fastidious process that involves dismantling, acid-stripping, ultrasonic cleaning, gold-plating and reassembly.

of these – and, for that matter, other elements of the cable's internal makeup. Coherent doesn't make its own connectors, but the ones it chooses – in this case, from Furutech – are carefully-chosen for the best possible sound quality. The standard of construction reflects the asking price, and its heavy-duty shielding – a manifestation of that research – is visible through the 6D Gen 2's tough jacket. This is transparent, save for a piece of sleeving that identifies the cable and indicates the direction of optimal signal flow. The XLR cable is moderately thicker than the phono variety, on account of the balanced connection's additional signal core. This carries an anti-phase version of the normal audio you'll find on the other wire; the basic idea is that interference picked up by both cores over the length of the cable will be cancelled out by the subsequent circuitry. That's why balanced connections are essential for professional audio, such as recording studios and broadcasting.

We might not know the secrets of Coherent's internal cable construction, and given their expense I'm not going to risk unnecessary damage by taking them apart! However, I was assured

There's no need to burn in 6D Gen 2 cables, as Coherent does this for you. However, I initially used the RCA phono version to link a Chord Qutest DAC and ANT Audio Amber 3T headphone amp – they form part of a personal listening system I use while working. Such an arrangement also presents a good real world opportunity for the burning-in of cables; it's less annoying than white noise! However, I encountered a problem – intermittent audio and hum, at what appeared to the Amber end of the cable. I then noted that the central pin of the Furutech plug was shorter (approximately 5mm) than the ones forming parts of other phono cables to hand. Running a wide gamut from 'bundled junk' to hi-fi, these measured 8mm or thereabouts. I alerted Tony Sallis of my findings, and he told me that he "genuinely never had any issues" with the Furutech plugs, with which

he had clocked up three years of experience. They're even, he says, in his personal system.

I then tried the cables with a wide range of equipment, ranging from tuners and phono stages to streamers and amps, and couldn't replicate the intermittency. Note that my other phono cables, with 8mm pins, worked fine with my Chord/Amber combo. You therefore cannot guarantee that the Furutech's shorter pin won't cause issues with a tiny minority of phono sockets. Coherent has however alerted Furutech to my findings, and will resolve any issues with customers "ASAP". These experiences were not repeated with the 6D Gen 2 XLRs. Unlike the consumer-grade RCA phono, the XLR is a pro-grade connector. There can be no room for misinterpretation of specs here – if your radio station goes crackly, or that once-in-a-lifetime recording session is ruined, trouble will inevitably follow!

For the main listening test, these cables were used – in turn – to interconnect a Cambridge Edge NQ streamer/preamp and W power amp, the latter driving Quadral Aurum Wotan VIII speakers. The Cambridge gear supports both, depending on the position of a small switch. It is telling that despite the different sets of connections (and internal electronics) there's a definite similarity in terms of presentation. But then again, balanced connections really come into their own over long distances – not the metre or so involved here. The character is, as with the 6D Gen 2 speaker cables, one of transparency – just as it should be. Compared to budget audiophile and studio-issue XLR interconnects, I found that I could with greater ease pick out subtleties that had hitherto been buried in the background. With recordings of the appropriate standard, one cannot fault these cables when it comes to dynamics and their ability to convey rhythm; the noise floor seems to have dropped perceptibly too.

**CONCLUSION**

Once again, Coherent's policy of building cables from scratch seems to have worked. Those with high-grade systems should give them a try. Hopefully, unreceptive phono sockets are in the minority.

**COHERENT 6D GENERATION 2 PHONO CABLES**  
£2495  
(PHONO, 1M PAIR)

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**OUTSTANDING - amongst the best.**

**VERDICT**  
Coherent's attention to details ensures these 6D cables are strong high-end contenders.

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# Pure Light

The Lumina V from Sonus Faber lights up music Noel Keywood says.



These Sonus Faber loudspeakers took me by surprise. They sounded very different to previous ones I've reviewed, and against our Martin Logan ESL-X hybrid electrostatic references the Lumina Vs, price £2500, held their own. Worrying!

Act of faith: box loudspeakers with multiple drive units cannot and do not sound like open panel electrostatics. I ran the Lumina Vs beside our ESL-Xs and differences were obvious. But at times I did wonder whether the Lumina Vs would be more appealing to most listeners. Not "better" just more appealing. Hence my comment of "worrying". I'll say more about this later in Sound Quality.

The Lumina Vs come in a standard design format of three-way box loudspeaker, but with a large port hidden in the base. At top of the drive unit array is a 29mm (relatively large) Damped Apex Dome (DAD) silk dome tweeter. The damping at the apex of the dome looked like a small phase-plate to me, a device used to smooth treble response, but a close look showed it wasn't. A small cone behind the plate actually contacts the top of the tweeter dome to damp it. Hmm... a novel idea.

Most domes have a diameter of 1in or 25mm; using a bigger one suggests a lower crossover frequency and indeed Sonus Faber quote crossover 2.6kHz instead of the more common 3kHz, benefit being better phase integration at crossover due to longer wavelength.

Below the tweeter sits a 150mm

(5in) paper cone midrange driver that covers the important midband, working all the way down to 260Hz. Behind it and the tweeter is a “lute shaped” chamber, Sonus Faber say, that is both rigid and disperses rear waves.

Below the chamber and firing into the rest of the cabinet volume are two 165mm bass units with sandwich cones comprising cellulose pulp sandwiching a ‘syntactic foam’ layer.

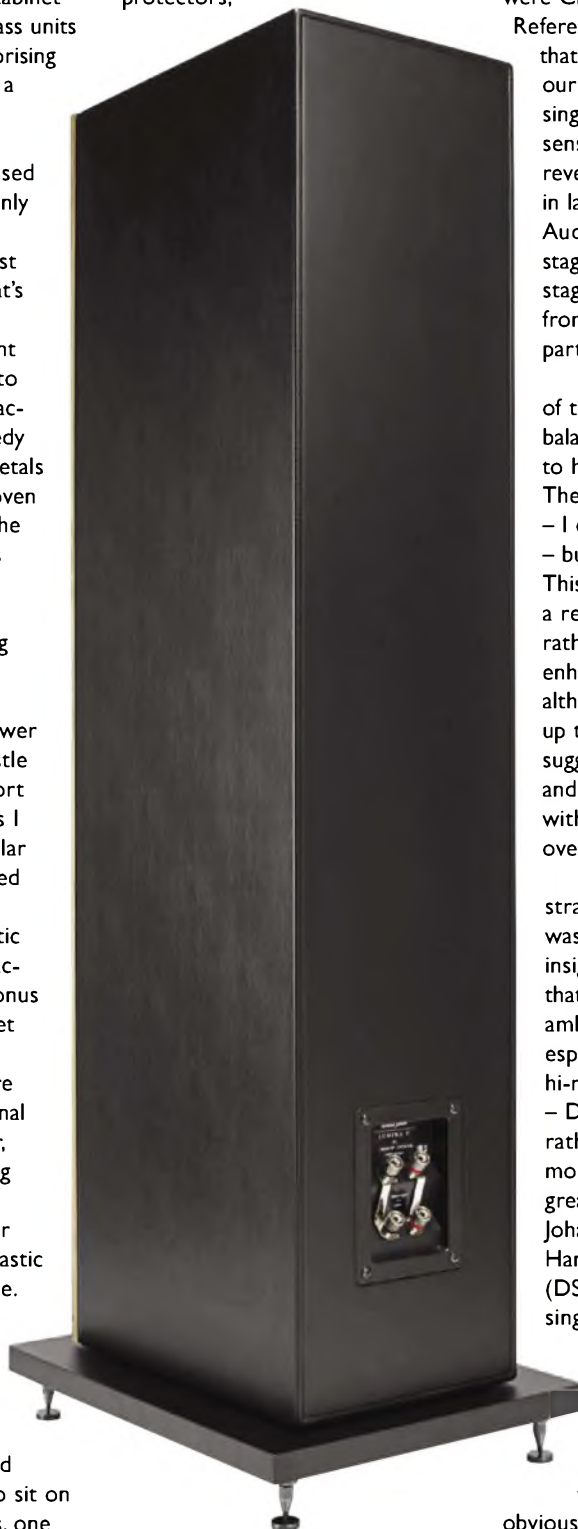
Point to note straight away is that metal is not used in any of the drive units, only natural fibres. This gives a darker sound that’s less fast and zingy, but also one that’s more organically natural since there are no resonant materials. It comes down to design ethos: some manufacturers like the bright, speedy sound that comes from metals and stiff synthetics like woven glass fibre, others prefer the easier delivery that comes from plastics and paper.

Not visible is the port that imposes reflex loading upon the two bass units. It faces downward and is surprisingly large, giving lower distortion as a result. Castle used a downward firing port long ago, in the Howard as I recall. It has become popular since then and can be tuned by lifting or lowering the cabinet to alter the acoustic resistance, but few manufacturers do this, including Sonus Faber. The Lumina V cabinet sits on supplied spikes for ground clearance and there are discs that act as optional floor protectors. However, I had great difficulty getting the speakers onto them without damaging the floor first. Feet with attached plastic domes would be preferable. Otherwise the weight of 22.5kg per loudspeaker must be coped with by leaning the speaker over so spikes could be screwed in from below and the speaker tipped back to sit on the metal floor protectors, one side at a time.

The weight comes from a sturdy cabinet with multilayer wood front baffle, ours being finished in walnut with maple inlays, but wenge or black are

options. The rear is covered in black leather, Sonus Faber again drawing attention to the fact that this is a “natural” loudspeaker. There are black grilles held on by magnets, for those that would rather hide the drivers.

At 1055mm high on the floor protectors,



***The plinth is held above the floor by spikes, to give space for a bottom firing port. Protective pads are supplied but difficult to fit.***

280mm wide and 373mm deep the Lumina V is quite tall and imposing.

## SOUND QUALITY

I drove the Luminas from our Creek Voyage iA20 amplifier, and also by the Cambridge Audio Evo 150 reviewed in this issue. Cables were Chord Company Signature Reference screened. It struck me that the Luminas would suit our Icon Audio Stereo30 SE single-ended valve amplifier, in sensitivity, tonal balance and revelation, so this was wheeled in last, together with Icon Audio PS3 Mk2 valve phono stage to see just how much stage depth would appear from live recorded LPs in particular.

Where Sonus Fabers of the past have had a bright balance the company seems to have had a change of heart. The tweeter is audibly present – I could hear its contribution – but not by unnatural degree. This has given the Lumina V a reasonably natural balance, rather than an obviously enhanced one shall I say, although it was still forthright up top. Measurement suggested this would be so and it was. I felt comfortable with ‘speaker though: it wasn’t overly bright.

Two qualities hit me straight away. Firstly, there was an impressive amount of insight through the midband that gave strong retrieval of ambience within recordings, especially those from quality hi-res files and – especially – DSD. The Luminas were rather more picky than most as a result, making greater distinction between Johannette Zomer singing Handel’s Love and Madness (DSD) and Renee Fleming singing Un bel di Vedremo from Madame Butterfly (CD), for example. CD came across as vaguely bland. Not the insight or flow of DSD, which the Lumina Vs made more obvious than usual.

Wherever there was a microphone and someone singing into it the Lumina’s did a lovely job and this endeared them to me straight away. Not only did they convey ambience well but vocals



had a natural flavour rather than an artificial one.

Would I cringe at the spitch from Willy DeVille singing Spanish Harlem live (CD) into a microphone? The spitch was obvious but not overwhelming. And Mr DeVille's voice was believably gritty rather than mechanically edgy.

Swapping between the Lumina Vs and our Martin Logan ESL-X hybrid electrostatics the former were viscerally more punchy, brighter in the high treble and seemingly revealing. The XStat panel of the ML was totally cohesive and far smoother and here the slightly forward nature of the Lumina V tweeter betrayed its multi-driver nature. But the Lumina V had another card up its sleeve that made it visceral: bass.

The second quality to hit me fast was bass output – I'm talking deep bass output here; it was almost worryingly powerful. A standard test track I use, Dadawa's lovely Canton Story, follows her whispered chant with a huge drum strike and this thundered through the room. It was both deeper and better resolved in textural content than I've heard before: I got to hear qualities of the drum itself, a novel experience. Was it too loud? My neighbours probably thought so and I had reservations.

Time to run Lady GaGa's Bad Romance to see how this track's thunderous subsonics would fare. The rolling synth that's used to add weight can confuse and overwhelm a hi-fi loudspeaker trying to properly reproduce it. The Lumina Vs shook this one off with ease, producing enormous subsonics. There was a fat quality to low bass in my 17ft long lounge, as if under-damped, but for sheer weight and enthusiasm few loudspeakers come close at the cabinet size. I tried bass reduction by removing spikes and sitting the cabinets on the floor protectors, reducing the air gap for increased acoustic damping. Bass did lessen but also lost depth and bounce. It wasn't quite right but a bit of height tuning and/or a layer of foam beneath would likely get things right.

Changing over to our Icon Audio Stereo30 SE single-ended valve amplifier pulled the tweeter back to integrate better, warming and smoothing the delivery.



**The tweeter has a front plate with a spike to damp the apex of its fabric dome – unusual.**

Spinning our Mobile Fidelity 45rpm re-master of Dire Straits Brothers In Arms I got what I hoped to hear, a big bold analogue sound. Kick drum was arguably a bit too heavy – I was undecided about this. But Knopfler's vocals and guitar soared out with natural ease, against a silky dark

background. There was plenty of high-end sparkle too, the tweeter relishing SE treble.

After playing a slew of high quality LPs I put on some old stinkers from the 60s like John Mayall's Bare Wires, played to extinction. Could I still listen to it? I got to hear the groove damage, from a Shure M55ED as I recall, but this and other almost embarrassingly bad oldies still had their sense of soul, ample deep bass putting power behind greats like Peter Green and Eric Clapton.

**CONCLUSION**

Sonus Faber's Lumina V is what I would call "a serious loudspeaker". With a seductively natural sound that comes from organic, well damped cone materials, plus a good stab at tonal accuracy, the Lumina V came across as easily engaging. It had great insight, giving atmospheric sound with vocals, plus enormously powerful bass that added prodigious weight. With high sensitivity little power is needed – think 40W or so – so the Lumina V ticks all boxes. This is a loudspeaker that you should hear first, before others, as it sets standards.

**MEASURED PERFORMANCE**

Our third-octave pink-noise analysis (grille off), with microphone slightly off-axis (10 degrees) shows an impressively flat response down to a low 30Hz. With microphone on-axis there was just slight plateau lift of +1dB above 3kHz, so the Lumina V will sound slightly brighter if pointed directly at listeners, rather than straight down a room. Lack of a dip at the 3kHz crossover frequency will ensure good detail retrieval, and lack of treble lift will keep the highs sounding smooth, not sharp.

There is no lift across the lower midband to add warmth so the Lumina V is likely to sound dry but accurate. It is best used close to a rear wall to raise low frequencies by what is termed 'room gain' where a room's modal frequencies emphasise bass. Bass extends very low, aided by a large port in the plinth. Large diameter ports produce less distortion (around half) than small ones so this one tuned to 40Hz looked potentially effective.

With pink noise overall impedance measured 5.6 Ohms, the bass unit measuring 3.6 Ohms d.c.r. Sensitivity was very high at 90dB from one

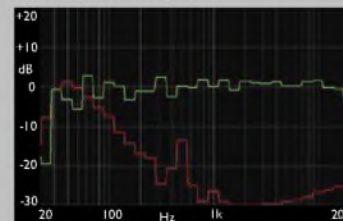
nominal Watt (2.8V) of input. The Lumina V will run very loud from little power, no more than 40 Watts being needed.

This is an accurate loudspeaker that runs very low, so will have deep bass. Needing little power it will give a fine result with any amplifier. **NK**

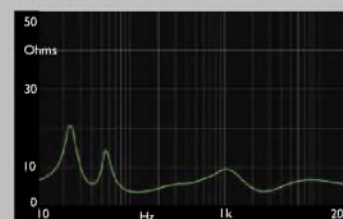
**FREQUENCY RESPONSE**

*Green - driver output*

*Red - port output*



**IMPEDANCE**



**SONUS FABER LUMINA V £2500**



**OUTSTANDING - amongst the best.**

**VALUE - keenly priced.**

**VERDICT**  
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- atmospheric vocals

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# Gondolier of the land

**Martin Pipe revisits the era of the record player, with a stereo-convertible from Hacker.**

**H**acker? Nowadays, the word conjures up mental images of computer obsessives. To older readers it was however the name of an aspirational British audio manufacturer. Hacker Radio opened for business in the late 1950s, after Southend-based Ekco acquired Dynatron Radio – the first firm founded by, funnily enough, the Hacker brothers. Established in 1927, when ‘wireless’ was beginning to take off, Dynatron pitched its ‘cost-no-object’ wares to a wealthy clientele. Not surprisingly, Hacker also ‘aimed upmarket’ with the products they made in its specially-built factory in Maidenhead.

In the 1960s the Hackers therefore competed for sales with their old operation and, for that matter, Roberts Radio. Interestingly, all three firms were granted Royal Warrants at some point; Roberts, the only survivor, still has one.

Hacker’s first products were portable radios, but over time its repertoire was extended. The firm introduced elegant FM-only table sets, radiograms, self-contained transportable record players and – by the time of its 1977 demise, brought about by imports and economic malaise – the then-popular ‘music centres’.

Record players were incredibly popular throughout the Swinging Sixties. Icons of emerging teenager culture and rising living standards, they were suitcase-like boxes with latched lids containing an automatic record changer (usually Garrard or BSR) fitted with a crystal or ceramic cartridge, a simple one or two-valve mono amplifier and

a front-facing elliptical speaker. Thanks to these machines, the hit singles of performers like the Beatles, Elvis, The Who, Cliff Richard, Engelbert Humperdinck and the Rolling Stones emerged from bedrooms up and down the land. They were the first system of many an audiophile.

Dansette was probably the most famous British purveyor of record players – reputedly, it sold over a million – but others attempted to carve themselves a share of this lucrative new market. Hacker was one, bringing its own touch of luxury to the genre circa 1967 with the ‘Gondolier’ GP42 seen here. All of the core elements of the ‘classic’ record player are present, but updated in keeping with its target customer. The turntable, for example, is a Garrard 2025TC – a higher-quality item than that fitted to the average player. You could also choose a more expensive single-play variant – £42 6s, against £39 14s – equipped with a Garrard SP25, as used in entry-level hi-fi.

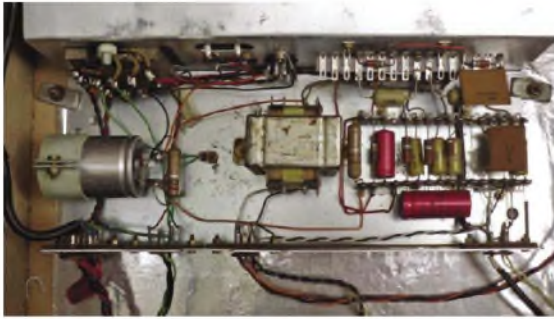
Boasting a ceramic cartridge with ‘flip-over’ stylus, the 2025TC fitted to our ‘automatic’ Gondolier can, funnily enough, be operated manually as well as in its automatic mode – which, although convenient, is far from kind to your precious discs. To this end, the Gondolier is supplied with a stubby single-play spindle as well as the longer one needed for automatic operation. The speed control and cueing lever needed to drive the deck in this way should be familiar to any vinyl lover. Auto mode, a hangover of the 78rpm radiogram era, fell out of

favour with the increased acceptance of equipment able to lay bare the audible effects of record mistreatment. Up to eight records can be stacked above the 2025TC spindle’s step, and an overarm then swung into place. Another arm senses the size of the record (7, 10 or 12in.) so that the tonearm moves to the appropriate position before playing.

When the lead-out groove of the currently-playing record is reached, the arm lifts and temporarily swings back to its rest position. The step within the spindle then retracts, so that the next record in the stack crashes on top of the previously-played one (ouch!). The arm then moves to the start of the record, and the cycle is repeated until there’s nothing left to play.

In this era of music servers, solid-state players and endless streaming, the 2025TC in operation is a sight to behold...certainly with records you no longer care for! Although you can mix record sizes, the same isn’t true of speeds and so the stack cannot include both albums and singles. On which subject, the platter – idler-driven





**Hacker's amplifiers were constructed using traditional 'tag-strip' techniques - no fancy printed circuit boards here!**

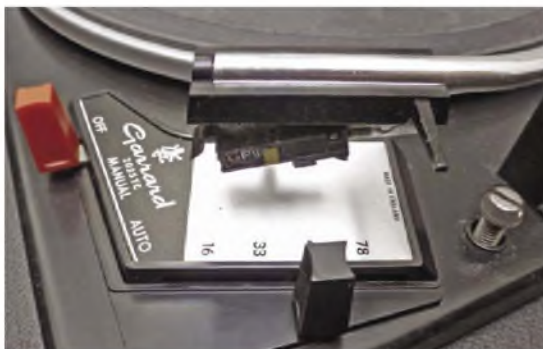
from an induction motor – is capable of turning at four speeds, from 16 2/3 to 78rpm.

Then there's the amplifier, which relies on three valves. One is an EZ80 full-wave rectifier in the power supply, the others being ECL86 triode-pentodes. The triode sections of these valves are used in the phase-splitter section, the pentodes working together in push-pull to deliver a rated output of 7 Watts via a



**To convert the 2025TC turntable to automatic operation, this spindle is fitted in place of the single-play 'stub'.**

matching transformer. Odd it may seem today, but Hacker's designers made the bass control part of the amplifier's negative-feedback arrangement. There's also a passive treble-control circuit, while the volume control – a simple voltage-divider on the input – is combined with the mains on/off switch. In contrast, cheaper record players only have 'tone' (top cut) and



**Fitted to the Garrard 2025TC's tonearm is a 'stereo-ready' Acos GP96 ceramic cartridge, with sapphire stylus. The turntable has 16 2/3, 33, 45 and 78rpm speeds.**

volume controls. Hacker's amplifier feeds a Goodmans-made 15 Ohm 10in. x 6in. elliptical speaker - bigger than the drive units fitted to lesser models, with all that implies for bass response.

A 15 Ohm external speaker (or the input of a tape recorder) can be connected, courtesy of a phono socket, and this must have triggered the upgrade bug for some owners. An adjacent phono socket allows the player's amplifier to boost the output of a 'tranny' (transistor radio) or similar device. But there's an even more intriguing possibility – stereo. The cartridge fitted to the Gondolier's tonearm is a 'stereo-ready' Acos GP96, with sapphire stylus. Under normal circumstances, its left and right channels are shorted so that a mono signal feeds the amplifier. On the same rear-mounted panel as the other sockets is one marked 'output stereo amp'.

Plug an amplifier into this, and the link between the two channels is broken. The Gondolier's internal amp then reproduces the right channel, the external one carrying the left.

Hacker made a matching amplifier/speaker, the £21 0s AL42. To ensure a close timbral match as was possible within practical constraints, the amplifier and speaker it contains are identical to what lurks within the record player. As it has to trip a switch as well as make a connection though, the phono plug has a longer central pin than is usual today. With a standard phono-to-phono cable, the Gondolier will carry on playing in mono – with nothing more exciting than silence from the other speaker. A similar plug is needed to run an external speaker. Hacker supplied

them, but chances are they vanished years ago.

Although the Gondolier is today highly-regarded – no less an authority than 'Which?' magazine ranked it among the very best of its genre, and some collectors have even compared them to Rolls-Royces! – its reproductive capabilities are far from hi-fi. With the lid down and secured, as per Hacker's recommendations, I found bass is quite good, albeit restricted in depth. This is particularly noticeable with bass guitars and



**The AL42 'amplifier loudspeaker unit' contains the same chassis and Goodmans 15 Ohm 10in. x 6in. elliptical speaker used inside the Gondolier.**

church organs, but at least I could make out the essential character of such instruments; 'one-note' bass is mercifully absent. Turntable rumble and even a touch of 'valve hum' can be heard in the background, but they don't detract significantly. A definite hollowness is however



**Fitted to the Gondolier is a Garrard 2025TC – a changer of higher-quality than that fitted to cheaper record players. Also available, for an extra £2 12s, was a version optimised for 'manual' playback of records using the classic Garrard SP25.**

evident, and this colouration is particularly noticeable with speech – as a Tony Hancock LP reveals.

Regardless of tone-control juggling, orchestral strings sounded rather thin and reedy. The lack of high-frequency ‘sparkle’, even with the treble knob at its end-stop, is also a definite limitation. It’s a pity that Hacker relied on a single drive unit, as a simple capacitor-coupled tweeter would have given the presentation more attack and bite – with obvious benefits for brass and percussion. Yet for all this, playing records on the Gondolier is an enjoyable experience. With the AL42 pressed into service, and the bass/treble and volume controls of both units judiciously-adjusted, the Gondolier can conjure up a passable stereo spread. Such an arrangement would have provided many people with their first ‘home’ experience of stereo listening, their appetites having been whetted by public demonstrations and trade shows.



**The Gondolier and its companion amplifier boast separate bass and treble tone controls. Attractively backlit in use, the knobs tend to lose their central gold inserts over time.**

Although even a modest hi-fi system will trounce the Gondolier/AL42 combination when it comes to faithful music reproduction, that’s probably not the point. A vintage MG may not drive as well as a modern car with decades of further progress behind it, but it has an elusive ‘something’ – if only the memories a journey in such a vehicle evoke. Maybe the folks who now collect them owned a basic

record player as a teenager, but yearned for something unattainable in the Gondolier class. It certainly sounds better than most of the record players I’ve heard over the years,

which is to be expected given how much it cost; £39 14s equates to the thick end of £1,000 today, with the matching ‘stereo conversion’ additionally setting you back the 2021 equivalent of more than £400. Prices on eBay fluctuate wildly and I’ve seen Gondoliers sell for



**As well as providing an output for the left-channel amplifier, the socket panel on the rear of the Gondolier will accommodate a (mono) off-board source and an external speaker (or tape recorder). Special phono plugs with longer-than-usual pins are required to make the connections.**

between £25 and £200 depending on condition.

These old record players are far more repairable when compared to modern digital gear – provided you can get your hands on styli, idlers, valves and the ‘passive’ components (notably capacitors) that can deteriorate over time. As they haven’t been produced for so long, many such bits tend to be second-hand items stripped from



**The 7 Watt amplifiers of the Gondolier and AL42 are each equipped with three valves – two ECL86 triode-pentodes and an EZ80 rectifier.**

‘donor units’ – or ‘new old stock’ rescued from old shops and stores being cleared for redevelopment. Old or new, you’ll find them – along with complete units – on eBay, and collectors’ events like the Tonbridge Audiojumble and the National Vintage Communications Fair. The Gondolier’s valve circuitry is simpler and easier to understand than today’s computerised wonders; a misbehaving turntable can meanwhile, despite its mechanical complexity, usually be restored by dealing with the dried-up grease responsible for ‘seizing up’ cams. So easy to service.



**As with most record players of this type, the lid must be closed if the best bass response is to be achieved. This, according to Hacker, is because the “baffle area of the loudspeaker is (then) substantially-increased”.**



**The AL42 has a ventilated ‘cardboard back’ of the type commonly-fitted to radio sets during the valve era. Also visible here is the input phono socket.**

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# "I come to electronics and issues that go far beyond bashing metal or wood"



Noel Keywood

**A** few manufacturers are truly ground breaking – those producing electrostatic and magnetic planar drive units for loudspeakers for example. Most follow the tram tracks. I know because I have done it too.

Here are the standard tricks – I should say “techniques” – and why they dominate. I’ll also name the manufacturers who run on their own tracks, so you can get a hang of what is going on.

Let me start off at ground level: the chassis. Around 90% comprise a folded sheet steel base, with a folded sheet steel top cover. Strong, easy to manufacture and cheap. I used this in our World Audio Design kits long ago. Most manufacturers use it today. Bolt on a nicely machined thick (5mm min) alloy front panel and you get an elegant product with good end-detail.

The question that faced us was: did we want it welded and buffed? This costs more but gives a better looking and stronger chassis. Our answer was “yes”; we wanted a quality product. Surprising then to see simple folded chassis in high-end products costing many thousands, their ugly open seams being obvious.

Who does it differently? Chord Electronics. They machine cases out of an alloy billet then add windows and lights. Left field. No one does this – I hate to think about the cost.

Now on to the wooden box. This is a nightmare. Loudspeaker cabinets even in simplest form cost a fortune to manufacture: when I was at it in the 1990s we were being quoted £80 per pair in quantity (£320 on retail price). And at this price British cabinet makers were going out of business. China had come onto the scene and were making them for much less. How I do not know because producing

veneered boxes is not easy. I recall seeing Dentons and Lintons being produced by Wharfedale at Bradford, by arrays of circular saws cutting V grooves in massive wooden boards that were then folded and glued. That was in the 1970s; they came out in thousands. Today it is carried out by computer controlled machines I am told. The box making plants I have visited have been infernos of machines, noise and wood dust. Don't dream of seeing one.

Cabinet plants are good at producing basic boxes, not so good at fitting them out with complex internal baffles – one reason transmission line and horn loudspeakers hardly exist.

Good idea then to produce a loudspeaker without a box, meaning an open panel type. Gilbert Briggs, founder of Wharfedale, saw the commercial logic of this long ago, devoting a chapter to them in his book *Loudspeakers* (1948), but few have been able to make a boxless loudspeaker stick. The name call of those trying gets a little larger here: Quad, Martin Logan, Magneplanar, Kings Audio, Eminent Technology and a few others.

Then I come to electronics and issues that go far beyond bashing metal or wood into shape. Transistors reign. Initially used on their own, they now sit on manufactured wafers (silicon chips) that have, at a technical level, extraordinary ability. These little things are designed by very large companies such as Texas Instruments with more brain and computing power than it is healthy to think about, plus the manufacturing ability to condense their knowledge into a useful working device.

This approach has come to dominate electronics: it's a technological steamroller. Difficult to justify using much else when the small size and dedicated nature of an audio

chip like the NE5534 is just 88 pence. Want a power output stage? Then a common choice is a dedicated power transistor from Sanken, complete with application circuit. Need a balanced output? Bang in a device from That Corporation. Like to go Class D? Buy in a Hypex module.

Amplifiers now come with Bluetooth, USB input, internal DAC and what have you, all of which are externally sourced; in the UK only Chord Electronics and dCS make their own DAC. For USB or Bluetooth call XMOS or Qualcomm in Bristol. And so it goes on...

Point being a lot of what lies inside modern product isn't produced by some genius sitting in a back room. All that stuff comes from PR men paid to call their master a genius. The truth is more prosaic: much of what lies in any modern electronic box of tricks doesn't come from the company marketing it under their illustrious brand name.

This inevitably has an averaging effect. You won't hear vast differences between products in a showroom demo when so much is the same inside. This applied to CD players of yore, and it also applies to chip based phono stages and much else today.

There are exceptions. Some use discrete devices because they have the design skills and experience, Mike Creek (Creek Audio) being one of them. That's why Creek products have their own sound. Another surprising arrival has been the Project Phono Box RS2 that uses discrete components rather than chips. You will hear plain differences here. I suspect Computer Aided Design packages based on Spice ensure success here. I use free LTSpice with great success.

Under the razzmatazz, much mediocrity. But not always. Some manufacturers are ground breaking. It just isn't so easy to spot them. ●

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# I'm done. There's no more room at the inn. No more purchases.



Paul Rigby

I have a horrible feeling... that I'm weird. ("But you've been saying this for years!" I hear you cry).

OK, but besides that.

I've been pondering. And the conclusions I have arrived at are not pretty.

It's all to do with my vinyl collection. Actually, most things in life can be rooted in one's vinyl collection. So maybe that pronouncement is not particularly startling in itself.

It's not just the fact that I have several thousand of the things. It's not what they are. It's how they are.

Actually, before I get to that point, I'm worried. Weird and worried? This month, I want to give you a bit of background to my realisation. Next month, we'll get to the meat of the matter. Let me talk about the 'worried' thing first because it will make the 'weird' bit easier to digest and to understand.

I have a relationship over an above the one I enjoy with my lady wife. Both are above board and legal, I hasten to add but this one is Swedish. Steady now.

I – like many vinyl fans out there – have an intimate knowledge of Kallax. The popular storage unit sold by the retail giant, IKEA which happens to be perfectly designed to hold a host of vinyl albums. Kallax can be bought in various sizes too which means that you can insert this storage unit against walls but also in numerous nooks and crannies (really now, what exactly is a crannie?)

In fact, Kallax is my Nemesis. Sherlock Holmes had Moriarty. I have Kallax. 'In my time™' I have built so many Kallax, I not only

do not need the instructions, oh no. Not only do I actually have an improved system, a faster method, of building Kallax than the one promoted by IKEA. I have even been known to dream of the things. That's how many I have built.

But it's gone past that. I've built so many of these things, I have begun to loath them. Harsh, I understand that and I don't fall upon this particular verb lightly but I am left with no other. As Sherlock himself said "...when you have eliminated the impossible, whatever remains, however improbable, must be the truth".

Familiarity has bred contempt.

Constant Kallax building has triggered annoyance. The need for more storage. The fact that I thought I was done with Kallax. The realisation that no, I needed to buy more (and more) Kallax has finally turned my emotions towards a dark place. Such is my unreasonable view on Kallax.

Kallax not only holds vinyl but books in my front room and ephemera in my office. If I added up the unread books filling Kallax, I'm sure the number would hit...a lot. I have a book problem second only to vinyl concerns, as you can see. I did try a Kindle but filled that up quickly so I'm back to the paper-based tomes now. So I have a Kindle issue to accompany my book problem that sits alongside my vinyl concerns.

Let's restrict my growing neurosis to vinyl for a moment. What scares me about all of this Kallax is that they are almost full. I have no more wall space to add any more Kallax. And I've just turned 57. I don't intend dying for a while yet, thank you very much. So, if I was sensible (who's

laughing at the back there?) I would say to myself that I should stop buying vinyl right now. Stop because I have next to no storage space left. Hence? I'm done.

There's no more room at the inn. No more purchases. That's my final decision.

And there's a little voice. Smug it is. That I can only just hear. It's an echo on the wind. It says: "who are you kidding?"

And this voice speaks of truths.

My wife tells me "it will take you the rest of your life to listen to all of these records, why even consider buying more? And as for those books..." But I promised not to talk about those, didn't I? And she's right. She's absolutely correct.

Did I also mention the thousands of CDs I own? I didn't, did I? And the hundreds of cassette tapes? And the terabytes on my 15 hard disks? (I have a digital storage quandary that contrasts with a CD difficulty that nestles close to a cassette tape pickle that is friendly with my Kindle issues that accompany my book problems that sits alongside my vinyl concerns).

The thing is though – and I know this for a fact – there is a serious point that I must make here – and say it with an element of concern and urgency in my voice.

The thing is, I know of at least twenty-five albums out there, sitting on someone else's retail shelf right now, that I must own. I have to have them. Really. It's incredibly important that I own them and, by the Power of Grayskull, it's a task I must fulfil.

Possibly when my wife's not looking. ●

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# "hi-fi was virtually unknown in early 1950s Britain, being an obscure hobbyist pursuit"



Martin Pipe

**T**he BBC's Third Programme, so-called because it offered an alternative to the Home Service and Light Programme, began in September 1946. An unexpected move so soon after WW2, given the state of the country, but people evidently thought differently in those days.

With its aim of bringing high-culture to the masses, Third relied initially on a single 150kW transmitter located in Daventry. This imposing valve-powered monster covered much of England on 647kHz, with a few low-power relays operating on 1547kHz. It took a while to find its niche, originally being considered rather elitist in tone.

Championing new composers and 'serious' classical music, Third also broadcast plays and jazz – in FM/VHF too, from 1955 onwards. As part of the same 1967 BBC shakeup that brought pirate DJs to the newly-minted Radio 1, and respectively-rebranded the 'Light' and 'Home' programmes as Radios 2 and 4, the Third Programme became Radio 3.

As part of the ITU's Geneva wavelength changes (remember those BBC dial stickers?) most Radio 3 transmitters were, in 1978, re-tuned to 1215kHz, although a few regions moved to 1197kHz. There they remained until 1992, by which time the BBC's FM coverage was considered to be sufficiently-widespread; in any case, the superior dynamics and clarity of FM were ideal for Radio 3.

AM was better-suited for 'talk', as the BBC realised when it launched Radio 5 in 1990. The BBC planned this service, on medium-wave frequencies

that previously-carried Radio 2, for a more practical reason – to avoid the annoying juggle of sports, educational and minority programming across its existing network. This led to some daft outcomes, like Radio 3 carrying test-match cricket and the Open University going out on FM while an eagerly-anticipated concert could be heard only on AM.

In February 1992 Radio 3's AM transmitters were silenced permanently. Radio 3 disappeared from AM to accommodate the commercial competition that would increasingly-impact the BBC; its frequencies were subsequently handed over to rock station Virgin Radio. Virgin's more quality-minded listeners would have preferred FM; does anyone remember the station's campaign to be given some of Radio 4's frequencies? Out of interest, another licence went to Classic FM – which competes with Radio 3, albeit along more populist lines.

The only national UK BBC services still using AM are Radio 4 LW and 5 Live, something that piqued my interest after discovering another of the Murphy 'batwing' console radios I featured in *Olde Worlde* a few months back. This particular beauty is an A188C, which was launched in 1951 – four years after Third went on-air. A luxury 8-valve 'superhet', the A188C covered the medium and long wave bands – no FM in the UK, back then.

Like most other radios of its era, it could also be fed from a gramophone pickup. A magic-eye aids tuning and its amplifier – two 6P25 pentodes in push-pull, mounted on a separate chassis – drives a 10-inch speaker.

Particularly worthy of note in a magazine dedicated to sound

quality is its four-position 'tone' control, which also adjusts radio selectivity. In its higher settings, the IF bandwidth is increased to take advantage of strong local stations (from an external aerial, or the internal 'frame' type). So feted was its design that an A188C was proudly displayed at that year's Festival of Britain.

Selling for £51 (nearly £2000 today) it was pitched at upmarket concert-goers who would tune into Third. Hi-fi was virtually-unknown in early-50s Britain, being an obscure hobbyist pursuit – mono corner horns and all that, sporting Goodmans and Fane drive units.

Even given the limitations of today's regular AM broadcasts, though, the A188C sounds remarkably fulsome and punchy. Despite digital the MW band remains active, necessitating use of the lower IF bandwidth (and thus reduced treble).

With audio applied to its gram terminals I found the set also gave a good account of itself although the lack of a tweeter means there's little 'top'.

I then wondered how the A188C would have sounded with Radio 3, nearly thirty years after its AM transmissions ceased. I fed Radio 3, from a digital source, into a 'closed-circuit' AM transmitter (plenty of those on eBay!) tuned to a quieter MW frequency. Putting aside the lack of stereo (and sparkle, even with the tone/selectivity switch maxed) I was impressed with the result. In musicality terms, this radio fared surprisingly well; I can only guess what the original owner must have made of it back in the 1950s when the BBC's Third programme became available to bemused Britons. ●

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"I knew all the words and could happily sing along with the entire album"



Dave Tutt

I have lost a whole box of CDs, possibly not more than 30 of them – but it might be more. Likely in my recent house move. Now with the advent of Spotify, and all those other internet methods of getting your music, you might think that losing some physical media might not matter that much. It might just be irritating or annoying. However, I like physical media. So I have spent considerable time hunting in sheds, garage, loft spaces, and through all the crates, cardboard boxes, and storage places – and found not a single trace of said CDs.

The whole thing of reading and re-reading the contents in the packaging represents just as much of the enjoyment as the listening process itself. I would be just as wound up if it was LP or even a little 7 inch single – even though I haven't played one of those for the best part of 15 years.

It is the ownership as much as anything. While I was repairing a turntable earlier this week I found an old LP that I purchased when I was a teenager. I must have been very odd at the time, possibly a sign of how I have become. It was a now rare album from Andy Williams, *Can't Help Falling in Love*, from 1970. I got this with my pocket money some time around 1972 when my 14 year old contemporaries would have been into Roxy Music or The Rolling Stones or Slade.

Whilst I liked just about all the music of the time it was Mr Williams who made me spend my money. One side of this album is a medley of full tracks that could quite easily have been sung on the Andy Williams show on TV between 1962 and 1971. It was one of the earliest American

imported shows I remember.

Sad to say that on the first playing in probably 40 plus years I realised I knew all the words and could happily sing along with the entire album – which of course I did though I suspect if Andy had heard me he would have thought.... what is that noise!

Eighteen minutes later I turned it over and span the other side including *Bridge Over Troubled Water* and *Long Time Blues*. I wonder if I got the lyrics right?

The Moth turntable I was using for all this, very much a Rega product, played Andy without a hitch – even though the record surface had been ground out in the first instance by a Garrard RC90 turntable with a Sonotone 9tahr cartridge mounted in a Kolster Brandes LG50T radiogram.

The Moth, my repair subject in this column, had capacitor failure that resulted in a lack of torque and the occasional reverse turn flip – like many turntables run with a 120 Volt motor. A quick capacitor change was all that was required here.

The Rega arm, fitted with a Audio Technica AT95E cartridge, gave a very good report of itself – if sounding a little bright into the AMC amplifier I was testing it with. The AMC is probably a somewhat unique amp, being rather small with some interesting electronics in its remote control circuitry and a very interesting source selector switch that takes some getting used to. It is a motor driven device with no position stops: it always returns to upright no matter what input is selected.

What missing CDs prompted my search? Well, arranging those remaining on the shelves I wondered what had happened to Jimmy Nail and *Crocodile Shoes*,

the 1994 original soundtrack album; the other two Jimmys were there.

Then there were a couple of Rush albums that had rushed away – including my all time favourite, *Signals*. Jethro Tull's *Crest of a Knave* had vanished too. Joni Mitchell, *Hejira*. The Police, *Synchronicity*. And a couple of Poundland purchases, one by Duran Duran, *Astronaut*, the other by The Calling, *Two*.

Also, my one and only Led Zepp and for some odd reason *The Wall* – the Pink Floyd classic that was not with the rest of my Floyd.

To make me feel a little less irritated by this loss of valued music I went on line and purchased more! All pre-owned as they call it but when you can buy 15 CDs for £30 it is a great way to trial music. Taylor Swift, more Diana Krall whose albums are what you have hi-fi for, 50 Names for Snow by Kate Bush, Carrie Underwood, Daughtry, Del Amitri, Robert Plant and Alison Krauss, Barbra Streisand, Peter Cox, Toni Braxton – and I am sure I could find many more to buy in the next few weeks.

I will keep looking for my missing CDs as I am sure there are things that I have forgotten in my list. I did find the missing Raspberry Pi project that I had to sideline because of the house move. If I ever get to finish it rather than rebuilding the staircase I hope to have a touch screen full media player. Realistically the stairs and the new handrails will have to come first but the Pi is going to tickle my experimenters' brain cells for a good few months. Keeps my mind off those lost CDs and Andy Williams I guess. ●

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June 2021

The Synthesis Roma 96DC+ is a 25W Class A stereo integrated amplifier, utilising four high-quality EL34 and two ECC82 valves in the design. Featuring a variety of digital and analogue inputs, including a moving magnet phono stage; it is both a high-end performer and a wholly convenient solution for music lovers.

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# Subwoofers: not a case of 'loads more bass'.



Chris Frankland

I have a confession to make. I have never really taken subwoofers that seriously. You see, I had always thought to myself "I don't need loads more deep bass". It's not that important to me. In any case, my 'speakers have enough bass extension. So, surely I didn't need a subwoofer, right?

And so, for many years, I never bothered with them. And I am not alone, because when I asked a good friend of mine, also a respected reviewer of many years' standing, whether he had ever really listened seriously to subwoofers and what they had to offer, he too said he hadn't.

But I recently had cause to reconsider my stance on the subwoofer issue when I just happened to wander into my local hi-fi retailer, Home Media in Maidstone, when they were putting on a special event with REL, the subwoofer specialists.

REL's Rob Hunt was there demonstrating various models from the REL range to customers. John at Home Media said Rob had no one in for a dem at that time and asked if I wanted a quick listen to

the new T/x series. Well, why not? As I sat down to listen, I admitted to Rob that I had never really listened to what a subwoofer had to offer and so was keen to hear what these RELs could do.

They had set up a system comprising a Hi-Fi Rose RS150 streamer playing through an Innuos Zenith that had Roon Core installed, then into a Hegel 390 amplifier, with its built-in DAC, driving a pair of large ATC SCM40 speakers, plus a pair of the new T/9x subwoofers from REL (£1,299 each).

The neat thing was that, at the flick of a switch, he could completely bypass the subwoofers, so that we could easily hear the system with and without them playing.

Rob played me an album of his choice and when he switched the T/9x in I was astonished at what I heard. It was not a case of 'loads more bass'. No, not at all. I was amazed at how I could hear more fine detail on drums and percussion – more detail on the cymbals and hi-hat. On cymbals too!

Vocals were more open and articulate with a stronger sense of space around them.

The whole sound stage just opened up. OK, sure, bass lines had more weight and control and I could hear the deeper notes better, but it was the improvements throughout the rest of the frequency band that really surprised me.

I immediately asked him to stream one of my favourite Ben Sidran tracks, Broad Daylight from



The Doctor Is In. And the same thing happened again. His vocals were more articulate – more human, with greater space around them. And drums were cleaner and snappier. Piano was also more sharply defined, had more body and better dynamics. Oh, and the bass line improved too.

I got Rob to play the title track from guitarist Peter White's album Groovin', and the same experience was repeated. A notable improvement in being able to hear what he was playing. His guitar was better voiced and subtle note detail was better resolved. I said to Rob that I thought he and his retailers had a big job on their hands to educate people about what a subwoofer can do for a system, because one thing was clear – it's not all about 'more bass'. Far from it. ●





STEVE HOWE

Homebrew 7  
HoweSound

Howe has had a storming career and I've been fortunate to be able to track most of it on vinyl and CD.

While I've yet to fully grasp his early work with the R&B outfit, the Syndicats, I enjoyed his stint with the UK psyche band, Tomorrow (formerly the In Crowd), then Bodast (a surprisingly good band, I recommend a listen) and then his 1970 entry into Yes, then Asia, ABWH and GTR.

What I like about Howe as a guitarist is his touch. He knows how to weave a narrative. He knows how and when to pull back, he can infuse a guitar solo with delicacy and fragility. He doesn't need testosterone and strut to affect his audience. He uses his brain. He is, on that basis, one of the most intelligent guitarists I've ever heard. He also stands out. Put him in any band and you'll still hear his guitar's personality,

emerging from the crowd.

This Homebrew series is, in many respects, a distillation of the above. Part seven takes a variety of gems from Howe's home archive of demos and tracks from Yes, Asia, ABWH and GTR. On 'Homebrew 7' though, none of the tracks have previously been released in any form.

There's mostly acoustic and electric instrumental solos here (plus the odd vocal) but sons, Dylan and Virgil Howe on drums with Phil Spalding on bass guitar appear occasionally. The songs emerge from the seventies to 2016. While many songs here have the 'notes in a scrapbook' quality there's much to admire and like. This single disc is a great resource for fans.

Mastering does vary (it's a compilation, after all) but generally presents a full, rich presentation. There's a touch of upper mid compression here but certainly nothing aggressive.

AUDIOPHILE CD



ASIA

The Reunion Albums 2007-2012  
BMG

You could call Asia a supergroup. Although the term was a little outmoded when they got together.

Nevertheless, when Asia hit the road in the eighties, it did so occupied by four legendary musical talents: John Wetton (King Crimson, lead vocal/bass), Steve Howe (Yes, guitars), Carl Palmer (Emerson, Lake & Palmer, drums) and Geoff Downes (The Buggles, Yes, keyboards).

These deities in tight trousers played together again for 2006 and 2007, as part of the group's 25th anniversary, with a world tour.

A live document over two CDs, 'Fantasia, Live In Tokyo' (2007) was proof that they actually did it and didn't pretend to do it while actually sipping Pina Colodas on a Miami beach. That album includes work from the band's first two albums, 'Asia' (1982) and 'Alpha' (1983) plus

'Heat Of The Moment' and 'Don't Cry'.

Studio albums followed: 'Phoenix' (2008), 'Omega' (2010) together with 'XXX' (2012) as that 25th anniversary suddenly turned into a 30th anniversary.

All of the above are included in this clamshell box, five CD discs in all. The boxset cover image was previously unused by artist Roger Dean and the 'Fantasia' sleeve design has been updated by him.

The music here is big, bold and gloriously glossy. Asia fans will have a ball with Palmer's tight, impactful percussion and Wetton's strong and forceful lead vocal. Howe and Downes provide a full and perfectly overblown filler for that sandwich.

Mastering adds compression to the mids, tightening the detail and adding an edge to treble. The effects are not destructive or aggressive but are noticeable.



**T**here was a time when 'Duffy' didn't mean a blonde soul singer from Wales. It meant a seventies-era rock band.

A five piece, from Guildford, they made it big. In Switzerland. They once played on a TV show which died a death because the power shut down – in Portugal.

They were surrounded by tear gas-toting police, in a restaurant, in Germany. Then they were driving to Munich when they were stopped by a policeman with a machine gun who said that they were no longer in Germany, they were... in Poland. That was Duffy.

Actually, Stuart Reffold (vocals and ex-Switch), Joe Nanson (keys), Barry Coote (guitar) and (both ex-Mr Lucifer) Patrick Sarjeant and Will Wright (drums). No-one can remember why the name Duffy was chosen. But they went with it anyway.

Switzerland was where their

first album 'Just in Case You're Interested' was created – but it wasn't a success. Especially financially. Despite the Swiss loving them to bits.

Before the second LP (Scruffy Duffy) they were signed by Chapter One. Hardly a rock roster. No-one remembers why this second album name was chosen either – but they went with that too. Nor why the album title was on the cover but not the band name. Everyone thought the band had changed its name.

"I haven't a clue why our name isn't there" said Reffold.

The music perfectly reflects the seventies rock idiom. There's a bit of Free here, a bit of The Faces (?) plus a host of others. Argent perhaps? Perfect seventies noises.

Mastering is excellent, low in noise, perfectly balanced, rich in tone and broad over the soundstage. This one gets a pass from me.



DUFFY

Scruffy Duffy  
Esoteric

AUDIOPHILE CD

**A**ll the way from Coventry emerged the first incarnation of this sixties band: guitarist Philip "Pip" Whitcher, rhythm guitarist Terry Jukes, bassist Philip Packham and lead singer Don Fardon plus Bruce Finlay on drums.

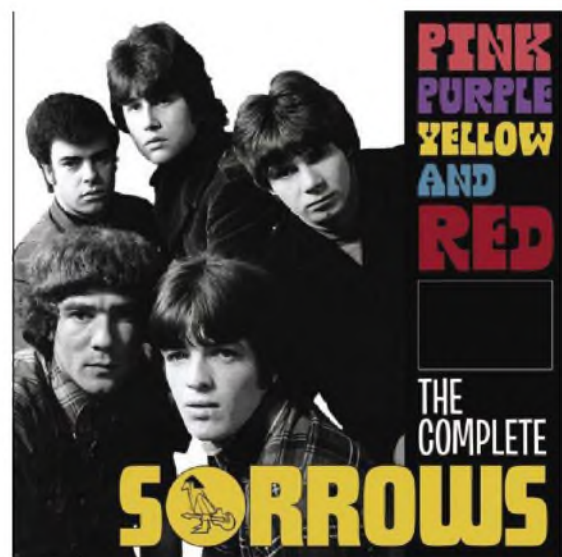
Like many contemporaries, the band learned their trade by touring Germany and then recorded with cult producer, Joe Meek.

In 1965 The Sorrows released a single and undertook TV appearances toting beat, garage pop, psyche, R&B and freakbeat vibes.

It wasn't until their third single 'Take a Heart' that they hit success. An album of the same name reached stores in 1965. Two more singles followed and then band members started to leave. Band member rotation became a regular occurrence for a while.

Then they hit it big in Italy when on tour, recorded songs for a movie, issued an Italy-only single and eventually signed with an Italian label. Ultimately, the fractious nature of the band's career culminated in the band splitting in early 1970.

This excellent 4CD collection, presented in a clamshell box, features the mid-sixties singles, the entire 'Take A Heart' album in both mono and stereo, the 'Old Songs, New Songs' LP and an earlier acetate-only demo album that was scrapped when two members of the band left. There are collaborations with Ennio Morricone, their title song to the Italian spy movie 'Ypotron', acetate-only early 1968 single, spin-off singles by The Eggy and Renegade, a 1980 live show from the reformed band and four previously unissued 1964 recordings with Joe Meek. Phew!



THE SORROWS

Pink Purple Yellow and Red: The Complete Sorrows  
Grapefruit

# Tour of tech

Martin Pipe goes On(e) Tour with JBL's latest Bluetooth headphones.



Referring to the JBL Tour One as a mere pair of headphones is a bit like calling the latest handheld wonder from Apple a 'mobile phone'. Of course, the iPhone can be used to make calls, but a lot of other stuff falls within its capabilities too. And so it is with the Tour One, which is evidently aimed at those gadget-loving folks who go ape for smartphones. Sure - in basic audio terms it's a circumaural closed design with 40mm drivers, and a cup-mounted 2.5mm socket for direct connection to a conventional audio player via the supplied lead. Were you to use it only in that old-fashioned way though, most of the Tour One's potential would be wasted.

Most of its target audience would prefer to use their precious smartphones with the Tour One in its Bluetooth 5.0 mode, which supports A2DP v1.3. To aid listening in noisy environments, the Tour One has an advanced 'adaptive' noise-cancellation function with no fewer than four embedded 'beam-forming' microphones at its disposal. So effective is it that JBL had to include 'ambient aware' and 'TalkThru' functions, so that wearers can hear what's going on around them. 'Silent Now', meanwhile, is a means of efficiently-providing noise-cancellation when the Tour One isn't playing music - handy under some circumstances, such as when travelling. So too is the hands-free function, which

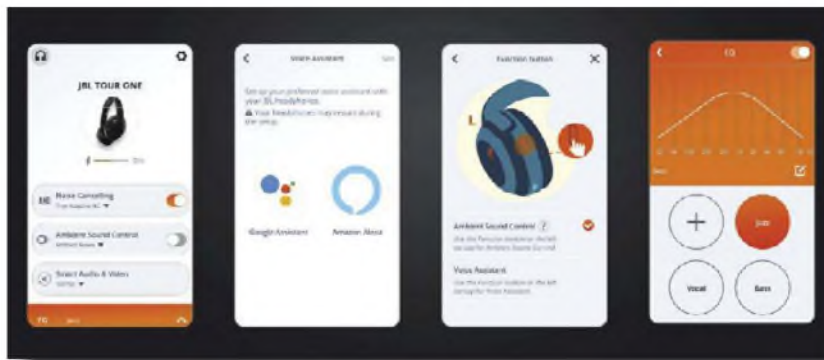
comes into its own when that phone is used for its more traditional application. It exploits those mikes, as does voice activation.

The latter, which works with your smart device, can be set up for Amazon Alexa or Google Assistant. As someone who's more used to pressing buttons, telling my phone to play music is quite cool. You'll need to install the relevant apps; while we're on the subject, there's also a JBL app (available for both Apple iOS and Android platforms) that allows the Tour One to be configured. Features you can play with there

include noise-cancellation, auto-off, the ambient awareness function, equalisation – user-drawn response curves, as well as preset modes – and a 'video mode' that optimises the connection for the best lip-sync. The condition of the internal battery is also shown. There are however also controls on the Tour One; most prominent of these is a switch, on the right earcup, that turns the 'phones on and initiates Bluetooth.

Close by are buttons that remotely-alter your device's volume level via Bluetooth, rather than its own amp; they have no effect if you're using the Tour One, either passively or in an active (noise-cancellation) mode with a wired connection. On the left cup is the USB-C charging port – the Tour One's battery is good for 25 hours under normal circumstances – and a button that, depending on configuration, cycles through the noise-cancellation modes or wakes up the voice assistant. The right earcup is 'touch-sensitive' and will activate functions (like track pause/skip, mike mute and answering calls) depending on your connected equipment's capabilities and how it's 'tapped'. Its sensitivity is, however, high enough to be annoying - you can't adjust this, or indeed turn it off altogether...even with the app. Thanks to something called 'Play and Pause', the Tour One will temporarily hold the music when it's removed from your head. It wasn't particularly reliable on the review sample.

I tried the Tour One's Bluetooth prowess with a Google Pixel 3a Android smartphone via



**The app 'My JBL Headphones' is available for both Apple iOS and Android platforms. Tour One features you can play with there include noise-cancellation, auto-off, the ambient awareness function, equalisation – user definable curves, as well as preset modes – and a 'video mode' that optimises the connection for the best lip sync. Also provided are status (e.g. battery life) monitoring and help.**

Bluetooth – my wired devices were an Astell&Kern SR25 and, via a 3.5mm adaptor, a Prism Callia 'headphone DAC'. Comfort was fair, thanks in part to the 298g weight, although sweat could be a problem during long sessions. Immediate neighbours who don't share your musical tastes will appreciate that the Tour One's closed design helps to minimise sound leakage.

After a quick and easy pairing process, I found the Bluetooth range to be exceptionally good – as much as 10 metres. Some apps (Fiio's Music Player, for example) work with the Tour One's tap-sensitive transport controls, but others (VLC) don't. Although clarity is impressive, especially when the

lossy nature of the Bluetooth link is factored in, I found that the tonal balance was warm rather than neutral. This mild lower midrange bias, which brings instruments like bass guitars and synths to the fore, can to an extent be compensated for with the equaliser.

No equaliser is available in the passive wired mode, which seems to connect the Tour Ones directly to a player (a welcome standby if its battery is dead), but there were sonic benefits. Although the warmth was still present, treble was cleaner I found, and more detail evident - rhythm guitars, saxes and pianos fared particularly well.

JBL can be congratulated for its noise-cancelling mode, which is undoubtedly one of the best



**The Tour One folds neatly so it can fit into the compact carrying case supplied by JBL as part of its package. Here, we can also see the four embedded 'beam-forming' microphones that are used by the adaptive noise-cancellation, voice-activation and hands-free call features.**

# 2go/2yu



## BRIDGING THE GAP

HUGO RANGE

Upgrade your audio system with Chord Electronics' award-winning streaming technology. The 2go/2yu network bridge offers effortless music streaming plus up to 4 TB of SD card library playback. Connect to your DAC for music in glorious Chord Electronics quality.



I've tried. In the past, I have found them to be rather fatiguing thanks to the noticeable colouration they add. Not even a noisy Tube train or industrial-grade data centre fazed the Tour One; the music always won. JBL's signal processing does squash dynamics (probably one of the weapons in its digital armoury) but not in an offensive way. I also noted a tiny background hiss and slight grittiness in higher frequencies, while some ambient noise (sharp taps and wind) could cause odd artifacts at times. On the whole, though, it's definitely worth having. As a brief aside, the mikes that help make it happen also excel during voice calls.

### CONCLUSION

It's impossible not to like the JBL Tour Ones, which pack in a considerable amount for the money. If you simply want the most musical headphones for your money, then something like the Hifiman Deva (reviewed last month) would probably be more suitable (and in



**Although the Tour One can be app-driven there are hard controls too. On the right earcup are the Bluetooth/power switch, buttons that remotely adjust volume via Bluetooth and a 2.5mm input socket for wired use. On the left cup is the USB-C charging port and a button that engages the voice assistant or cycles through the noise-cancellation modes. The 'touch-sensitive' right earcup will, when tapped, activate some frequently-used functions.**

its non-Bluetooth form, cheaper). But you'd miss out on the gadgets – Google Assistant is fun, if

infuriating at times – and a noise-cancelling system that ranks among the best anywhere.



**JBL hasn't skimped on the accessories. As well as a zip-up carrying case, there's a USB charging cable and a flat 1.2m cable with adaptor for inflight use (where the Tour One's noise cancellation would best be appreciated!). The audio cable is rather insubstantial, and the right-angled rubber-coated plug at its player end tends to snag in pockets.**

### JBL TOUR ONE £280



**EXCELLENT** - extremely capable.

**VALUE** - keenly priced.

#### VERDICT

For smartphones, the Tour One is a match made in heaven.

#### FOR

- surprisingly-detailed sound for the money
- adaptive noise cancellation is effective
- a gadget-lover's delight!

#### AGAINST

- tonal balance not neutral
- earcup touch controls too sensitive
- non-perforated earpads can get 'sweaty'

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Hi-Fi World,  
November 2020



Hi-Fi News,  
December 2020



Hi-Fi Choice,  
November 2020



AV Forums,  
November 2020



StereoNet,  
October 2020

# Around The Block

Noel Keywood takes a close look at Audiolab's DC Block mains cleaner.

**H**ere's an unprepossessing little box I found fascinating. It's a unique form of mains conditioner that promises better sound quality by removing d.c. (direct current) from the mains feeding hi-fi amplifiers and such like. Unlike most mains conditioning equipment Audiolab's DC Block – a name with a double meaning – is both small and

inexpensive. And being Audiolab it comes with a solid technical background, free from smoke and mirrors.

Small and simple this unit may appear but in the background there's a lot going on. To d.c. block a current hungry load you must pass 50Hz through a very big capacitor and Audiolab told me they use two 10,000 $\mu$ F electrolytics (presumably bipolar, or

back-to-back).

But why block d.c. on the mains? Simple. It can saturate the core of a toroidal mains transformer, which many products have, putting distortion harmonics into the power supply – bad for sound quality. Interesting that Audiolab specifically identify this type of transformer in their literature. Big, old fashioned frame transformers – those giant blocks





**A fairly simple circuit board with two high voltage electrolytic capacitors of 10,000µF apiece Audiolab say, plus filter components.**

of ugly metal that weigh so much – are less affected, but only valve amps use frame (E/I) transformers these days.

The DC Block is aimed at all those products with toroidal mains transformers. It may well help a frame (E/I) transformer when the mains is especially d.c. laden, since even big E/Is can saturate at low frequencies when faced with d.c. Switch-mode supplies are immune to d.c. and right out of this argument at a technical level.

A question you may well ask, for which you'll get no answer, is "do I have d.c. on my mains?" You will have it if your mains supply is distorted by asymmetric power draw, a possibility if you live at the end of a long power line and/or one supporting a lot of heavy industrial/agricultural equipment. Audiolab say local household equipment may well be producing an asymmetric waveform that has a d.c. component – and this could be the case if many households are heavily loading a street feeder transformer. But unlikely methinks.

With so many variables it is impossible to predict whether there is d.c. on the mains due to waveform distortion, but it's a possibility. In which case the DC Block will – well – block it.

Getting further into the

mains cleaning business, Audiolab have added in a filter to remove unwanted rubbish above the 50Hz mains frequency as well. This forms an extra layer of mains purification.

The power limit is quoted a 600VA, equivalent to 600 Watts into a resistive load, or 2.4A. Hi-fi amplifiers even at their most powerful don't draw this on a continuous basis so there is plenty of leeway. Valve amplifiers may not suit, but their big frame transformers are tolerant of d.c.

Size wise, DC Block is small, measuring 113mm wide, 140mm deep and 59mm high. Weight is a hardly consequential 0.7kg. It can be tucked away anywhere, horizontal or upright. There are no cooling issues.

### SOUND QUALITY

To review any mains cleaning unit you ideally need a dirty mains feed to see what improvement results. Happily for me, but sadly for review purposes, I have a very clean mains supply. Worse, I don't use amplifiers with toroidal mains transformers. So you see, passing judgement on this little unit isn't so straight forward. And nor is its use in real life I found.

It's easy to line up our hi-resolution review system and expect insight on sound quality changes, as I'm sure many reviewers will, but there are two pre-requisites: the amplifier it feeds has a toroidal mains transformer, and the mains coming in is sufficiently distorted to suffer d.c. offset. Otherwise, Audiolab's DC Block will have little effect.

I live in a terrace of houses fed by a street transformer, unburdened by industrial/agricultural equipment. And that transformer is fed by St Johns Wood power station in NW London, one mile away. My mains is clean as a result, a symmetrical sinusoid clipped at top and bottom by voltage regulators. Inserting Audiolab's DC Block reduced distortion and noise by a small amount under measurement.



**Audiolab supply a special output cable with shielded plug to connect direct to an amplifier. They also supply a standard input cable.**



When I placed it in front of our Creek Evo 100A amplifier with toroidal transformer there was indeed a subtle improvement in "air and space". It wasn't ground-moving but there was useful improvement. Placing a diode/resistor distorting network in the supply feeding the Audiolab improvements became easily apparent, with a clearing of murk, and better solidity to images. A stronger sense of focus came in all-round.

For those with a dirtier supply, measurement showed clearly the DC Block has a big effect. In this circumstance it will usefully improve sound quality.



**CONCLUSION**

Audiolab's DC Block offers radical improvement in mains quality and therefore sound quality if you have a distorted mains supply. With a clean supply its effect is slight. So whether it is for you comes down to that estate agent's favourite phrase: "location, location and

*Old fashioned frame (E/I) transformers were heavy, clumsy things but reasonably resistant to d.c. on the mains. Modern toroidals like our (black) test mule here are smaller and lighter, so now most common. They form the basis of linear power supplies.*

location". But in this scenario it is location relative to the local power station that matters. For those at a distance and in a poor electrical

location, it's a clever upgrade with dramatic effect measurement shows, at a low price, so can be rated as outstanding.

**MEASURED PERFORMANCE**

Raw mains passed through a test mule toroidal transformer showed around -37dB total distortion and noise (THD+N). The waveform (Clean Mains) can be seen as a slightly triangular sinusoid clipped top and bottom. This is typical of a clean local supply. Via the DC Block THD+N measured -38dB, a relatively small improvement. Noise filtering was ineffective, a spike at 15kHz suggested.

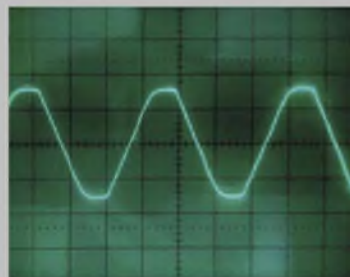
As another measure of noise filtering a Henry vacuum sweeper was connected to an adjacent mains outlet. When switched on it produced a distinct noise peak at 6kHz; inserting the Audiolab made no difference to this peak. These analyses were run in London, one mile from St Johns Wood power station.

To simulate a dirty supply I used diodes to distort a half cycle and a 7 Ohm resistor to mimic a long supply line. The waveform (Distorted Mains) is now asymmetric, meaning it has a d.c. component and visually it is quite obviously distorted. This resulted in -25dB noise from our test mule toroidal, that fell to -39dB with the DC Block in circuit – a massive 14dB noise reduction. Also, high frequency content fell, the Henry

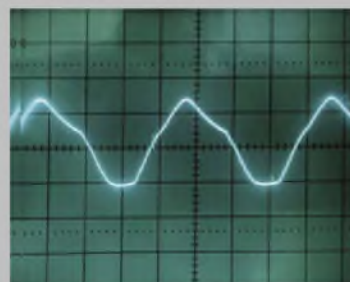
having no effect. DC Block works well with a dirty high impedance source, measurement showed – and as analysis in LTSpice suggested.

DC Block does clean a supply – but it must be dirty in the first place, and at the

**CLEAN MAINS**

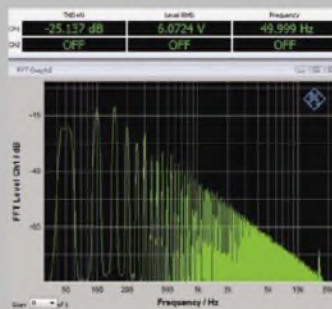


**DISTORTED MAINS**

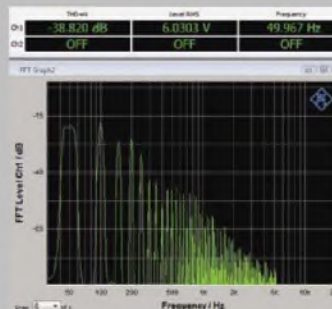


end of a long power line acting as a high impedance source. **NK**

**DISTORTED MAINS THROUGH TOROIDAL**



**DISTORTED MAINS VIA DC BLOCK & TOROIDAL**



**AUDIOLAB DC BLOCK £99.95**



**OUTSTANDING - amongst the best.**

**VALUE - keenly priced.**

**VERDICT**

A budget mains cleaner that works well under certain circumstances.

**FOR**

- small and inexpensive
- works well with very poor mains
- no heat or hum

**AGAINST**

- little effect with good quality mains
- only for toroidal transformers

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# vinyl section

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SEPTEMBER 2021

[www.hi-fiworld.co.uk](http://www.hi-fiworld.co.uk)

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# news



## MILES DAVIS

Merci Miles! (Rhino) is a double live album in a single sleeve, recorded at the Jazz à Vienne Festival, France on 1 July 1991. It includes Penetration and Jailbait, written by Prince. Varied tempos touch on jazz funk, jazz rock and introspection. Miles packs in a host of vibes here.



## AUDIOWEB

Anti-Britpop? Manchester-based house, dub, reggae band, Audioweb ploughed their own mid-90s furrow. Here, they offer their self-titled album (1996) on white vinyl plus 'Fireworks City' (1998) on red vinyl, both via Demon.

There's a Massive Attack kinda thing going on, more so with 'Fireworks City' perhaps – but this is cross-over music to the max.

## SEDIBUS

'The Heavens' is Sedibus' ([theorb.bandcamp.com/album/the-heavens](http://theorb.bandcamp.com/album/the-heavens)) four tracker.

Sedibus is basically The Orb Redux. Orb here was Alex Paterson collaborating with Andy Falconer (who was part of the Orb from 1991 - 1994). And you know what?

It sounds completely beautiful: dub, electronica, ambient, samples, coloured inner, green vinyl – what more do you want?



## BRAIN DAMAGE MEETS BIG YOUTH

A new collaboration between French dubsters, Brain Damage (Samuel Clayton Jr. and Martin Nathan) and the Kingston, Jamaica DJ, Big Youth ([braindamagedub.bandcamp.com/album/beyond-the-blue](http://braindamagedub.bandcamp.com/album/beyond-the-blue)). The team up cost Clayton his life, a victim of Covid.

There's plenty of jazz and blues tones in the mix here that hang in the air like tuneful clouds.



## BLUE STOMPIN'

Energetic and animated jazz from 1959 via sax men, Hal Singer and Kippie Moketsi (We Are Busy Bodies) packs in a swinging party affair onto a single disc on which the guys skip and gambol and squeeze in a heap of quality solos. Classic stuff.

## MR WILLIAMZ

...presents his new LP, 'Sound Killa Mindset' ([Tenwest/Scalpaiz;mrwilliamz.bandcamp.com/album/soundkilla-mindset](http://Tenwest/Scalpaiz;mrwilliamz.bandcamp.com/album/soundkilla-mindset)) with a reggae state of mind but with hip hop flavours on the periphery and plenty of clever rhyming.



## GEORGE JONES

'Country Music Jamboree' is a limited-edition (500 copies) 10" release, only available from the Bear Family website ([www.bear-family.com](http://www.bear-family.com)). The original version was originally released in Japan, under the Mercury label, in 1960. The original eight tracks are joined by four bonus rarities. Gotta say, this on-going, limited-edition 10" series is pure gold. Keep it up guys!

## ROD STEWART

Remastered, spanning five discs and featuring his mid-70s solo work, '1975-1978' (Warner) features 'Atlantic Crossing', 'A Night on The Town', 'Footloose & Fancy Free', 'Blondes Have More Fun' and 'Encores' featuring rarities in a – er – Celtic cover. Stirring hornets nests? Rod? Nah.



## C/A

'The Only Way We Know To Have Fun' By England's Council Of Legislation And Governing Body Of Hyper Real Simulations And Constructs ([cslasha.bandcamp.com](http://cslasha.bandcamp.com)) features "medieval speedcore, esoteric grime and horse riding ambient".

Full of c/a's collated singles and EPs from 2020, it combines chaos, melodicism and spectacle, like a million dandelion seeds suddenly blown into the wind.



## ARBENZ

Newly released, jazz drummer, Florian Arbenz works here with American trumpeter Hermon Mehari and Brazilian guitarist, Nelson Veras on the avant-leaning 'Conversation #1' ([florianarbenz.bandcamp.com/album/conversation-1-condensed](http://florianarbenz.bandcamp.com/album/conversation-1-condensed)). Offers plenty of room for improv and melodicism.

## THE PROBLEM OF LEISURE

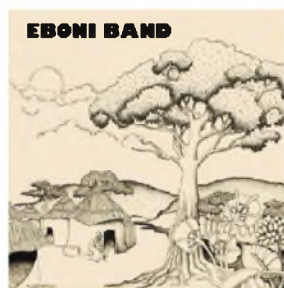
A compilation covering Gang of Four songs ([www.gangoffour.uk/the-problem-of-leisure](http://www.gangoffour.uk/the-problem-of-leisure)) featuring Gary Numan (oh, yes), The Dandy Warhols, Killing Joke, Helmet and more. There's plenty of variation and interpretation here. There's no shovelware. Only life.



## DEMON

Three from the UK label ([www.demonmusicgroup.co.uk](http://www.demonmusicgroup.co.uk)) begins with alt-pop, Drugstore's 'Songs for the Jet Set' (2001). 'Alt' because of the breathy, textured voice of Isabel Monteiro. She always sounded like a passerby, singing in microphone range. 'Other' from the group.

Also look out for Showaddywaddy's 'Rock'n'roll Jukebox' new compilation on pink vinyl and stuffed with hits – and Jimmy Castor's 'The Jimmy Castor Story' (1972). An R&B singer, he could belt a song but in a soothing manner.



## EBONI BAND

On the We Are Buy Bodies label ([we-are-busy-bodies.myshopify.com/collections/all](http://we-are-busy-bodies.myshopify.com/collections/all)) Eboni Band's self-titled LP was originally released in 1981, combines musicians from the Ivory Coast and, would you believe, ex-Motown talent. Combining musical cultures, the music within offers 70s-era funk, pastoral musings and joyous contemplation.



## THE BOY, THE MOLE, THE FOX AND THE HORSE

...is the new album by writer/illustrator, Charlie Mackey (Penguin). Actually, it's an audiobook aimed at all ages, narrated by him with a Max Richter soundtrack accompanying a new composition via Isobel Waller-Bridge. Bespoke sounds of nature (it was recorded in a barn) add flavour. And it's rather sweet.

## MUNSTER

Three from the Spanish audiophile label ([munster-records.com/en/](http://munster-records.com/en/)) sees the release of Venezuelan rocker, The Love Depression from 1968. Fuzz guitars combine with aggressive garage rock.

60s Peruvian rock, anyone? Los Teddy's 'Doce Psicóexitos' mixes Stones and Doors covers with originals covered in blues rhythms. Atmospheric with fine guitar work.

Included in Sebastião Tapajós & Pedro Dos Santos's 1972 release is a fascinating combination of often delicate acoustic guitar and free-form percussion.



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# Introducing Balance

Teac fit their new TN-5BB turntable package with balanced outputs. Noel Keywood explains why.

**"A** beautifully built and finished Teac turntable" I thought to myself after unpacking. Then I turned it around and looked at its rear. Oh!

Balanced outputs. Teac's TN-5BB turntable (£1449) has a more attractive rear than name, that's for sure – if you dream about using a balanced turntable.

That's unlikely – but you should. Because for technical reasons that

would fill a small book, turntables should be connected up in balanced fashion to banish hum and noise, giving a washed-clean sound. Few are.

Just looking at the big XLR sockets at rear told me straight

away what Teac were thinking about when designing the TN-5BB. But this is a topic I will cover in detail later; there's plenty more of interest.

It looks like a standard belt drive – a “drive it yourself” two speed, but the TN-5BB is a three speed with 78rpm as an option. Add in a bayonet-fixing SME-style removable headshell for quick change to 78rpm cartridge and it will appeal to die-hards able to survive seeing their 78s shatter.

More surprising was an electronic lift/lower system that worked beautifully, in dependable Teac style. Place arm over record, touch the big button up front and it lowers smoothly of its own accord. Yep, they've fitted a motorised lift/lower platform and it worked so well I used it. Rather than my usually more reliable fingers.

Better, at the end of a side the turntable detects arm run-out and triggers the lift platform to raise the arm and stop the turntable. This gives end-of-side silence: no tick-pop, tick-pop until you get off the settee. How civilised! Trouble is, moving the arm back to its rest actuated the arm movement sensor, needlessly re-starting the platter; I stopped it by switching the speed control to 0. Peculiar behaviour I thought, but then realised the speed had to be set to zero when the platter was stationary.

Whilst this is a belt-drive turntable that looks like many others it has some strong distin-



**A bayonet fixing detachable headshell, fitted with Ortofon 2M Red MM cartridge.**

guishing features. The d.c. motor is electronically controlled so changing speed is simply a matter of turning the rotary speed selector at front from 0 to 33, 45 or 78. No need to fiddle with the belt. Unusually, however, the platter has a sensor to keep speed accurate and tightly



**At front sits a circular lift/lower button with light touch action and small red LED to signal Up. Behind it lies a rotary speed selector.**

controlled, confirmed by our measurements.

The power supply is a small external wall-wart style switch-mode delivering in 12V / 1A. Using a low d.c. voltage from an external supply means the turntable does not have to be safety earthed to the mains, eliminating hum – a now-popular design approach. It leaves the metalwork electronically ‘floating’ and it must be earthed to the amplifier using a supplied black earth cable.

Removing the TN-5BB from its box presented an array of parts, including clear acrylic platter, belt, power supply, 45rpm adaptor, hinges for the clear acrylic dust cover and hex keys for arm adjustment. Also packed separately was the headshell with an Ortofon 2M Red moving magnet (MM) cartridge installed, avoiding the need for alignment. However, Teac do also include an alignment gauge. Similarly the counterweight must be fished out of its hiddy hole and screwed onto the rear of the arm.

More unusual than these parts were a push-on pulley cover that must be carefully aligned so the belt doesn't scrape, and a set of packing washers to increase the height of the adjustable feet, should one or perhaps two need it. The feet on our sample were very tight and needed jiggling to free them. What you don't get is a 45rpm depression or anywhere to store parts, an arm lock, or balanced cables. Teac supply normal phono (unbalanced) cables only.

Tracking force for the 2M Red they quote as 1.8gm in the User Manual, but Ortofon quote 1.6gm-2gm range and I used the latter. The Red used to be quite a bright

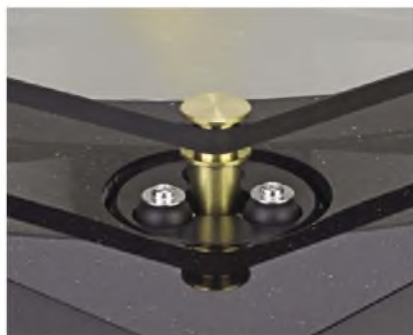
sounding MM, one lacking traditional warmth, but Ortofon have tamed it to lessen this. What you get is detail rather than warmth.

Putting it all together made clear to me how solid and well made the TN-5BB is. The dual layer plinth comprises an MDF base with a synthetic marble top, separated by a Washi paper layer, Teac say, for best sound quality. The plinth



**Height adjustable arm and lift platform; keys are supplied. Bias is set by a small rotary dial.**

is heavy, having a weight of 8.8kgs. Overall weight of the turntable is 10.5kg (23.2lbs) and it feels rigid, that's for sure, needing a strong shelf or support surface. Whilst plinth



**A machined single-step brass pulley drives the belt.**



**Teac supply a neat cover for the motor pulley. It must be aligned to avoid the belt.**

depth is 350mm, taking into account lid rear overhang when open think around 400mm. Plinth width is 450mm and height without lid is 150mm, but with it at least 430mm is needed between shelves when open.

The arm is developed by Japanese company SAEC. It uses knife edge bearings for vertical movement, but ball races for lateral (like old SMEs such as the 3009). The arm is an alloy tube that felt and sounded undamped and a bit ringy to me, but its S shape detunes the first bending mode to keep structural resonances in check, measurement showed. Its height can be adjusted, and height of the cue platform too.

## SOUND QUALITY

First peculiarity. In their literature Teac say only that balanced connection is for MC cartridges. And that's it – there's no elaboration. Since an MM cartridge is fitted and conventional phono leads supplied,



**To stop the platter speed (at rear) must be turned to zero.**

initially I used it how anyone might, unbalanced into our Creek Voyage i20 amplifier driving Martin Logan ESL-X hybrid electrostatic loudspeakers.

But musing on this I could not help feeling users might wonder why the XLR sockets can't be used with the cartridge fitted, or even what they are for. And what about

changing over from MM, that the kids use, to dad's precious MC? Change the leads as well?

Turns out, after checking the earthing system with a meter, you can connect it up balanced with the cartridge supplied or any other MM. It connects the cartridge screening can to one signal line (Left ground, green) but this is no disaster – and apart from this you get fully balanced working with MM that will eliminate hum, buzz, ground currents et al. Well, that's the theory. Trouble is only one phono stage offers balanced connection for MM, Pro-Ject's Phono Box RS2. Teac's PE-



**The rear counterweight is rotated to apply tracking force.**

505 does not – likely why Teac don't mention using MM balanced. More on this later.

To review this turntable I realised that the budget 2M Red could usefully be upgraded to 2M Black with its better stylus, and also that it should be connected to our Phono Box RS2 to provide balanced working. Then, for MC, I had to change over to Teac's PE-505. Running a balanced turntable unbalanced is rather missing the point, after all.

With the Ortofon 2M Red fitted, connected up with the phono cables supplied, I got much the sound expected from previous experience. This is now a cartridge accurate in tonal balance, meaning it lacks the warmth of old MMs, being more open and revealing. Yet without high-end spit from the stylus, ticks and pops don't fly out like bullets, making treasured old LPs playable.

I can't say "detailed" because the elliptical stylus sounded slightly blurred, and this demanded a change to the 2M Black stylus with its Shibata profile. At this point I found our Black stylus did not comfortably fit this Red unit, so the whole cartridge was changed. It brought an immediate and significant improvement, the 2M Black with Shibata stylus imposing focus and

solidity to the Trondheim Soloists behind Marianne Thorsen, playing Mozart violin concertos. Not only were strings less mellifluous – individual violins rather than a blob of them – but the performance seemingly came to life.

Next it was time to switch to MM balanced working. Before doing this, turning volume to maximum with unbalanced there was a slight buzz at full volume even though the earthing was perfect. Moving to balanced with the Pro-Ject Phono Box RS2 one channel went silent but the other still had a very slight buzz, if much reduced. This came from the screening can connected to the right channel (green) ground I found by removing the stylus assembly and touching it. So the can does pick up external noise, but it was barely audible and balanced with MM was slightly quieter and better.

At full volume (which introduced massive gain from the Creek) I noticed two other issues. The arm was slightly microphonic: lifting it put handling noises through the 'speakers, and the phono sockets (now unused) were 'live'. Touching either of them put a massive buzz through the speakers, because they are fully floating and connected to the XLR lines. Not ideal, but as the Left channel remained totally silent at full volume these floating sockets were not injecting hum or buzz, unlike the floating screening can. Note that I'm talking about very low levels of buzz here, inaudible at normal listening levels.

So onto MC. I strapped in our Ortofon Cadenza Bronze. Switching to MC on the RS2 and turning volume to maximum there was no buzz at all, just very slight residual hiss. Playing the Trondheim Soloists again I was greeted by an even purer sound, one with more depth and body to it, as you'd hope from a high quality MC. Now the TN-5BB was really motoring – I was getting a lovely sound. Swapping over to Teac's PE-505, connected balanced through Chord Company Epic cables, again there was no buzz at full volume and the sound brightened slightly because it has a lighter hue than the RS2.

Good speed stability came as a sense of pitch confidence; notes were rock stable, never wavering or sounding watery. This was an obvious strength of the Teac: the electronic timing of synth in Alison Goldfrapp's Lovely to CU



**The platter spindle is captive, with a tapered brass bush for the platter.**



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(Supernature) was delivered with a tight grip. Rolling drum work in Sing, Sing, Sing, from the Syd Lawrence Orchestra (Big Band Spectacular) strode along to perfection.

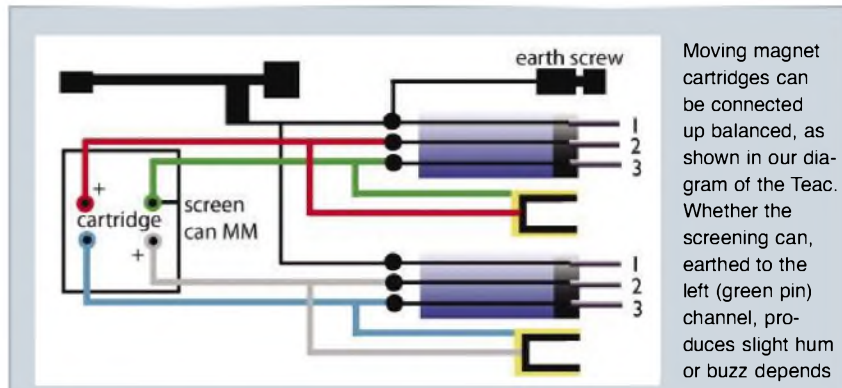
TEAC's SAEC arm lacked the low frequency definition of structurally more rigid designs – from Rega and SME for example. Hand drums and percussion in Hugh Masekela's Uptownship (Hope) weren't as separated and solid as I know them from our SME309 and my SME312, but then these arms cost more than the Teac in its entirety. At the price it did a good job.

And as the LPs passed by I found the turntable a delight to use. Put arm over LP, press the big button up front (which has a light action) and walk away. When the music ends the arm lifts and all falls silent.

**CONCLUSION**

Beautifully built and finished Teac's TN-5BB turntable was visually attractive, leveraging every little feature of these complex contraptions for maximum advantage – even its feet look good! The only thing missing was a flashing stroboscope. I found it lovely to use as well, the motorised arm lift/lower engineered to perfection, the plinth solid and steady.

With the budget Ortofon 2M Red moving magnet cartridge fitted it gave a balanced and entertaining sound from vinyl, free of old-world problems like watery musical pitch



Moving magnet cartridges can be connected up balanced, as shown in our diagram of the Teac. Whether the screening can, earthed to the left (green pin) channel, produces slight hum or buzz depends upon surrounding

conditions. The turntable must be kept away from other mains powered equipment and also away from (or outside of) a ring-main induction loop or lighting circuit with dimmers. These set up fields that can be heard as buzz, even when earthing arrangements are correct.

Moving Coil (MC) cartridges have few coil turns, making them far less sensitive to outside electromagnetic fields, and they don't have screening cans. The body, if metal, is earthed to the arm, not to Left ground (green).

The phono sockets float electrically on the Teac; they are not earthed.



At rear are balanced XLR outputs and isolated (balanced) phono socket outputs. The earth terminal grounds the arm, as do the XLRs via Pin 1.

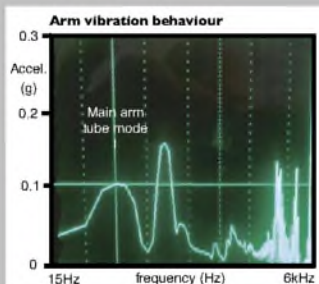
or sharp ticks and pops. Upgrading to better cartridges showed it was able to reveal quality improvements, especially when the balanced outputs were used. The arm tube could

usefully have been less lively, but at the price it was acceptable. This is a fine turntable, able to deliver great sound in easy and convenient fashion. So highly recommended.

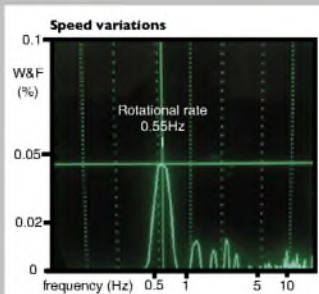
**MEASURED PERFORMANCE**

The 3150Hz test tone of a DIN 45-545 test disc was reproduced as 3152Hz on our Wow&Flutter meter – close to perfect. Wander around nominal was

**ARM VIBRATION**



**WOW & FLUTTER**



small at 3Hz, making basic speed both correct and very stable. As a result variation values were very low for a belt drive, wow measuring 0.1% and flutter 0.05%. Total W&F (European DIN weighted) came in at just 0.06%, falling to 0.04% with Japanese JIS weighting (as Teac will measure it). This is a very speed stable turntable, within a whisker of Direct Drive. Our analysis shows relatively low variance at 33rpm (0.55Hz), with low harmonics and flutter to right – a fine result.

The arm had a strong first bending mode at 100Hz and a third-order related harmonic peak at 300Hz, our analysis made with a Brüel&Kjaer accelerometer on the headshell shows.

The turntable measured very well but the arm was mediocre, due to main bending mode resonances in the light, undamped alloy tube. **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>0.06%</b>



Supplied phono cable and earth lead. Hex keys for arm adjustment and washers for the feet.

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# STONE THE CROWS

## ODE TO JOHN LAW REPERTOIRE

**S**poouting blues, rock but also a touch of soul in their presentation, Stone The Crows were named after Led Zeppelin manager, Peter Grant saw the band play live. He apparently said "Stone the crows!" (he actually appended a "cor blimey" on the front, so I hear). Meaning an expression of shock and surprise. The band were a tremendous 'live' phenomenon.

It's a saying I'm very familiar with, coming from the north-west of England, so the band's home base in Glasgow would have had no problems at all with that monicker.

The band featured quality talent including members who had played with John Mayall while lead guitarist, Les Harvey, was the brother of the then big star, Alex Harvey (he of the Sensational Alex Harvey Band).

Lead singer of the band, Maggie Bell had (has) a full-throated voice. She was also doomed to be perennially compared to Janis Joplin because of a similarity in both tone and presentation but I feel frustrated on Bell's behalf at this. I don't see it as fair because, despite the similarities, both were very different in approach and style. Both had their own unique approach to music yet this lazy journalism has seemingly dogged Bell over the decades which has meant that she's somehow been placed in surreal competition, through no fault of her own, in which people declare Joplin 'the winner'. Apparently because Janis Joplin sounds more like Janis Joplin. Which I'm sure came as a massive surprise to Maggie Bell.

The band were finding it hard to get traction towards fame and fortune but were working hard when guitarist Les Harvey was tragically electrocuted and killed on stage in May 1972.

"He was telling the audience there was something wrong with the stage equipment and to just bear with us" said Bell. "He put his hand on the microphone and on the guitar and that was it. Peter Green was going to join the band, he rehearsed with us. The night before we were due to play a festival he called up and said he couldn't do it. Steve Howe stayed up all night learning the songs and did the gig for us".

The rest of the band were understandably devastated. Despite the lack

of superstardom, the band were collecting a devoted following and everyone pitched in with songwriting duties – so the group were a true collective at the time. "After he went we didn't want to write songs any more. It was as though the air had been pushed out of us" said Bell.

This LP sat in a place of happier times. Released in 1970, 'Ode to John Law' exhibited song-writing democracy in action. John McGinnis contributed three songs, Colin Allen and Les Harvey teamed up on two others, Harvey provided one on his own while a single cover – the magnificent 'Danger Zone' – was penned by Percy Mayfield.

It was, in fact, Danger Zone that alerted me to the existence of this group as an entity. I saw the band play it live on the German TV program 'Beat Club' and then heard them again in a live session for John Peel's radio show in the early seventies.

"The lyrics to that particular song are still relevant today" said Bell recently. "The world is in an uproar and the danger zone is everywhere. I do duo a number with Dave Kelly, the blues guitarist and singer on that one to this day and it still goes down very well".

Politics were elsewhere on this album. The title track, according to drummer Colin Allen, "...was basically about the shooting of those Kent State University students. That's what triggered it".

This was the 4th May 1970 incident when Ohio National Guard soldiers shot dead four and wounded nine other students taking part in a peace rally.

"I gave the word to Maggie and she kind of worked it out with Leslie and it went really well" said Allen.

As did the rest of the album. The group's best in my opinion. In fact Repertoire has released this one in a nicely presentable digipak gatefold with the CD disc in one half and an informative booklet in the other.

Other recent album releases by the band from Repertoire include the self-titled debut (1970), 'Teenage Licks' (1971) plus two Bell solo outings, 'Queen of the Night' (1974) and 'Suicide Sal' (1975). All are worth grabbing but 'Ode to John Law' is a stand out classic.

**PR**



'Ode to John Law' exhibited song-writing democracy in action.

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# Song talk

**Books on legendary bands Rush & Queen, reviewed song-by-song. And an update on Floyd's Pigs Might Fly. Paul Rigby explains.**

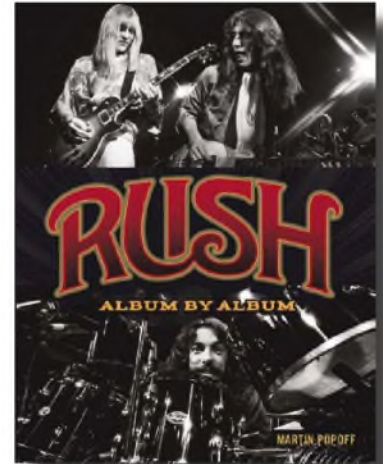
**Titles: Queen, Album by Album & Rush, Album by Album**

**Author: Martin Popoff (for both books)**

**Publisher: Voyageur Press**

**Price: £19.99 (Queen) & £26 (Rush)**

**Pages: 218 (Queen) & 192 (Rush)**



I was interested in this approach to an album-by-album survey in separate books about Rush and Queen. It's not a new idea. It can look tired and worn. Popoff (a heavy-metal journalist) does freshen things up though, after quoting the album title and listing the tracks and basic credit information.

What Popoff has done is to get into a huddle with other people and generate, if not a consensus, then a group discussion and underlying themes.

So the introduction to the album is given a sense of place. What was the backdrop to the album? What else was going on in music and what was the state of the band going into the album?

For Rush's debut album we go straight into a series of Q&A sequences with the likes of Gilbert, Grandy, Irwin and Hammett.

Whoa! Hang on a second there. Let's just rewind a moment. Who?

Well, yea. Exactly. I was reading lots of quotes, from people seemingly well informed about the band and I had no clue who they actually where.

The book's design has an issue right there. The biographies for all of these quoted figures appear – after I stopped to do a bit of

searching – at the end of the book but there's no sign posting to tell me that. There's no indication at all in the introduction. There's no, 'How to use this book' section. Nothing.

In fact, these figures are musicians, roadies and the like for Rush so the insight they bring to the album is excellent and of great use but the book's design is found wanting. And we've just hit page 12.

Once the information is to hand though, the book settles down into an enjoyable read. There's a discussion about Rush's early comparisons with Led Zeppelin (an 'issue' when the Rush debut hit the streets), how Neil Peart settled onto the drum stool by the third album and so on.

This style is followed within the physically smaller yet longer book on Queen and many contributors to talk to (both books have around eighteen or nineteen commentators each).

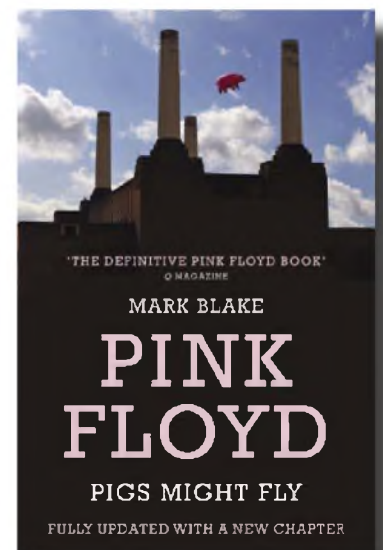
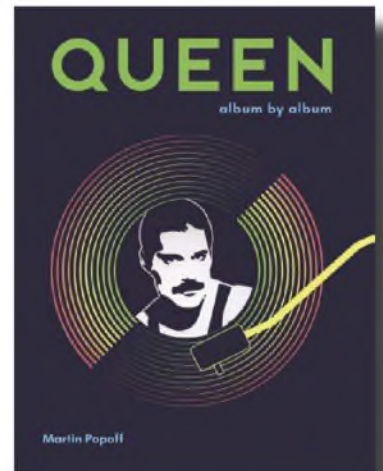
There's some considered and thoughtful comments here. The interviewees have obviously thought long and hard about this music and how it fits into the wider musical world and their own. Job Wright, founder of the website, Classic Rock Revisited even talks at length why it was important that 'We Are The Champions' directly followed the song, 'We Will

Rock You' on the LP, 'News of the World'. So there's plenty of detail here.

Both books – Rush and Queen – adopt a fresh and lively take on the album-by-album approach. They are informative, they are considered, they provide insight and understanding. I look forward to seeing more from this series

## EXTRA! EXTRA!

If you have a copy of Pink Floyd's exhaustive biography 'Pigs Might Fly', first published by Aurum in 2007 and written by Mark Blake, be aware that the 2013 edition adds extra information. The latest edition has a pink spine, includes the 'Revised' text at the base of the cover and adds an extra chapter.





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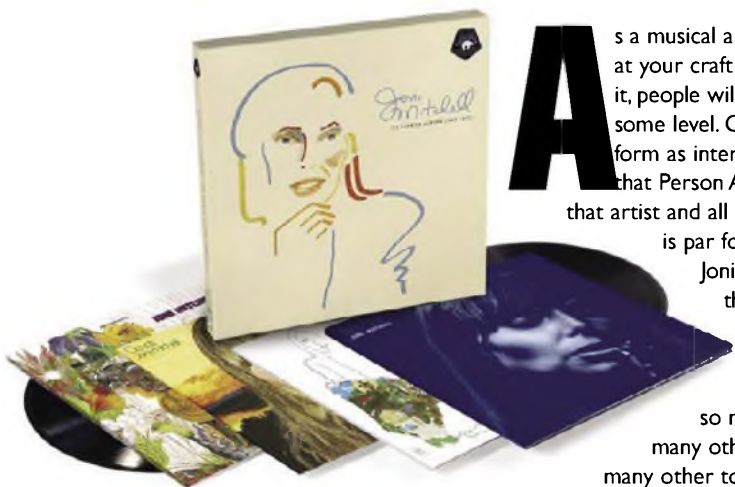
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# JONI MITCHELL

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**A**s a musical artist, if you're any good at your craft and consistent with it, people will notice. At least on some level. Given time. Fans will form as interest grows. So hearing that Person A, B and C love this or that artist and all their nefarious works is par for the course.

Joni Mitchell has that. And that's fine and dandy. Honestly, though? Bob Dylan apart, I have never heard so many of her peers, so many other creative artists, so many other top and unique stars talk about her in the same manner and tones as her fans.

There is something extra when Joni Mitchell is discussed. And that extra has produced an incredible degree of influence on many female and male, let's not forget, singer-songwriters and others.

"They tend to lump me always with groups of women" she once told Morrissey (yes, that one). "I always thought 'they don't put Dylan with the Men of Rock, why do they do that to me with women?'"

Mitchell's sense of adventure and honesty has proven captivating to many. In her work, she explains a lot, she exposes her inner self and it's a style that is wholly attractive to a host of devotional fans out there.

Just don't call her 'confessional'. And many do. You look at most places on the Internet devoted to Mitchell's work and that word pops up every other line. "I don't think of myself as confessional. That's a name that was put on me" she said. "The confessional poets like [Sylvia] Plath, whom I read later when they started calling me confessional, most of their stuff seemed contrived to me and not as greatly honest as it was touted to be. The point is not to confess. I've always used the songwriting process as a self-analysis of sorts. Like the Blue album – people were kind of shocked at the intimacy".

Mitchell was a sixties folkie but she broke through to other audiences when she released the likes of Chelsea Morning and The Circle Game. Her debut Song to a Seagull was embraced by the folk-rock scene and she was

included and associated with Crosby, Stills & Nash. Crosby produced the LP, Nash became her boyfriend. Emotions apart, it helped the career too.

She was different, though. Different guitar tunings, a different kind of folkish delivery, a fragility of form yet strength in her message.

In 1969 Clouds won her a Grammy, a result of her increased confidence and boldness in her songwriting.

Then, in 1971, this happened. Blue. An album of character and intensity and sadness, love, loss and poetry. There's a raw quality here and a sense that well, you really don't know what she's going to do or say next. Anything's up for grabs. If any album threatens to give you a chills, it's this one.

One reason for that is Mitchell lives the song, in the song, while she sings that song. As she recently told The Guardian "It's you know, the words to the song are your script. You have to bring the correct emotion to every word. You know, if you sing it pretty – a lot of people that cover my songs will sing it pretty – it's going to fall flat. You have to bring more to it than that".

She writes via observation. And she travels to observe. Back in 1968 Mitchell was asked about her creative growth. It showed her path towards the making of Blue. "My songs are very honest" – that word again. Not confessional, "they are very personal, extremely personal. Sometimes they really hurt to sing. Some nights, you really get into them and they really take a lot out of me, which is something music never did before".

You can find this album, newly polished and sparkling within a newly reissued box set via Rhino. Called The Reprise Albums 1968-1971, there's a new mix of Song To A Seagull (1968) and remastered versions of Clouds (1969), Ladies of the Canyon (1970) and, of course, Blue (1971).

And the cover art you can see at the top of the page, here? That's a self-portrait Mitchell sketched during the time that these albums were created. It was "...recently rediscovered in one of her old sketchbooks".

Audiophiles should note that the remastering has been completed by Bernie Grundman so you can be assured that this series of albums will sound top notch. **PR**

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