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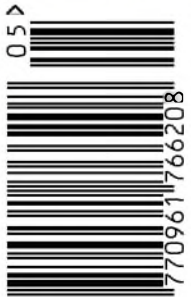


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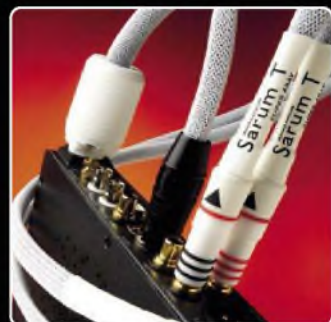


9 770961 766208

- SOUNDECK PM PLATTER MAT
- FOCAL CLEAR MG HEADPHONES
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Chris Frankland, John Pickford.



Everyone, it seems, has the sound of an ideal loudspeaker in their head. That's why there are so many loudspeaker manufacturers on this planet, each founded to deliver that elusive perfect sound. Ah – what simple romance!

It's easy enough to achieve. Buy some drive units, put them in a box of specified volume, knock up a crossover and get twiddling! I've done it all in the past, with circular saw, sheets of MDF and a lot of necessary enthusiasm. There's no end of design software

available to match bass unit to cabinet and design a suitable crossover.

At the end of the day though, do you tweak to get the sound you want or go down the more difficult path of a loudspeaker that is technically accurate? This is notionally quite simple with loudspeakers: they should produce the same sound pressure output as a microphone sees as a sound pressure input.

Having done all this I can say with confidence that "accurate" is different to "exciting". Turn up bass and treble for the latter.

On p10 you can see how French loudspeaker manufacturer of note, Focal, approach the issue with their Chora 806 loudspeaker. Like KEF of the UK and Quadral of Germany they go for accuracy. Within that constraint the Chora 806 delivers a great sound from its damped carbon fibre/polymer cone material that is a delight to hear.

B&W prefer to liven things up in their vivid sounding 607 S2 Anniversary Edition bookshelf loudspeaker that you can read about on p38. This little 'speaker, like the larger 603 S2 reviewed in our March 2021 issue, offers a different take on things. It isn't accurate in response terms but it certainly delivers enormous detail and insight, garnering praise from many.

Loudspeakers will forever remain contentious. I hope you find our insightful views that are based on measurement as well as personal opinion useful in guiding you through the loudspeaker maze.

Reading Chris Frankland's appraisal of the Topping E30 DAC on p17 I'm reminded that China still manages to deliver products of breathtaking ability relative to cost. This little DAC has a top quality AKM 4493 digital converter chip on board, delivered fantastic results under measurement yet cost peanuts. How do they do it?

And finally, don't miss Ortofon's impressive Per Windfeld Ti moving coil cartridge on p69 – a premium product that brings superb sound from LP, every bit as good – arguably better – than that possible from digital. Who would have expected LP to manage this.

Noel Keywood
Editor

testing (see www.hi-fiworld.co.uk for full explanations of all our tests)

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

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

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

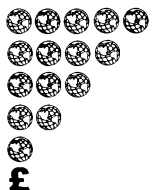
No other UK hi-fi magazine has in-house testing, and none has access to such advanced tests across all types of equipment. That's why you can depend on *Hi-Fi World* reviews.



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contents



22

L'ACOUSTICS CREATIONS
CONTOUR XO EARBUDS



38

B&W 607 S2 ANNIVERSARY EDITION
BOOKSHELF SPEAKERS



17

TOPPING E30 DAC



42

BLACK RHODIUM QUICKSTEP S
LOUDSPEAKER CABLES

LOUDSPEAKERS

FOCAL CHORA 806 LOUDSPEAKERS 10

Slatefiber cones give this stand mounting loudspeaker clear and accurate sound says Noel Keywood.

B&W 607 S2 ANNIVERSARY EDITION BOOKSHELF SPEAKERS 38

The vivid sound of B&W, courtesy of Continuum cone technology, in a small bookshelf loudspeaker. Noel Keywood listens.

DIGITAL

TOPPING E30 DAC 17

Chris Frankland listens in to a high technology ESS equipped DAC and likes what he hears.

AMPLIFICATION

MOONRIVER AUDIO MODEL 404

INTEGRATED AMPLIFIER 34

From Sweden comes a specialist analogue amplifier tuned for fine sound, Noel Keywood finds.

CABLES

BLACK RHODIUM

QUICKSTEP S LOUDSPEAKER CABLES 42

Martin Pipe enjoys loudspeaker cables from Black Rhodium.



34

MOONRIVER AUDIO MODEL 404 INTEGRATED AMPLIFIER

MAY 2021

VOLUME 31 : NO. 3

SOUNDBITES

75 HART VINYL BRUSH/RUSS ANDREWS STASIS SUPER CLEAN BRUSH

Martin Pipe on two important accessories for vinylistas.

OLDE WORLDE

45 QED A270 INTEGRATED AMPLIFIER

The full background to QED's early 1990s A270 amplifier – researched by Martin Pipe.

VINYL

66 NEWS

All the latest and greatest vinyl releases for you, from the pen of Paul Rigby.

69 ORTOFON PER WINDFELD TI MC CARTRIDGE

A high-end moving coil cartridge built with an SLM titanium body. Noel Keywood takes it for a spin.

73 SOUNDECK PLATTER MAT

Martin Pipe tweaks his turntable with a special platter mat.

75 HART VINYL BRUSH/RUSS ANDREWS STASIS SUPER CLEAN BRUSH

Don't forget those small but important accessories when spinning LP. Every little bit helps says Martin Pipe.

77 AUDIOPHILE BOOK

The Lyrics of Syd Barrett, a book that helps Paul Rigby understand early Pink Floyd songs.



HEADPHONES

22 L'ACOUSTICS CREATIONS CONTOUR XO EARBUDS

Martin Pipe explains what makes these in-ear phones so sensitive and unusual.

64 FOCAL CLEAR MG HEADPHONES

Focal release quality headphones designed for professional use. Expert Martin Pipe listens closely to what they offer.

REGULARS

7 NEWS

Words from the world...

15 COMPETITION

Your chance to win Esprit Beta loudspeaker cables worth £580.

24 SUBSCRIPTIONS

Ensure your copy every month and save money too!

27 MAIL

Seven pages of your views, wonderful as always...

56 AUDIOPHILE VINYL

Paul Rigby rounds up the latest audiophile vinyl releases

58 WORLD CLASSICS

Brilliant designs that have stood the test of time...

49,51,53,55 OPINION

The team get to grips with matters music, hi-fi and life!

78 DIAL-A-DEALER

A comprehensive guide to UK hi-fi retailers.

79 CLASSIFIEDS

Second-hand bargains.

80 NEXT MONTH

What we hope to bring you in the next sizzling issue...

81 ADVERTISERS' INDEX

82 CLASSIC CUTS

Byzantium, a band from the 1970s that produced fine music, says Paul Rigby.



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news

VALVE HEADS

McIntosh's latest thermionic headphone amplifier is the MHA200, retailing at £2,795. Proprietary features, such as the advanced Unity Coupled Circuit transformers, have been adapted so that virtually any headphones can be used. This circuit is the same technology McIntosh was founded on in 1949 and is still used in the company's full-size home audio amplifiers.

There are three connectivity options: a pair of 3-pin balanced XLR connectors; a 4-pin balanced XLR connector, plus a 1/4-inch (6.35 mm) stereo headphone jack. For connection to home audio devices, the MHA200 features both balanced and unbalanced inputs.

Valve complement is a pair of 12AT7 and 12BH7A. McIntosh custom designed and manufactured the output transformers to match the valve amplifier section to the headphone output section, in order to ensure maximum power transfer for various loads. A custom toroidal power transformer with low mechanical hum and a low magnetic field works to help reduce electrical noise.

Further details www.mcintoshlabs.com



RUB OF THE GREEN

Following the success of the high-end M6x Vinyl phono stage, Musical Fidelity now offer the simpler M3x Vinyl, which promises much of the performance of its more expensive sibling – but at an entry-level price. A fully discrete design, connectivity is straightforward with single-ended RCA input and output. The toroidal power transformer with low core saturation is said to decrease electromagnetic radiation while delivering a high signal to noise ratio. Split passive EQ in separate amplification stages without global feedback loops is used for its RIAA curve, while Musical Fidelity boost their green credentials by implementing their new proprietary power supply solution, which has zero standby power consumption.

The M3x Vinyl has a steel chassis and a thick, heavy aluminium front plate designed to bring rigidity to the entire unit. The new phono stage complements the company's M3SI integrated amplifier and M3SCD CD player and is priced at £1,199.

Further details www.henleyaudio.co.uk

INTEGRATED TUBES AND TRANSISTORS

Copland head-up their CSA series of hybrid valve/solid-state amplifiers with the CSA150 integrated amplifier. It employs the Copland double triode gain stage with MOS-FET buffering ensuring a tight interface between the tube and the solid-state power amplifier. Under dynamic conditions this current feedback power plant is said to deliver several times its rated power – enough for almost any loudspeaker.

The CSA150 features a D/A converter with multiple S/PDIF inputs, PCM, and DSD capabilities using the ES9018 Reference 32-bit DAC in quad-mono configuration, 8 mono to 2 stereo configurations. Besides the digital coax and optical inputs an additional Bluetooth aptX module makes airborne sources available in HD quality.

RCA and balanced XLR inputs are available alongside a RIAA phono input for MM cartridges. The CSA150 also features a tape loop in/out function as well as a pre-out terminal and 6.3mm headphone output. Available in black or silver, the UK RRP is £4,988 including VAT with the optional Bluetooth module an additional £198.

Further details www.absolutesounds.com



CAN THE CANS?

Focal's new Clear Mg Professional – hi-fi headphones for professionals – has ambitions to be the leading headphones in the pro-audio world. Designed for music creators looking for a reliable tool in terms of quality and transfer speed, the circumaural open-back headphones incorporate 40mm full-range drivers with magnesium 'M' shaped inverted domes. This new cone, combined with the frameless 25mm high copper voice coil is claimed to make the sound experience even more precise, while the flexibility of the surround is said to offer more dynamics and impact across the full frequency spectrum. The red and black colour scheme aims for a blend of classic and modern looks, while the thermoformed carrying case is woven in colours to match the headphones.

Four years of research and development went into the design to achieve an optimal combination of lightness, rigidity and damping. The result of this can be experienced for £1,299.

Further details www.focal.com



ETERNAL TRIANGLE

French loudspeaker manufacturer TRIANGLE revisits two of their iconic models with limited editions to celebrate the company's 40th anniversary. The Antal 40th and Comete 40th both feature horn-loaded tweeters and small pleat midrange drivers with cellulose paper cones. A new rose gold anodized magnesium dome tweeter has been developed exclusively for the two anniversary models, along with a new generation of bass drivers.

Two finishes are available for these limited editions: Santos rosewood is a varnished wood offering a gloss finish, while Sycamore features a satin finish with natural hue. The company says "Today we are celebrating 40 years of craftsmanship, 40 years of passion, 40 years of men and women working side by side to transform our 'speakers into a product that creates a strong visual and sonic emotion. This is what we want to celebrate with our 40th Anniversary Series. TRIANGLE is a sound, a know-how and a rich tradition of design and acoustic performance.

Further details www.trianglehifi.com



EVERY NOW AND ZEN

iFi has reworked the award-winning ZEN DAC and ZEN CAN to create step-up Signature versions aiming to deliver even higher levels of performance, alongside an associated 'crowd design' initiative. Initially, these products were created in limited number to be sold exclusively by US-based crowd-shopping website Drop.com.

Now that this limited run has sold through, iFi is ready to ramp up production and launch these Signature editions worldwide. The ZEN DAC (a USB DAC/headphone amp) and ZEN CAN (an analogue headphone amp) boast enhanced circuit design to deliver a 'signature' level of performance. Both models sport new livery, finished in deep Space Blue – the colour iFi uses to differentiate Signature editions of its products. RRP is £249 each and for a limited time both come with iFi's 'iPower X' AC/DC power adapter, which costs £99 when purchased separately.

Further details www.ifi-audio.com

BUDDING MELOMANIA

Cambridge Audio's new wireless earbuds Melomania 1+ takes their award-winning Melomania 1 up a level by adding app control, customizable EQ settings and High Performance Audio Mode. Now featuring USB-C on the charging case, the Melomania 1+ has nine hours of battery life on a single charge, with the charging case offering four times that, giving 45 hours of total playing time.

The earbuds' graphene-enhanced drivers are powered by the same hi-fi amplification found in the company's CX range of stereo amplifiers.

A new Melomania app – available for iOS and Android devices – enables users to check the battery level of each earbud, locate misplaced earbuds on a map and receive firmware updates to take advantage of future user experience improvements. The design features Bluetooth 5.0 technology and supports AAC and aptX codecs.

Available in black or white, priced at £119.95. Further details www.cambridgeaudio.com



FOUNDER MEMBERS

Canadian audio specialists Paradigm launch their new Founder Series, a six-model range of premium loudspeakers for hi-fi and home cinema systems.

Founder is the first completely new speaker line to be introduced since Paradigm founder Scott Bagby re-acquired the company two years ago. Though it draws on nearly 40 years of Paradigm innovation and evolution from the award-winning flagship Persona range, it brings a host of new technologies to its driver designs, cabinet construction and even the hardware that holds it all together. Designed, tested, engineered, and manufactured at Paradigm's facility in Toronto, Canada, the new series includes three floorstanders, the Founder 80F, Founder 100F and the hybrid active/passive Founder 120H with ARC Genesis room correction; along with the Founder 40C standmount, Founder 90C centre and Founder 70LCR which can be installed vertically or horizontally.

All models are available in a choice of four artisan-grade finishes – Walnut or Black Walnut fine-quality wood veneer, and Midnight Cherry or Piano Black high gloss. Prices start at £1,999.99 per single unit.

Further details www.paradigm.com





Slate Great

Focal use Slatefiber cones in their Chora 806 loudspeaker. Noel Keywood thinks they're great.

At shows you may well bump into one of Focal's Grand Utopia show-stoppers – an impressive loudspeaker that's sonically vivid. Such show-stoppers apart, Focal produce domestic smoothies like the Flax coned Focal Aria 926 we reviewed in the January 2015 issue. The Chora 806 I'm reviewing here carries that approach forward: it's a sophisticated but affordable (£600) bookshelf design.

With the Chora 806 Focal (France) use another fibrous cone material, this time aligned but non-woven recycled carbon fibres held in a thermo-plastic polymer that adds damping to the cone material. Polymer based cones, such as Spondor's EP77, give a damped sound lacking the zing of metal cones; there's a different hue to the sound. Currently, metal cones are popular with manufacturers but I veer toward polymer mainly for its better revelation of instrumental timbre. Slatefiber, a new material introduced in 2019 Focal say, has rigidity and light weight, in addition to being well damped. It gets its name solely from slate-like appearance; there's no slate in there.

Accompanying this unique 165mm bass/mid unit and complementing its properties is a 25mm inverted dome aluminium/magnesium alloy tweeter sitting behind a protective grille. Interesting that our measured frequency response of a similar tweeter used in the Aria 926 within the January 2015 review is almost identical in nature and balance to that of the Chora 806 I am reviewing six years later. Showing that Focal pursue a particular and identifiable design ethos without variation over the years: their loudspeakers have almost ruler-flat response accuracy; there's no attempt to raise upper midband or treble for

showroom effect. So we're not looking at a bright loudspeaker here I'll note before getting onto sound quality later.

Described as a 'bookshelf' design, with appropriate front firing port, I thought the 806 a bit large for this. It measures 431mm high, 210mm wide and 270mm deep, weighing 7.35kg – quite heavy. They'd need strong shelves – unsurprising that Focal

to 215ft squared, so think around 16ft x 13ft maximum.

SOUND QUALITY

The Chora 806s were connected to a Creek i20 amplifier through Chord Company Signature Reference cables. Signal source was an Oppo UDP-205D CD player whose ESS ES9038PRO DAC was also used to process PCM and DSD files from

"the Chora 806s filled our large listening room with gleeful bass power"

offer a stand as an alternative to shelf mounting. Finishes are "light wood", "dark wood" and "black".

As far as we could see, the veneer is artificial, but neatly applied all the same. Since real wood veneers have a matt lacquer applied these days, it's difficult to tell the difference even with a magnifying glass. There are two floorstanders using a similar drive unit array, the 816 and 826.

Rear connection is mono-wire only; there's no provision for bi-wiring. Focal suggest it is suited to rooms up

a MacBook Pro running an Audirvana+ software player.

From the off, Focal's Slatefiber



A fully veneered cabinet with clean edges and mono-wire rear terminal panel that accepts 4mm banana plugs, bare wires or spades.

MUSICAL FIDELITY



INTRODUCING THE:

M6x Vinyl

The **M6s PRE** is a fully balanced audiophile pre-amp from beginning to end. With a plethora of input options and masses of power to suit any listening environment, the epitome of Musical Fidelity design; superlative technical performance, great flexibility, excellent build quality, beautiful visuals and excellent value for money.

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

cone distinguished itself with a stunning sense of clarity to vocals in particular, with a washed-clean lack of colour. This made Sinead O'Connor stand out in clear space singing Foggy Dew with even softly enunciated lyrics like "Liffey's swell" being discernible; sometimes I struggle to hear it at this point. The 'speakers smooth tonal balance made for a natural rendition with body to her voice, yet at no time did the Chora 806s lack treble; they were quite brightly lit and fast in their sound.

I found out more about treble with a wide variety of other tracks where the tweeter was a tad hard edged at times, Nils Lofgren playing Keith Don't Go had his close-miked guitar strings lacerative in a "take no prisoners" delivery but this is a test track balanced toward powerful upper treble to specifically reveal tweeter quality; most recordings have less high-end sting and will not excite the Chora 806s so much.

Time to spin Safri Duo's Samb Adagio to get a firm handle on bass dynamics and power handling and this went well. Playing through a wide swathe of CDs I'd picked up the fact that the 806s have lively, punchy bass and the synth 'kick drum' beat of this recording had a fine sense of low end heft and power. As I cranked volume up to 'abandon-the-building' loud I did get to clearly hear the front ports delivering cabinet 'whoomph', something my ears had latched onto at lower levels.

This is the reason ports commonly go on the rear panel. All the same, the Chora 806s filled our large (6550 sq ft) listening room with gleeful bass power, to give lively low-end dynamics. The front port does, however, bring box 'whoomph' into bass character, if by small degree at normal listening levels.

We all liked their dense and composed sound stage, with great insight into instruments and vocals, plus a wealth of fine detail. This worked well with classical performances like the Minnesota Orchestra playing Korsakov's Dance of the Tumblers, where instruments came over as vivid, clean and solid. Sound staging here was superb between the loudspeaker, helped by engaging sense of depth, but there was limited sense of width beyond the cabinets.

CONCLUSION

Focal's Slatefiber cones of their Chora 806 loudspeaker deliver pristine clarity from vocals and instruments, washed clean of



A slate-like appearance to the carbon fibre/polymer mix cone material of the bass/midrange unit prompts Focal to name it 'Slatefiber'.

spurious colour. Although this loudspeaker is technically accurate and apparently less bright than rivals, in use they were starkly clear, with no sign of warmth. Deeply detailed and with strong upper treble, plus firm and supple bass. At £600 I was impressed: these are loudspeakers well worth hearing, for their speed, accuracy and clarity.



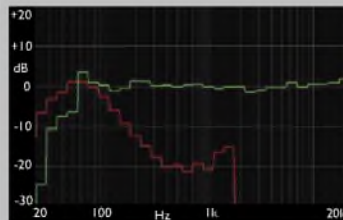
Focal use a 25mm inverted dome aluminium/magnesium alloy tweeter in the Chora 806 and many other models.

MEASURED PERFORMANCE

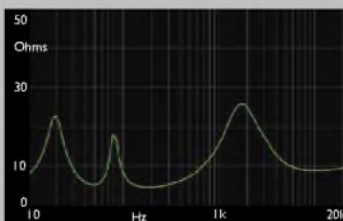
Our frequency response of Focal's Chora 806 shows an unusually flat result across the audio band, making this an accurate loudspeaker, more so than most. The smooth nature of the response curve suggests very low colouration due to an absence of local resonances that add unevenness and

FREQUENCY RESPONSE

Green - driver output
Red - port output



IMPEDANCE



subjective colouration.

The tweeter comes into play above 2.5kHz our impedance trace shows and this can be seen as a small step at that frequency, but the tweeter is smoother in output than most, with no sign of peaking or resonant behaviour.

The bass/midrange unit works smoothly from 2.5kHz down to 60Hz, where it peaks a little to add obvious low kick. The port (red trace) is broad tuned around 50Hz to add low bass support, but the Chora 600 does not go low, rolling off fast below 60Hz.

Sensitivity was good, measuring 87dB SPL from one nominal Watt (2.8V) of input, making a 40+ Watt amplifier suitable. Impedance measured 7.5 Ohms using pink noise. Our impedance trace shows a classic two-way with port dip at 50Hz and crossover peak at 2.5Hz where the tweeter starts to draw current, impedance decreasing.

The Chora 806 has been engineered to be accurate in sound balance. It will sound less aggressively forward than many rivals, but detailed and colouration free in correct manner. **NK**

FOCAL CHORA 806
£600



OUTSTANDING - amongst the best.

VALUE - keenly priced

VERDICT

Fast, clear and accurate sound with strong bass. Great at the price.

FOR

- superb clarity
- deep insight
- tonally balanced

AGAINST

- hard sounding treble
- some box 'whoomph'
- mono wire only

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www.esprit-audio.fr/en/

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"Esprit is a new name to me but it turns out this French manufacturer has been hand-crafting cables for the last 24 years. It's got form.

The Beta speaker cables tested here are drawn from an eight-series line up, Beta being one above the entry-level Alpha offer. With pleasing logic, each series offers interconnects, loudspeaker cables and mains power cables,

allowing a coherent and comprehensible approach to selection and upgrading.

Our review cables came with banana connectors but can, alternatively, be supplied with spades. Whichever style of termination you opt for they'll be fashioned from copper, plated with a 20 micron layer of silver and soldered with silver (4% content) solder.

Unpacked, these progressively screened cables are flexible but feel substantial and built to last. Underneath the black braided jacket you'll find high purity, multi-stranded (700 strands of 0.07mm diameter, to be precise)

5N OCC copper – procured from a quality Japanese source – and wrapped in a polarised dielectric (it's proprietary tech so Esprit is keeping the details under its chapeau).

In acknowledgement of the electrically dirty environments so many of us find ourselves living in these days, a RFI/EMI countermeasure in the form of a 35mm long ferrite choke has been wrapped around the cable, positioned about 30cm before the plugs at the speaker end. Usefully, this is screen-printed with a large, unmissable arrow, signifying correct signal directionality".

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Hi-Fi World magazine,
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QUESTIONS

[1] Esprit are -
[a] American
[b] Algerian
[c] French
[d] Australian

[2] Our cables came with -
[a] banana connectors
[b] bare wires
[c] phono plugs
[d] MMCX connectors

[3] They are fashioned from -
[a] aluminium
[b] gold
[c] stainless steel
[d] silver plated copper

[4] RFI/EMI is countered by a -
[a] mouse trap
[b] ferrite choke
[c] titanium screen
[d] plastic shield

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Listen and believe



Dream Topping?

Under close scrutiny from Chris Frankland, will this £115 compact multi-input E30 DAC from Chinese brand Topping get its just deserts? Read on...

My curiosity about the Topping E30 compact DAC was aroused when I saw the manufacturer describing it on its website as a 'hot hatch'. I just had to check out what it had under the bonnet.

I was not familiar with the Topping brand before the E30. A little research revealed that it is a Chinese brand manufactured by the Guangzhou Topping Electronics and Technology, set up in 2008.

Topping makes a range of compact DACs from the single-input D10 at £89 to the D90 Balanced at £780. It also makes headphone amps and power amps.

The E30 I am reviewing here is the second cheapest model and provides three inputs for its £115 asking price, which is rather unusual. Measuring just 32mm high by 100mm wide and 125mm deep, it is small in stature, but Topping is clearly hinting with its 'hot hatch'

remark that it believes it is big on performance.

The E30 USB input is said to handle PCM signals from 44.1kHz to 768kHz and up to 32bit. It can also decode DSD (native) from DSD64 to DSD512 and DoP up to DSD256. The optical and coax inputs are specified as 44.1kHz to 192kHz and up to 24bit and do not support DSD.

Decoding is taken care of by an AKM4493 chipset, which is the latest incarnation of the 4490 range, along with an XMOS XU208 USB driver. It boasts a dynamic range of 119dB and a signal-to-noise ratio of better than 121dB.

But since the AKM factory in Japan burnt to the ground in October last year, causing a few supply issues, UK importer Electromod tells me that when supplies of this chip run out, Topping will change over to a Cirrus Logic CS8416.

Whereas many DACs at this price offer just a single USB input,

the E30 offers a coaxial S/PDIF input, an optical Toslink input and a USB input, making it rather more versatile. It means that you can use it both to improve the quality of streaming from a laptop, and also feed it with the digital output from a CD player. There is no Bluetooth or wi-fi.

Most users will probably use it with their laptop to feed a separate active speaker. And maybe add an inexpensive CD player. But the E30 can not only be configured to work as a pure DAC, it can also be used in pre-amp mode with a variable output level controllable from its remote. In this mode it could drive a power amplifier.

I used it as a pure DAC and fed it with a signal from a Pro-Ject Stream Box Ultra S2 streamer using Tidal. I also used an NAD C538 CD player (£279) to see whether the E30 could improve on its built-in DAC. As a further benchmark, I also tried it against the DAC in the EarMen TR-Amp





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Listen and believe



headphone amp/DAC (£189). This was a massive improvement over streaming from a smartphone or tablet when I tested it recently and would be a good yardstick. These fed a T+A PA1100E integrated amplifier and a pair of Definitive Technology D9 speakers.

As the E30 provides six digital filters, I started with a quick listen to those. I soon realised I much preferred those offering a slow roll-off and it came down to a fight between F4 and F5. And F5 won the day for me.

SOUND QUALITY

I started my review by evaluating the E30 DAC fed from the Project streamer. On the pacy No One Emotion track from George Benson's 20/20 album, the E30 soon proved it could get the music moving with a tuneful driving bass line, crisp dynamic drums and clean, articulate vocals. The sound on the TR-Amp seemed a bit slower and lacked the same urge.

On Broad Daylight from Ben Sidran's The Doctor Is In, vocals on the E30 were excellent, piano had good body and dynamics and the bass line had a good walk to it. On the TR-Amp, I just felt the sound was a little 'muddier' and a little too full on the bass guitar.

On Starin' at the Sky from Poco's Rose of Cimarron, the E30 made a good job of conveying the presence and character of the guitar and mandolin, while subtle drum and percussion detail was delicately handled. Vocals were



E30 provides coax, optical and USB inputs and line out via two phonos. It can be powered from the USB interconnect cable or from a USB 'phone charger delivering 5V.

clear and open too and on balance it was another good performance from the E30.

Time to press the NAD C538 into play. Could the E30 beat its built-in DAC?

On the title track from guitarist Larry Carlton's album Sleepwalk, the bass guitar line was tighter and more tuneful on the E30, the Fender Rhodes piano had more sparkle and dynamics, while Carlton's soulful Valley Arts strat was more naturally voiced

and compelling. Subsequent tracks, both instrumental and vocal, simply confirmed the E30's victory.

CONCLUSION

So it looks like the E30 offers 'hot hatch' performance after all. It has a well balanced, dynamic and musical quality that would be a phenomenal improvement over the output from a laptop computer and will also improve on the internal DACs on many cheap CD players. Highly recommended.

MEASURED PERFORMANCE

The stand-out feature of this little DAC is its high dynamic range of 122dB from S/PDIF and USB as our analysis shows (61.9dB + 60dB = 122dB). That's almost as good as it gets from top quality DACs, putting the E30 in contention with the best.

Frequency response measured flat to 47kHz (-1dB) before rolling down slowly to the 96kHz upper limit for a 192kHz sample rate PCM signal; Topping offer a damped slow filter rather than a sharp brick-wall.

Via USB up to 768kHz sample rate is accepted. Dynamic range and distortion levels were identical to S/PDIF.

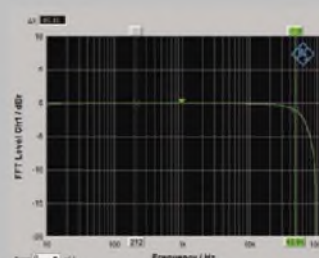
Distortion (-60dB, 24bit) was extremely low at 0.014%, our analysis showing there are no distortion harmonics at all – currently still a rare ability with modern DACs.

Output was 2V from a full level (0dB) digital input – the same as a CD player.

Superb measured performance, up with the best. NK

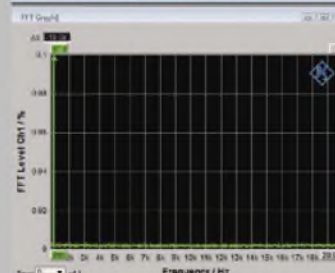
Frequency response (-1dB)	3Hz-47kHz
Distortion (10kHz, 1W)	0.014%
Separation (1kHz)	98dB
Noise (IEC A)	-121dB
Dynamic Range (EIAJ)	122dB
Max output	2V

FREQUENCY RESPONSE



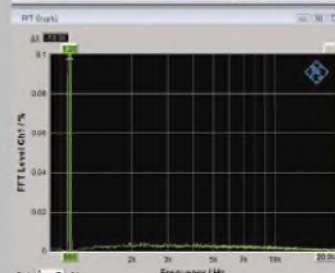
DISTORTION

Input	Level/DB	Frequency
DSD	0.0169 %	2.1505 MHz
CD	OFF	OFF



DYNAMIC RANGE

Input	Level/DB	Frequency
DSD	61.945 dB	57.431 dB
CD	OFF	OFF



Remote control can adjust input, volume (in preamp mode), display brightness and digital filter choice, but preamp mode can also be selected from the front panel.

TOPPING E30 £115

OUTSTANDING - amongst the best.

VALUE - keenly priced.

VERDICT
Excellent sound and its three inputs and preamp mode add versatility to the mix. The E30 may be small, but you get a lot for your money

FOR
- great sound
- multiple inputs
- DSD playback too

AGAINST
- instructions rather minimal
- looks uninspiring

Electromod
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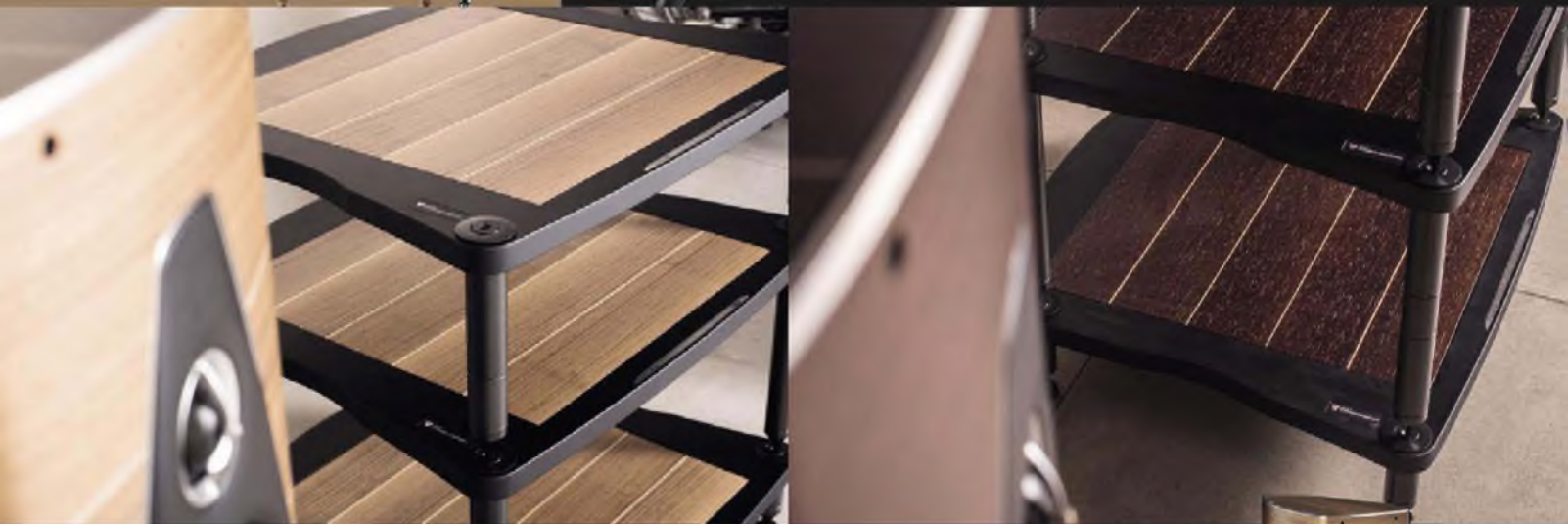
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Contour lines

Martin Pipe reports on a French-American pair of IEMs with enviable live-sound pedigree.

French audio manufacturer L'Acoustics is something of a legend in professional sound reinforcement and, more recently, no-expense-spared home audio. Founded by quantum physicist Dr. Christian Heil – no relation to AMT inventor Dr. Oskar Heil – L'Acoustics conceived the V-DOSC 'line source array', a sophisticated PA speaker designed to "focus and direct sound waves in the same coherent way that laser light propagates". 'Total-concept' L'Acoustics PA systems have been used for concerts around the world – Mark Knopfler, Pearl Jam and Aerosmith have toured with them – and they are also installed in well-known venues like the Hollywood Bowl and Hammersmith Apollo.

L'Acoustics recently unveiled the 'Island', a 24-channel domestic

implementation of its L-ISA 'Immersive Hyperreal Sound' technology. Prices of this all-enveloping system start at £300k. You sit in the Island, which isn't much use if you want to go on the road with it – unless, that is, you're used to travelling with crew and a fleet of PA trucks. Hence L'Acoustics decision to 'go small' and launch in-ear monitors that the firm considers worthy of its name. To develop the Contour XO, L'Acoustics formed a partnership – 'Creations' – with American IEM pioneer Jerry Harvey, who also worked with Astell&Kern and Beyerdynamic to create the T9iE IEMs I reviewed recently.

Harvey came to prominence mixing live sound for Van Halen, before conceiving the IEM as a necessity for musicians on stage. Clients for his products include

Billie Eilish, the Red Hot Chili Peppers and the Rolling Stones. Interestingly, an early sample of the Contour XO was used to monitor Lady Gaga, when she sang at President Biden's inauguration in January. Working with L'Acoustics was more fate than accident – Harvey claims to have been trying to make his "in-ears sound like one of the firm's PAs for years".

Fascinating, but also worth describing is what goes on inside the Contour XO. The balanced-armature (BA) driver is a rather ancient concept that goes back to the very beginnings of loudspeaker technology. BA loudspeakers as partnered with early 'wireless' sets were necessarily efficient, but sounded terrible compared to the moving coil (MC) types that were to displace them. A lot can of course happen in a century:



technology, propelled by the hearing-aid market, has revived the BA driver.

It's still efficient, but is now capable of remarkable fidelity too; such qualities were not lost on designers of IEMs. But there's a downside – the tiny BAs are optimised to work over relatively-narrow frequency ranges and so several may be needed to cover the full audio band; in contrast, MC headphone drivers are almost without exception full-range and so you only need one in each ear.

Furthermore BAs don't handle low frequencies as well as MCs, the sizeable diaphragm of which gives them advantage in this respect. One way of tackling the problem is to use an MC driver for the bass, and balanced-armature drivers for everything else. Meze Audio did this, very successfully in my opinion, with its Meze Pentas. L'Acoustics Creations has however taken a different approach – increased balanced-armature firepower.

Within each 8.2g Contour XO bud you'll find no fewer than ten proprietary 'Soundrive' BA drivers, driven via a three-way crossover that the firm has somehow also managed to squeeze in. The body's internal chambers and waveguides, which convey their output to the ear nozzle, have been designed for the 'correct phase and time alignment'. Four drivers handle the treble, two reproduce the mids, and the remaining four are devoted to bass. So confident is L'Acoustics Creations in its bottom-end punch that the Contour XO cable incorporates a 'lozenge' with presets that afford 15dB of bass adjustment.

Given what's in them, it shouldn't come as much of a shock to learn that the Contour XOs – which are supplied in a screw-top metal pot – are larger than the average IEMs. Their shape ensures

they fit comfortably into the ear, but due to their weight can slip out unless the eartips you choose are an intimate fit. To help you, the bundle includes Comply and silicone tips in three different sizes.

The supplied lead is 1.2m long and connects to the buds via a 7-pin system that's much better than the MMCX type (which, in my experience, tends to be annoyingly intermittent). It's terminated with a standard 3.5mm unbalanced plug; the bass adjusters and non-standard connectors mean that (balanced) upgrades are out of the question for now; thankfully, L'Acoustics Creations has specified decent silver-plated OFC Litz wire in their construction.

SOUND QUALITY

Thanks to their complete reliance on BA drivers, the Contour XOs are frighteningly-efficient (116 dB/1mW) compared to conventional headphones using MC drivers. As a result they're easier to drive, minimising the strain on headphone amp output stages and eeking longer running times out of portable players – like the Astell&Kern SR25 that formed the bulk of my listening (also used were home-use headphone DACs from Prism and Chord). It even helped to make the most of the lack lustre sound system built into my Google smartphone, although it's unlikely you would partner £1,400 IEMs with such a device.

But first, that bass! It's perhaps just as well that L'Acoustics Creations has provided level adjustment – a small screwdriver, as well as a cleaning brush, are bundled. By default, it's somewhat overpowering and more in keeping



The supplied lead is 1.2m long, and connects to the buds via a 7-pin connector. At the other end silver-plated OFC Litz wire, is a standard 3.5mm unbalanced plug.

with 'hip-hop headphones' (no names, no pack-drill). This will come as something of a shock to anyone used to the sound of other BA'ed OEMs. Backing off the presets by a fifth of a turn, or so yielded a much more natural tonality.

Set up correctly, it's easy to understand why Jerry Harvey is so proud of the Contour XOs. They are a little forward in character, and give you excitement without the fatigue; such presentation complements the soul, funk, electronica and rock that L'Acoustics PA systems beam to the ears of gig-goers. The Contour XOs took in their stride a variety of music – from Front 242 (Geography) and Aphex Twin (Selected Ambient Works Vol 2), through Yes (Close to the Edge) and John Martyn (One World) to the distinctive vocals of Leonard Cohen (I'm Your Man) and Tom Waits (Small Change).

CONCLUSION

With these 'phones I found that the detailing, speed and dynamics on offer give insight into playing and singing, but not at the expense of raw enjoyment. Classical music like Sibelius' Finlandia (Vienna Philharmonic/Malcolm Sargent) and the atmospheric choral electronica of John Foxx (My Lost City/Cathedral Oceans II) were given plenty of room – the latter album's concept of a half-submerged cathedral was aurally-fulfilled here. Steve Reich's Music for a Large Ensemble was also a rewarding experience that plays to the pace and rhythmic strengths of the Contour XOs. OK, they may not perhaps be the most neutral transducers in the world, but boy do they make for enjoyable listening!



L'Acoustics Creations provides a tiny screwdriver for independently adjusting the bass levels for left and right channels – tweak for the response you favour.

L'ACOUSTICS CREATIONS CONTOUR XO £1,400

(1626.60 EUROS INCLUDING TAXES AND SHIPPING)



OUTSTANDING - amongst the best.

VERDICT

Definitely something special, the Contour XOs take BA-based IEMs to the next level.

FOR

- musically exciting
- highly-efficient

AGAINST

- overpowering bass unless set up correctly
- non-standard cabling complicates upgrades

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Visit our website at www.hi-fiworld.co.uk or send your emails to 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 HOWARD SPENDLOVE, Letter of the Month winner in our APRIL 2021 issue.

Letter of the Month

STAYING SANE

Thank goodness we've got hi-fi and music to help keep us sane during these unreal times! However, I would really appreciate your advice on how I might get the best out of my modest set-up.

I have an AT33-PTG MkII c cartridge with Technics MK5G turntable vinyl front end, playing through Quad 44/405-2 amplifiers into Tannoy Devon 'speakers. I love the speakers and likewise the turntable. My listening room is fairly small (8' x 15'), but works surprisingly well.

I have however struggled to get the amplification right. I don't need a lot of power (2 or 3 clicks on the 44 volume control is enough) but I just think the Quads are a bit of a bottleneck and all that potential wattage seems a bit of a waste if its never used. I would be grateful for your suggestions for an integrated amp which still delivers that Quad bass grunt but with a bit more insight. I tried a NuForce Icon some years ago which provided more detail, but lacked the bass that Black Sabbath and UB40 needs.

I was poised at one point to try the Quad VA One, but lockdown

came along and it appears Quad no longer make this.

Anyway, if you can help me out here then when we're out of lockdown I'll have something to spend those pennies on that I've saved.

All the best,
Mike Farrow

Hi Mike. Yes, that slightly infamous Quad sound of yore, that I know well from owning a 33/303 and reviewing the 44/405-II. As Ross Walker admitted to me, had they used better components (his dad, Peter Walker founder of Quad, did not believe components affected sound quality) then these basically superb amplifiers would have sounded a lot clearer. But - hey-ho! - that's as it was.

The Quad VA One you want to audition is a now-discontinued 15W per channel valve amplifier



"I was poised at one point to try the Quad VA One but will it suit Black Sabbath and UB40?" asks Mike Farrow.

with EL84 output valves (very romantic sound) and should be OK with Tannoy Devons in your small-ish room if you can still obtain one. I have slight reservations about Black Sabbath and UB40 from a VA One though: methinks you may want a bit more grip and push here.

An Audiolab 6000A Play amplifier sounds more forceful



The Audiolab 6000A Play will liven up Tannoy Devon loudspeakers with UB40 and Black Sabbath.

and I suspect would appeal to you. Otherwise, consider a Quad Vena II (50W) since this has strong bass but the classically smooth Quad sound. **NK**

ACCURACY IN LOUSPEAKERS

Noel's Opinion item in the March 2021 edition reminded me of an old 1960s adage when assessing loudspeakers. The order of the day was listen to as much live music as possible, which isn't amplified, such as a symphony orchestra or string quartets and such like. This still applies today in my opinion.

Back in the day, reviewers only seem to use the classical repertoire to assess most components in the audio chain, not so nowadays I fear.

I use the symphony orchestra as an example because of the sheer dynamic range involved, useful for assessing an uneven frequency response in loudspeakers and showroom zing.

All through my schooling we were visited by various sections of The City of Birmingham Symphony Orchestra so exposure to live un-amplified music was made.

I have attached a copy of a 'Frequency Compass of Orchestral Instruments' as printed in my copy of John Crabbe's seminal book, Hi-Fi in the Home. The book was published in 1968, and as I mentioned previously, reviewers of that era, used classical music as a reviewing tool. Looking at this frequency compass, I can understand why classical music was used. All the instruments except 'Bass', which I assume is a bass guitar, are acoustic instruments.

Some reviewers don't use any classical music at all in reviewing, which is worrying. I dare say that depending upon the product under review and the market it is aimed at they feel that it is not necessary.

Regards
Mike Bickley.

Hi Mike. Recorded Rock music has a broader frequency range than classical and is demanding of a hi-fi system. Much of this is to do with close-miking techniques used in Rock and the no-miking techniques of electronically generated sound from synthesisers.

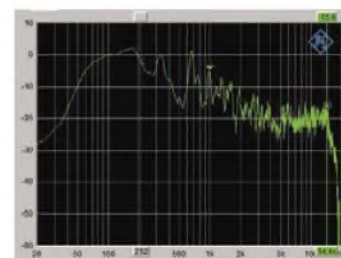
Our spectrum analysers show the most extended harmonics in recordings are produced by metallic percussion instruments such as cymbals, triangles and bells that classical and rock share. But the miking is different: Rock mikes are placed very close to the instrument, capturing harmonics up to 20kHz from drum kits with such percussion. Close miking of guitar strings also delivers extended harmonics, as our analysis of the review test track 'Keith Don't Go' shows.

Classical has metallic

percussion but not close-miked; extended frequency range is rare in recordings, even if the instruments are technically capable of it as those old charts show.

Classical piano uses close-miking but pianos don't run very high, up to 4186Hz for the Top C key according to this diagram (p59) from Gilbert Briggs (Wharfedale) from his book Musical Instruments and Audio (1965).

The human voice can run high but only from sibilants captured by a microphone at close range: this is why I use Willy DeVille's Spanish Harlem often. I could equally use Renee Fleming but she doesn't hold the microphone against her mouth and shout into it!



Frequency range of guitar in Nils Lofgren's 'Keith Don't Go', reaching up to 16kHz.

Classical is good for timbral properties, especially with string instruments like solo violin when there is a close mike, such as 2L's recordings of the Trondheim Soloists.

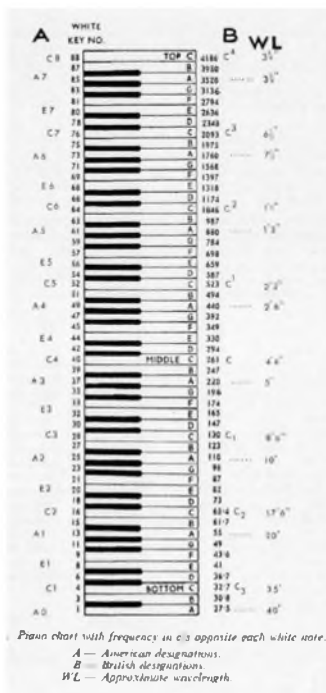
I like to use piano but have to be careful because a loudspeaker with woody box colouration will actually enhance piano when it should not – a contrary phenomenon that's for sure.

Classical introduces a sense of space often lost to Rock, but far-field microphones that pick up the acoustic delays of a big space do not pick up intense detail.

At the bass end, kettle drums produce strong lows in Classical but Rock synthesisers go lower. Plucked bass reaches down to 40Hz and piano 27.5Hz (see the diagram) but a spectrum analysis of heavy Rock makes obvious mixing engineers commonly crank up synth levels around 30Hz to add weight (Lady Gaga et al). That's where all the deep rumblings come from.

Ideally, both Rock and Classical should be used, that's for sure.

NK



Frequency range of a piano 27.5Hz-4186Hz, according to Gilbert Briggs (Wharfedale).



"The amps take up a lot of space" says Dean Taylor: an Icon Audio Stereo 60 MkII valve amplifier and PS3 MkII valve phono stage.

DOWNSIZING

With the time approaching when my wife and I are considering moving to a smaller house, ultimately this means that my system will need to shrink; I have found a place for my collection of LPs. I love the sound of vinyl, as I have for many years and would not want to consider streaming or going back to the silver disks.

Currently I have a set up that I love the sound of, a Linn LP12 Radical, Icon Audio PS3 MkII, Icon Audio Stereo 60 MkII and ProAc D20R speakers, the cables are Chord Signature XL and Chord Epic RCA.

The basic question is: how I can reduce the overall size of my set up, without compromise on the sound?

I would like to keep the LP12, but the amps take up a lot of space. The speakers are big and produce a big sound. I do not see that smaller stand mounted speakers would make much difference space wise, although the new room may be smaller and therefore smaller speakers would be a better fit. Any advice would be appreciated.

Dean A Taylor

Hi Dean. If you want to keep your Linn LP12 turntable and minimise space usage, then the solution is installation of a wall shelf such as the Pro-ject Wallmount-IT 2 (£160), or a rack. The Icon Audio amplifiers will fit in below on a rack without taking up any more floor area. Vertically stacking the system on wall shelves is best – if you have walls strong enough to hold cantilevered shelves.

I really need a room size to better answer your query, but assuming it will be 14ft-16ft long I'd suggest you consider small floor standing loudspeakers like KEF R5 that are designed to be sited

close to a rear wall. Others worth considering are from Q Acoustics, Wharfedale, Acoustic Energy. This style of loudspeaker takes up no more floor space than a stand mounter but has good cabinet volume for deep bass and high sensitivity so you don't need lots of power to go loud – and they are designed for small rooms.

Otherwise go for a KEF LS50 Meta, mounted on a shelf; this is a very impressive design.

In direct answer to your question: you can't reduce size without compromise. If you enjoy valve sound you have to accept valve amplifiers are a bit large.

Yours is a highly optimised analogue system that I'm sure sounds superb, and a bit of careful arrangement should shoe-horn it into a small space by one method or another. Have fun! **NK**

SOMETHING MISSING

Having recently retired, I'm looking to upgrade my hi-fi, inclusive of streaming. I currently have a Cambridge Audio CXC into a Chord Electronics 2Qute DAC into a Musical Fidelity M5Si feeding B&W 705s speakers using Chord Company Shawline interconnects and Atlas Hyper 2.0 speaker cable. Also, vinyl ClearAudio Concept MC into Arcam phono.

While the sound is good, I feel there is something missing. I've thought of changing the DAC to the Qutest or the M5Si to something with a tighter bass (I'm not a huge fan of heavy bass). Should I add a better phono stage?

My room is 16ft x 11ft would floor mount speakers be better?

Also, I'm looking to add streaming capability and have been impressed with the look of the Primare SC15 but wonder should I stay with Chord and buy a straight forward front end streamer for the system? Streaming is a mine field and believe most of the work is done by the DAC. Or.. should I just chill out and enjoy the music?

I enjoy a range of music from jazz to classical, including the likes of The Eagles, Elton John, The Beatles, Rod Stewart, James Taylor, plus, plus.. I guess I'm confused??

Thanks,

John Phillips.



Quadral's Chromium Style 6 has more cabinet volume for deeper bass and higher sensitivity. A smooth ribbon tweeter delivers fine treble.

Hi John. Pity you couldn't hint at what you feel is "missing" but since you want to change amp or DAC for "something with a tighter bass" sounds like you have too much bass and are "not a huge fan of it". But neither the Musical Fidelity M5Si amplifier nor the Chord Electronics 2Qute DAC have heavy bass. Phono stages commonly have big bass, but if you change the Arcam that won't help the rest of the system.

My gaze inevitably falls on the B&W 705s speakers in a room of limited size and likely volume (if the ceilings are low). Are they exciting room boom I wonder? If so then I suggest you try foam bungs to block the ports (or old woollen socks at a push), or if possible, moving the speakers away from a rear wall and into the room.

Another approach is to increase the amount of foam filled furniture in a room, meaning settees, arm chairs and such like. I was taken aback by how boomy my 17ft x 14ft Victorian lounge became when two settees and an armchair were removed. A trick is to access a settee from below and fill its internal volume with foam; the room will acoustically 'see' this.

You could try corner absorbers (bass traps) but I've not found they make an appreciable difference unless used in quantity – and then they become ugly.

According to the Harman JBL Room Mode Calculator you can find on the 'net, your room is free from coincident modes so looks good, but this ignores low acoustic damping from a volume of 1400cu ft. That's why a bit of foam would help!

It could just be that the forward sound of B&W's Continuum cone and Carbon dome tweeter don't suit, more easily explaining why you are considering a change of amp or DAC. If this is the case then again a loudspeaker change is in order and you may find a Q Acoustics Concept 40 or 3050 would appeal. These have accurate balance, but a milder less forward sound, due mainly to designer Karl Heinz Fink. This is what Karl prefers – he doesn't go for emphasised treble – and I admire his resolve and perseverance in this respect.

Since you have a quality stand mounter a svelte alternative is Quadral's Chromium Style 2

with ribbon tweeter and titanium coated polypropylene diaphragms. Quadral also go for total accuracy (the Germans are now teaching us how to design loudspeakers – oh the shame!) and their ribbon tweeters are superb. I have a suspicion this will work better for you. A floorstander like Quadral's Chromium Style 6 has more cabinet volume, deeper bass and higher sensitivity so always better. Get a listen if you can.

Don't be fast to dump your Chord Electronics DACs – they are top of the tree. You will get a softer and more full bodied sound from ESS based DACs such as Audiolab's lovely M-DAC+ with its superb John Westlake designed digital filters, but this is an alternative. I suggest keep the Chords and get a front-end streamer to match like the Cambridge Audio CXN (V2) Series 1.

You'll "chill out and enjoy the music" when the system comes together to give you natural sounding sweet music that, I suspect, is a few tweaks away! **NK**

QUICK LIFT

There are not many hi-fi accessories that are life-changing like the Little Fwend Disco. This beautifully crafted arm-lift, made especially for the Technics SL series turntables, is one of them. Pictured above on my SL-1210GR.

Tricky to fit, but less so than fitting a cartridge to a fixed arm and when it's in place it looks like it has always been there.

Life-changing? Well it means I can put a disc on the hi-fi and then wander around the house, fall asleep, answer the doorbell or do all the other stuff one does, without having to worry about my precious stylus wearing itself out in the runout groove.



"The Little Fwend Disco arm-lift, made especially for the Technics SL series turntables, pictured on my SL-1210GR" says John Beverley.

Expensive, yes, but highly recommended.

<https://www.littlefwend.com/>
John Beverley

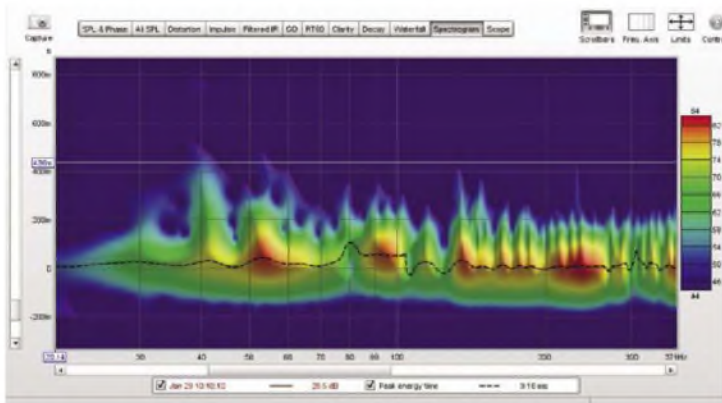
Hi John. That is interesting – and a new one to me. As I understand it from their website, the Little Fwend is an automatic arm-lifter that is triggered by the arm hitting its vertical wire wand. Presumably, it has to be re-set by pushing it down afterward. Price varies according to model but is around £200. A fascinating little accessory. **NK**

WIZARD LRS

I attach a Room Equalisation Wizard Spectrogram of the Magneplanar LRS speakers (taken from the listeners location and ear height) which sit at the front of and on each side of a deep bay window in my 16' x 16' (4.9 x 4.9 m) room.

I think this demonstrates two features of these panel speakers. Firstly the speed of decay, which contributes to the airy spacious 3D soundstage and fast transient attack and decay.

Secondly, the room/bay does provide some bass reinforcement. There seems to be some bass at 30Hz and certainly from 40Hz. The bass response is so clean and fast and tuneful that there is no



Room Equalisation Wizard Spectrogram of Magneplanar LRS 'speakers in Mike Tartaglia Kershaw's living room.

noticeable lack of bass in most types of music, but of course organ music or synthesised bass would lack the lowest notes.

One of my tests for bass is the early Elton John album entitled 'Elton John'. Several tracks have phenomenal bass power and detail and I have to say I have never heard them sound as clean and accurate as via the LRS speakers.

Best wishes,

Mike Tartaglia Kershaw

Hi Mike. I see you are having fun trying to measure room decay. You will get a different result wherever you put the mic since you are looking at a three-dimensional pressure map that's highly complex and not easily interpreted. Move the mic around and try to get an averaged result. That's what you will hear.

The hots (red) spots in your analysis don't correspond with standing waves in a 16ft square room; put the mic in a corner and you should see a red area at 35Hz, then move it in to see how the picture changes. A room mode calculator such as that from JBL (free on the 'net) is useful here.

Open panel loudspeakers, by their very nature, decay much faster than closed boxes. What comes out of a closed box for up to half-a-second after the music stops is a dirty secret no one talks about. I know why. Long ago I built a large loudspeaker and stuffed it full of long-haired wool to soak up all internal sound waves so nothing would come out as delayed sound. It sounded dreadful; completely dead and boring; I was taken aback. That's why boxes let the sound out after the music stops: they have to. Open panels don't suffer this: they are fast and clean

Your room will fully support bass down to 35Hz, below which it will roll down, but this is perfectly adequate for the LRS. Looks good all round. **NK**

POWER TO THE PANEL

I share your devotion to electrostatic loudspeakers and valve amps. I was intrigued to read in the latest issue the letters about alternative power supplies for the Martin Logan ESL-X. Unfortunately this speaker was launched just after I had replaced my Martin-Logan Sources with ESLs, as I would have got a pair. One day perhaps.

On hearing the ESLs at home I thought that the Source had strengths that the ESL did not, and vice versa. The Sources had a transformer power supply attached by cable to the wall outlet and not the wall-wart supplied with the ESL.

Having seen the advert for the booster BOTW power supply transformers in HFW I replaced the wall-warts and everything changed

dramatically. There were improvements to my system in all directions, for example in dynamic range, musicality, tonal accuracy, realism, in fact in displaying more of the sheer beauty present in the music. String tone, already much improved by the addition of Isoacoustics isolation feet to speakers and CD player, was better still, positively magical if the recording is up to it. Piano is also exceptional, with tremendous impact and/or delicacy where required. The ESLs/Sources are/were driven by the same Audio Note valve power amps. If you have not tried the sboosters I hope you will, and if so, I will be very interested to know your opinion of them. Keep safe.

Robin Matson
S.W. France

Hi Robin. That is very interesting – we must try this supply for our in-house Martin Logan ESL-X loudspeakers. As you say, others have found changing the supplied switch-mode wall wart delivering 16V d.c. power to the ESL-X electrostatic section offers obvious improvement and we have found that too. This UK company also offers upgrade power supplies for a wide range of other products that come with cheap switch-modes, so there's more to discover.

Thanks for letting us and others know about your experiences. Hope to say more about all this soon. **NK**

GET IT STRAIGHT

Your review of the Yamaha GT-5000 turntable (February 2021) raises two

"I replaced the ESL wall-warts with sbooster BOTW transformer supplies and everything changed dramatically" says Robin Matson. A 16V supply is needed – sold out!



Yamaha GT-5000. "Why did Yamaha decide to give this £7,000 turntable a straight tonearm?" asks Alasdair Beal.

interesting questions.

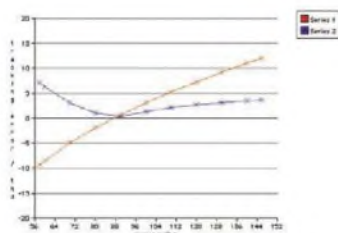
Firstly, why did Yamaha decide to give this £7,000 turntable a straight tonearm instead of one with the headshell at the standard angle of about 24 degrees and secondly, as your review found no obvious ill-effects on the sound, might they have a point?

Angling the cartridge by Baerwald or Stevenson geometry reduces tracing distortion but combined with stylus

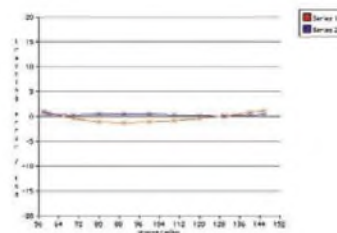
overhang, null points at 66mm and 121mm from record centre) produces lowest average tracing distortion (0.4%). For comparison, a straight arm with 17mm stylus underhang will increase average tracing distortion to over 3% but the average lateral force on the stylus is less than 30% of the force generated by Baerwald alignment.

As an experiment I tried realigning my arm and cartridge,

YAMAHA STRAIGHT ARM



CONVENTIONAL ARM



Lateral tracking error (red) and distortion (blue) of Yamaha's arm versus a conventional arm.

drag it creates a lateral force on the stylus. If this force was constant it would not be a problem but it varies with record groove modulation level, causing lateral stylus movements which the pickup reads as signals. This distortion is likely to be messy and may be more sonically significant than the innocuous second harmonic distortion generated by tracing error.

Thus there is a trade off between tracking distortion and lateral forces on the stylus, so aligning the cartridge for lowest tracking error may not necessarily correspond to best overall sound quality.

For a standard 9in tonearm, Baerwald alignment (18mm stylus

reducing overhang to 12.5mm (null points at 52mm and 107mm). This increases calculated average tracing distortion to 0.7% but it reduces the lateral force by 14% (average) and 18% (inner half of record) compared with Baerwald. What did it sound like? The audible difference was very small: the

sound was certainly not worse and I think it was probably slightly better. Interesting ...

Yours sincerely,
Alasdair Beal
Leeds

Hi Alasdair. As you say "interesting". Yamaha seem to be pursuing an alternative strategy and I have no problem with it. Tracking distortion increases significantly, as predicted by the graphs we published, confirmed by measurement. But our measurement shows this is second-harmonic distortion (as predicted) that has little sonic impact. Around 5%-10% second-harmonic is the area where it starts to become detectable, as a subtle lightening of timbre, not a nasty graunchy sound of the sort we associate with the word 'distortion', and as we hear when a cartridge mistracks for example. Like you I did not hear vast differences.

Whether outward forces on the stylus generated by conventional arm geometry are a sonic issue, as you suggest, I frankly do not know: there are few straight arms out there to get a purchase on this. And Yamaha's arm was resonant, which confuses the issue.

The sonic character of a pickup arm receives scant attention. Structural resonances and the colour added by an arm's construction material have sonic impact, more so than is talked about – and more than tracking distortion I suspect.

So an interesting subject indeed! I think Yamaha could usefully improve their arm's structure to remove resonant modes, then whether their apparent contention that a straight arm



KEF Q150. "These little speakers are not like anything from KEF that I have ever heard before" says Dr. Russell Scaets.

sounds better than a conventional arm should become more discernible. **NK**

KEF TALK

Thank you very much for the KEF Q150 loudspeakers that arrived as a Letter prize a month ago. I was going to write this email a little earlier, however, lots of albums replayed and March 2021 Hi-Fi World arrived, and your Opinion piece on page 51 discusses Reference Monitors. For most of January I was thinking along similar lines with the surprisingly well behaved Q150s.

I have not before come across a pair of KEF loudspeakers that suited my tastes. However, these little KEFs are not like anything from KEF that I have ever heard before. They do not shout or draw attention to themselves and their tweeter is rather more reserved than expected.

All other loudspeakers, in different systems in my house, are fun-loving Missions. I love the attention seeking Mission M773e D'Appolito loudspeakers, that normally reside in the 2.4 setup in my music studio, driven by John Shearne amplification. Just stereo, with M773e reflex ports closed, and four Wharfedale SW150 subwoofers (set to low crossover and low output) to drive the first octave in my smallish studio. This system normally sounds fast and fun with the M773e loudspeakers. I can listen for hours without fatigue, even though it may not be a flat frequency response.

My 5.1 AV system also has Mission M773e L/R, M77c centre and Mission MX-1 for the two rear channels, with a beastly 350W Mission MSAS subwoofer. Thunderous for movies and great for house parties.

In my wife's art studio we have Mission MX2 driven by NAD amplification. Great dynamic fun whilst she's messing about with paint.

Well, I originally thought I would listen for a while and then pass the Q150s onto someone, but the online reviews were very promising. One even suggested these were KEFs for people who don't like KEFs, so I was quite looking forward to a temporary swap over from M773e, just to hear a Uni-Q coaxial driver, rather than D'Appolito arrangement I am used too.

The background to the Q150's development is interesting. An interview with Jack O'Leary-Brown (KEF's Head of Acoustics) on YouTube explains some of this. For KEF's 50th anniversary they produced the highly well received and rather costly LS50. When it came time

for KEF to replace the Q100, they used the similar sized LS50 as a template for the Q150, listening, comparing, and developing the Q150, using their Chinese production team, until they achieved similar results.

In fact, the Q150 sounds so good in comparison they have now updated the LS50 to LS50 META to lift it above the Q150. Their bigger brother, the Q350 did not get this level of development, (Q150 - 51 Hz to 28 kHz, Q350 - 63 Hz to 28 kHz).

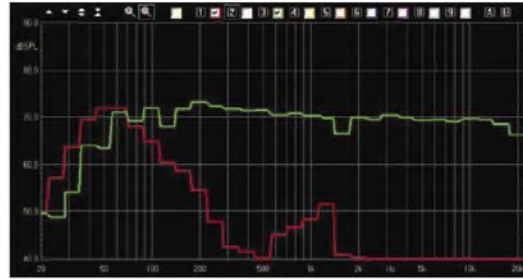
The Q150s are not a bright sounding loudspeaker by any means. Surprising, considering the aluminium tweeter and woofer. This does not sound at all like a metal dome. I ran a frequency sweep test and indeed the Q150 is really very even, with a slight drop in higher frequencies and full bass, with or without their reflex ports open. Maty Tinman (<https://imgur.com/a/dFWlmmF>) found a similar result. This shows a well behaved tweeter, and seamless crossover to woofer. No crossover dip either.

Some on-line reviews mistakenly suggested a V shape frequency response, where the reviewer did not hear an expected upper midrange warmth for vocals. This is precisely because there is no crossover dip to leave exposed just some of presence/vocal region. The presence region with the Q150 is unusually accurate, allowing male vocals in particular to sound so realistic.

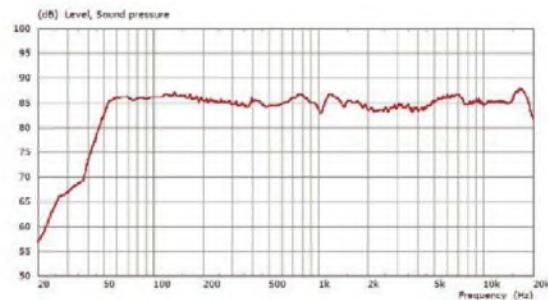
I prefer the faster bass with the rear reflex ports closed with its foam bung

The Q150 really does deliver superb imaging. Voices in particular are projected so realistically that it is really unnerving. All instruments and music sound very textured and convincing. The Q150 deliver fine brush strokes of music, highlighting individual instruments, unlike the M773e, which deliver much broader brush strokes and concentrate on a bigger, very musical image.

The Q150 do not quite have the dynamic slam of the M773e, but at 70% of the internal volume (not so small at just under 10,000 cubic cm)



KEF LS50 frequency response is smooth and with no dip at crossover. Red trace is port output.



KEF Q150 frequency response supplied by KEF. It shows the Q150 has no crossover dip either.

and just one similar sized woofer to the M773e, they do still deliver convincing micro and macro-dynamics. I particularly enjoy their noticeable dynamic contrast, of quiet versus loud passages, particularly with vinyl replay. The Q150 might just be the best budget studio monitor around at the moment.

I don't know how long the KEF Q150 will continue its residency in my music studio, whilst the Mission M773e sits beside, looking menacingly, optimistically idle. For the time being anyway, I'm really enjoying the KEFs.

Kind regards,

Dr. Russell Sceats

Hi Russell. In keeping with what KEF claim – to be loudspeaker engineers – KEFs are consistently accurate in frequency response terms. Our measured responses put them within a few dB variation across the audio band from 40Hz to 10kHz – see our measured response of the LS50 (made in a large room). KEF sent us their measured frequency response for the Q150, made in an anechoic chamber. Note how both show absence of a crossover dip, and hard cut-off below 50Hz – as expected from a small cabinet (but not in the Maty Tinman graph that I have reservations about).

KEF's little Q150s are fine loudspeakers able to deliver what I'd call a refined and insightful sound without shout, as you have found.

NK

Moon Shine

Noel Keywood takes a shine to Moonriver Audio's Model 404 amplifier.

Inspired by the song apparently, Moonriver Audio design and manufacturer specialist amplifiers in Sweden. Their website is big on superlatives but a little short of detail – just like the handbook – about the Model 404 I am reviewing here, so I had to get digging as it were... and there was a lot to find. For what is claimed to be a 50 Watt amplifier the Model 404 is priced at £3620

(phew!) in the version we received with MM/MC phono board, but no digital. An optional USB input will become available in future but our sample lacked this feature.

If that sounds like a big price tag for a basic analogue amplifier it is because George Polychronidis of Moonriver claims "every component of Moonriver 404 was chosen after extensive listening tests, since everything is critical for the sound.

Another study was accomplished in order to achieve sustainability, reliability and repairability. Unlike many other amplifiers, Moonriver is made to last for many decades due to my experience in repairing and it is very easy to service. For this reason we used only through hole components because there are more options and they are more reliable. There is no standby function as well for reliability reasons". There



is however a small plastic-case remote control to select input and control volume, but switch-on is manual by front panel push button.

The Model 404 is a big amplifier, especially in view of its power output and sparse facilities. The case measures 430mm wide, 135mm high and 390mm deep but weighs no less than 12kgs. A large contribution comes from the folded steel cover that alone weighs a few kg, being made of thicker-than-usual steel I found when removing it. The chassis is sturdy too, the Reference version being even sturdier and with padded casework apparently (plus upgraded power supply).

This is a basic analogue amplifier with, George says, "integrated, class AB power modules that are extremely flexible and sensitive to the external components and

power supplies. They are extremely stable, electronically and thermally, they have very short signal path, the transistor halves are laser trimmed and they include all the protections like thermal shutdown, servo DC offset, over voltage protection, short circuit protection etc. They offer a level of safety that you can't get with discrete designs". I speculate they're Sanken (Japan) power modules designed for hi-fi use and a popular if rarely mentioned choice for amplifier output stages. George alludes to the important aspect of thermal tracking (management) that Sanken modules are known for, difficult to control unless you are the device manufacturer.

Volume control is by Alps Blue motorised potentiometer, another popular choice – one we used in the 1990s with World Audio Design

amplifiers. You either use a motor or a switched resistor network, the latter being preferable, if more complex.

Another obligatory component back then were Panasonic sealed, low level relays with low contact resistance and inert gas to ensure over one million operations. I was heartened to see quality sealed relays (Omron) in this amplifier.

Moonriver use discrete transistors too I was surprised to find. You normally go down this route for better tonality and indeed that is what Moonriver claim for the Model 404. However, there are integrated circuits, in the phono stage for example, where they are a common choice nowadays.

But all of this is not on display. What a potential user sees is a heavy, sturdy case with satin black



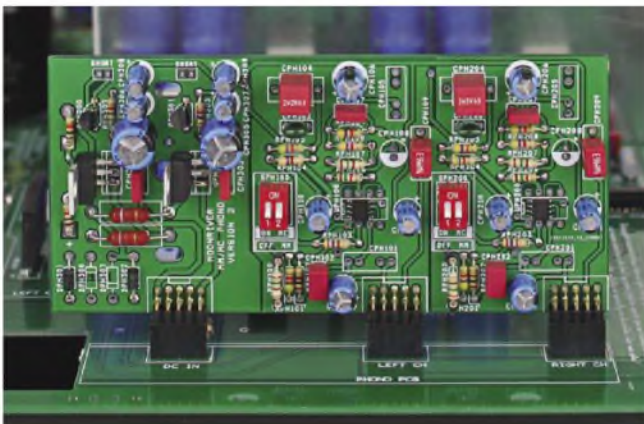
"Her voice had silky presence and organic naturalness. There was no added zing here; the romance was unsullied, even slightly honeyed"

finish and small wooden cheeks to hide end-detail between fascia and case. There's a rotary input selector at left that chooses between four Line inputs in the standard model, but Line 1 is allocated to Phono if the optional board is fitted and Line 4 is allocated to USB as and when this stage becomes available. A small toggle switch can dim or switch off the few orange LEDs, although I do not know why you would want to do this. Another toggle switch selects Mono operation which can be useful for LP, and there's a Balance control as well, again useful for LP. The standard of finish is good, but not exceptional.

For anyone still in possession of a three-head cassette deck or open-reel recorder there is a tape monitor function too, but this is a blast from the past I'm unsure many will ever use, let alone want – even me with a Nakamichi ZX-9 staring down from a shelf high above (oh nostalgia). Missing are balanced XLR inputs: this is a phono socket only amplifier.

Our review sample came with an MM/MC phono board. The handbook makes clear that it can be user-adjusted to select MM (moving magnet) or MC (moving coil), but this is the only selection available; there are no loading or gain options. To do this eight hex screws securing the amplifier's cover must be removed, then three Philips cross-head screws securing a screen over the board, because it is close to a power supply rectifier and the circuits have extremely high gain – something that's always difficult to cope with; screening obligatory.

So switching between MM and MC is not easy, unlike many phono stages where it's achieved by the



The MM/MC phono board with both discrete parts and ICs. Small (red) DIP switches choose between MM and MC. This board lies under a screening cover.



A large toroidal mains transformer at left forms the basis of a linear power supply. At centre lies a folded aluminium heatsink carrying the power transistors; with 40 Watts output cooling fins have been omitted. At right is a screening case covering the phono stage board.

push of a button. MC loading is 100 Ohms and MM loading 47k Ohms, both standard values. With vast gain the 404 can accept the lowest output MCs, the volume control being set low. It is relatively quiet, if not the quietest possible; high-end phono stages can manage 6dB less noise.

And finally, measurement showed whilst the RIAA equalisation of MC was accurate, MM was different and less accurate, with a tad less low frequency gain below 1kHz (318µs characteristic), so I used both cartridge types in listening tests to assess this issue.

SOUND QUALITY

The Moonriver 404 was connected to our Martin Logan ESL-X hybrid electrostatic loudspeakers via Chord Company Signature Reference cables. It was fed digital from our Oppo UDP-205D with its ESS ES9038 Pro convertor, through Chord Company Epic interconnects. The Phono stage was assessed using a Timestep Evo modified Technics SL-1210 Direct Drive turntable with SME309 arm fitted alternatively with an Audio Technica OC9X MC cartridge and VM750 SH MM cartridge.

Spinning a wide range of Rock

from CD it became clear the 404 delivers an easy going sound with fulsome presence. First message to flash up was "this is lovely and relaxing". It didn't get anything wrong: the jangling distorted guitars in Skunk Anansie's Hedonism just jangled – they didn't sound harsh. I was made aware of the track's strong, supple bass guitar line and Skin sounded distinctly human! With capacious sound staging that brought in a nice sense of depth – not valve amp standard but still good – this awkward track showed the 404 to be an amplifier with class.

However, immediate need to orientate. After long listening the 404 was consistently svelte and relaxed – and if you like the valve sound as I do then you'll be drawn into its sonic charms. Those that want a fast, visceral, punchy delivery may want to look elsewhere – to Musical Fidelity or Chord Electronics for example. The 404 is a deeply engaging listen, putting power into the sound, but it doesn't jump out and bite. Josefine Cronholm crooned in warmly enveloping space, singing In Your Wild Garden, the ambience of her surroundings captured by the microphone slickly conveyed.

Plucked bass line strode along behind with a sense of confident power: strong but not aggressive.

Such a presentation suits Classical and sure enough that's what I found with Tchaikovsky's Capriccio Italiano where strings burst out strongly from a deep space, surrounded by the recording venue's acoustic. Well defined images of the orchestral sections and a strong sense of depth made this a convincing experience. There was plenty of low-end thunder to convey a sense of power to proceedings.

A similarly smooth rendition of Renee Fleming singing O mio babbino caro drifted out, her voice having silky presence and organic naturalness. There was no added zing here; the romance was unsullied, even slightly honeyed.

Moving onto the Phono stage I started off with our Audio Technica OC9X SH (Shibata) moving coil cartridge because MC equalisation was accurate, allowing me to hear the stage in correct form. And, if anything, the 404 became more 404-ish, organically smooth and big bodied with the opening drum line of Sing, Sing, Sing from the Syd



The rear panel carries phono socket Line inputs (left), tape input/output and one pair of sturdy loudspeaker terminals (centre). At top left a position with blanking plug meant for USB, a forthcoming optional extra.

Lawrence Orchestra (Big Band Spectacular) pounding out with fluid force. The brass section had rich rasp but my ears weren't assaulted: it was all big and fruity. And so it went on through a wide selection of LPs, a very analogue sound in fact. Forget hard edges and laceration. Think beguiling.

With MM there was indeed a small degree of extra midrange presence that pushed vocals forward slightly, making Stevie Nicks pleasantly clear singing Dreams from Rumours for example, but surprisingly as I played through a wide variety of LPs the 404 retained its smooth, easy nature, deep sound

staging and excellent stereo imaging.

CONCLUSION

The Moonriver Audio Model 404 is a well honed specialist amplifier with gorgeous analogue sound. Powerful, supple bass is a big plus point, bringing a sense of body to all that passes through it. This included the Phono stage in MC form in particular, but even MM with its lighter patina due to differing equalisation was a joy to hear.

No doubt the Model 404 has superb sound but whether it will appeal has to be a value decision since the price tag is a big one for an amplifier short on facilities.

MEASURED PERFORMANCE

The Moonriver Audio Model 404 amplifier produced 40 Watts into 8 Ohms and 64 Watts into 4 Ohms. The company quote 50 Watts into 8 Ohms, or 40 Watts of "clean power", which is what we measure (i.e. before clipping). Around 50 Watts will be produced into a nominally 6 Ohm loudspeaker, which most are, so justifiably a 50 Watt amplifier.

Frequency response ran from 12Hz to 20kHz at half volume our analysis shows. At low volume this extended to 80kHz, but at full volume the upper limit was just 13kHz (-1dB). Frequency extension was volume dependent. With high sensitivity of 95mV for full output, low volume will likely be used in practice, giving a satisfactory result, but frequency response should not change with volume control position.

Distortion was low at 0.01% in the midband at 1 Watt to 0.02% at full output. At 10kHz results were similar, so no crossover distortion. This is a very linear amplifier at low and high power outputs, at all frequencies and into 4 Ohms too.

Input sensitivity was very high at 95mV for full output, meaning high gain in the line stages – and this fed through to the phono stage.

RIAA equalisation was accurate with

the board switched to MC, a warp filter acting below 40Hz. Sensitivity again very high, just 0.1mV in for full output, so the lowest output moving coil cartridges can be used. However, with equivalent input noise (e.i.n.) measuring 0.19µV this is not a super quiet stage; slight hiss will be audible close to the 'speakers.

RIAA equalisation for MM differed from MC slightly but lay between +/-1dB limits from 40Hz to 20kHz. Again, sensitivity was very high at 0.8mV for full output, overload high and noise reasonably low at 0.2µV in (e.i.n.).

The amplifier measured well enough, if with some inconsistencies in MM/MC phono RIAA EQ and alteration of response with volume. NK

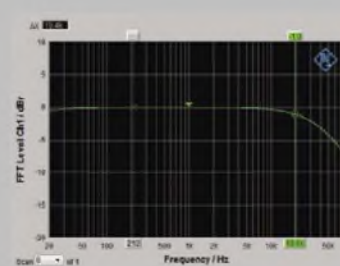
Power	40W
Frequency response (-1dB)	12Hz-20kHz
Distortion (10kHz, 1W)	0.02%
Separation (1kHz)	93dB
Noise (IEC A)	-96dB
Sensitivity	95mV

PHONO MM	
Frequency response (+/-1dB)	40Hz-20kHz
Sensitivity/overload	0.8mV / 78mV
Noise	-73dB

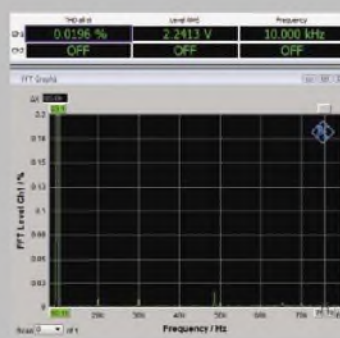
PHONO MC

Frequency response (+/-1dB)	40Hz-20kHz
Sensitivity/overload	0.1mV / 10mV
Noise	-54dB

FREQUENCY RESPONSE



DISTORTION



MOONRIVER AUDIO MODEL 404 £3095



EXCELLENT - extremely capable.

VERDICT

Lovely analogue sound, but few facilities and expensive.

FOR

- smooth 'analogue' sound
- strong, supple bass
- easy to use

AGAINST

- no XLR
- excessive gain
- volume control variance
- MM / MC differences

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Clearly Different

The Continuum cone of B&W's 607 S2 Anniversary Edition brings great clarity says Noel Keywood.

The B&W 607 S2 Anniversary Edition I'm reviewing here, price just £450, is a relatively small 'speaker intended for a stand or book shelf. Small loudspeakers are not known for performing sonic miracles; getting a "quart from a pint pot" just isn't possible; size matters. But that doesn't mean they can't have their own strengths, especially with stereo sound staging – as Wharfedale's small Diamond loudspeaker demonstrated long ago.

B&W's little speaker is however very different to a Diamond, especially the latest Diamond 12. I reviewed in our April 2021 issue. They're worlds apart, a point I make early on to tease out the issue of small 'speaker differences.

Whilst you don't get big bass from any small loudspeaker their potential for a fast, lithe sound with great stereo imaging is what B&W capitalise on with the 607 S2. It has a small 130mm (5in) Continuum cone bass/midrange unit that does most of the work, covering a large part of the audio band, right up to 3kHz. Above this a decoupled Double Dome aluminium tweeter takes over to extend high treble all the way to 20kHz our measurements show, B&W quoting an upper limit of 33kHz – but this is for bats.

I know from previous experience, most recently when reviewing the larger 603 S2 in our March 21 issue, that Continuum synthetic cone material has a sheeny sonic presence and offers a strong sense of clarity, potentially making this a small 'speaker with an up-front sound.

How small? It measures 165mm (6.5in) wide, 207mm (8.1in) deep and 300mm (11.8in) high, and with a weight of 4.7kg can be easily lifted and placed just about anywhere. B&W recommend 30W-100W amplifiers but you won't get far at the lower end of the scale because sensitivity is on the low side at 84dB – as they quote and we measure.

OK to go loud-ish in a small room I guess – providing you don't want to wick it. I'd suggest 60+ Watts as most suitable.

The 607 S2 is a conventional reflex loaded enclosure with port at rear, measurement showing it is tuned to 50Hz, a popular choice of frequency in small enclosures since this coincides with the low bass region where such a loudspeaker can work and remain efficient, but also cover the lowest notes of most musical instruments (40Hz). Although the port is at rear a few cms clearance is sufficient for it to work properly.

The eagle eyed of you may pick up that I used it in a 17ft room but a port tuned to 50Hz best excites a 11ft long room, please bear in mind these are broad-outline acoustic approximations and only relate to driving a room's modes for strongest bass in the interaction between room and 'speaker: In a nutshell: think small-ish room for the B&W, as with most other small 'speakers because they are similarly optimised.

Connection is through bi-wire terminals at rear that come with mono-wire links as usual. With bi-wiring the tweeter can be split from the woofer and I exploited this possibility in my review of the 603 S2 to use 2 Ohm resistors to dampen down strong treble. I tried this with the 607 S2s as well but my review is 'as delivered'.

SOUND QUALITY

With a low-ish sensitivity of 84dB I chose to drive B&W's 607 S2s with a Creek i20 amplifier (100W), connected through Chord Company Signature Reference cables. Primary signal source was an Oppo UDP-205D universal player acting as a CD transport, connected by a QED Quartz glass optical cable to the AKM based digital convertor within the Creek. This has the benefit of using the Creek's integrated digital section, removing an analogue cable link and associated buffer amplifiers,

which I find gives clearest sound. Listening room was a fairly typical 17ft long lounge with speakers on stands at one end, grilles on.

The gravelly voice of Keb Mo singing every Morning (CD) was strongly projected, his slide guitar shimmering in front of me. It was a vivid delivery that threw out every small nuance, Mo's vocal inflections coming under a spotlight. With a sense of body to the guitar as well, the little B&Ws managed well here, throwing it all out in grand fashion. Our measurements suggest the 'speaker is engineered for such a sonic presentation.

The Chieftains' bodrans at the start of Foggy Dew thundered convincingly, even if there wasn't the weight you get from a large floorstander. Fast and snappy though, with good control too – there was no waffle here. Sinéad O'Connor's vocals were clarified, pushed forward for concise enunciation: I got to hear



A large rear 'flowport' loads the small bass/mid-range unit to impose bass control. Beneath are bi-wire terminals able to accept 4mm banana plugs, bare wires or spades.

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Description

HI-FI World brings you the best hi-fi... from around the world

- We listen and measure products in depth, at our London offices.
- Expert opinion from a team of renowned writers, musicians and engineers.
- International standard measurements using Rohde & Schwarz test equipment...

Information

Developer	audio web publishing ltd
Category	Entertainment
Updated	7 Dec. 2014
Version	1.0
Size	9 MB
Rating	Rated 4+
Family Sharing	Yes
Compatibility	Requires iOS 5.0 or later. Compatible with iPhone, iPad, and iPod touch.
Languages	English

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"Liffey swell" where the words often escape me in this slightly muffled vocal line.

Similarly, Dadawa singing Canton Story was also slightly better resolved than I am used to; normally she sinks to vague whisper but the B&Ws lifted intelligibility. There was plenty of push to the slow drum strikes – impressive for a small loudspeaker.

My usual torture track for tweeter behaviour is Nils Lofgren's Keith Don't Go that pours in energy up to 16kHz from rapid strumming at track-end in particular. Here the tweeter became prominent, bringing a sense of tinselly brightness to the sound. With tracks containing what I would call "normal treble" the +5dB lift in tweeter output our measurements reveal wasn't too obvious, but with this gruelling review track it became very apparent. As always, audibility depends upon what music is played; if high treble doesn't exist in a track the effect will not be apparent. Explaining why I use this track to check tweeter behaviour. A solution

Similarly, the Steinway piano used by Arcadi Volodos had 'hard keys', the fulsome resonance of its body that I know so well was not so obvious. But then this is a small budget loudspeaker with dry bass, doing well enough in context.

Holst's thunderous Mars came across nicely in that there was a well defined sound stage, delineated string sections and meaty kettle drum strikes, if not an especially spacious sound stage.

And finally, Nigel Kennedy's busy Stradivarius was projected well, with plenty of insight into strings and his bowing work, if delivered in a bright light free from warmth. So a mixed picture with Classical.

CONCLUSION

The small B&W 607 S2 is fast and forward in its sound, with strong treble: this is no laid back loudspeaker. It throws out mountains of fine detail and has good insight too. With lithe but punchy bass – no subsonics of course – the 607 S2 is



B&W's Continuum synthetic cone material, with its silver finish, updates their yellow Kevlar cones.

for those who want a vivid modern sound balance. It may not suit those who prefer a more natural, fulsome balance for Classical music: I'd suggest an audition to see whether it will suit.

MEASURED PERFORMANCE

With grille on and measured 10 degrees off-axis, our frequency response analysis of the B&W 607 S2 Anniversary Edition shows there is strong upper midband output around 4kHz that's +2dB or so above the lower midband below 800Hz. Above 7kHz there is a pronounced +5dB peak from the tweeter. Since the tweeter works from 3kHz upward our impedance trace shows, these characteristics are part of tweeter behaviour. Its degree of prominence will be audible as brightness in the sound.

The Continuum bass/midrange unit covers a fairly wide range, from 50Hz to

3kHz, with output peaking up in the 1kHz region.

Where most manufacturers ensure output rises across the lower midband to add some warmth, B&W let output slowly fall in this region, suggesting the 607 S2 will lack warmth. However, it is expected to be used close to or against a wall and this positioning will provide some low frequency support.

Bass output reaches smoothly down 60Hz, falling away slowly to -6dB at 40Hz, the port being tuned to 50Hz our port output trace (red) shows (as well as the dip in the impedance trace). For maximum port output support an 11ft long room is needed, showing the 607 S2 is best in a small room; it is also strongly damped acoustically for use in a small room, to counter room boom.

Sensitivity was average for a small cabinet, measuring 84dB sound pressure level from one nominal Watt (2.8V) of input at 1 metre distance, making a 60+ Watt amplifier best suited. Impedance measured 7.5 Ohms using pink noise, dcr being 4.3 Ohms (nominally 4 Ohm bass unit).

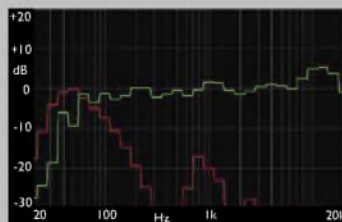
Our impedance trace shows a classic two-way with port dip at 50Hz and crossover peak at 3Hz where the tweeter starts to draw current, impedance decreasing.

The B&W 607 S2 has been balanced for a bright sound, tweeter output peaking by a large +5dB at 12kHz. **NK**

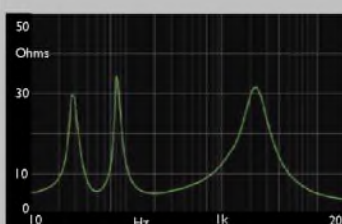
FREQUENCY RESPONSE

Green - driver output

Red - port output



IMPEDANCE



B&W's 25mm Double Dome aluminium tweeter plays a prominent role in the 607 S2.

here is to remove one of the bi-wire links and replace it with a low value resistor, starting out at 2 Ohms, experimenting with value until satisfied. It's a hidden benefit of a bi-wire loudspeaker in effect, most responding well to this little tweak.

On to Classical and a somewhat uneven performance. Renee Fleming singing Un bel di Vedremo from Puccini's Madama Butterfly was nicely projected but a little hard of tone – I wished for a more organic sound.

B&W 607 S2 ANNIVERSARY EDITION £450



EXCELLENT - extremely capable.

VERDICT

Insightful and detailed but with very strong treble. Best with Rock music.

FOR

- clear sound
- low colouration
- bi-wire

AGAINST

- raised upper treble
- hard of tone
- no tuning resistors

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Quickstep... and sidekick

Martin Pipe tries the 'S' upgrade of Black Rhodium's Quickstep speaker cable.

A few years ago, Black Rhodium sold a loudspeaker cable called the 'Thunder'. Despite not being particularly cheap, it sold surprisingly well. The firm's founder Graham Nalty, who's been in this business for over three decades, was naturally intrigued and carried out some investigations. With

his belief that "all cables obey the laws of physics" foremost in mind, Nalty examined the properties of the Thunder and other cables in order to discover what made them so successful. Among these factors were the materials used, the distance between conductors, insulation thickness, RFI screening and the plugs fitted to either end of each cable.

The result was the Quickstep, which justified Nalty's efforts by winning Hi-Fi World's 'Loudspeaker Cable of the Year' award in 2016. Not bad for cables that were considerably more affordable than the Thunders, a 3m pair selling for £400. 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. Interestingly, GN1s aren't listed among the speaker plugs you can buy from the Black Rhodium website.

Great though the Quicksteps were, you can't rest on your laurels in this game; indeed, 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 GN1 plugs of the well-constructed 3m review samples mated securely (but not impractically so!) with the speaker terminals of my Cambridge Edge A power amplifier – fed with digital source material from the matching Edge NQ streamer – and Quadral Aurum Wotan VIII speakers. After the recommended 100 hours burn-in, serious listening could begin.

SOUND QUALITY

First up were a couple of tracks with prominent low-frequency content – Wide Open, by the Chemical Brothers and Beck, and Tame Impala's The Moment (both FLAC CD rips). Although I never heard the original Quicksteps, I decided to use my 'regular' speaker cables – Furutech DSS-4.1s; giants, with commensurate low-frequency delivery – as a reference.

I found that the latter gave the edge in terms of visceral impact, but the much cheaper Quickstep

S managed to hold its own when it came to subtlety and definition. As far as the original version's key advantages – clarity and insight – are concerned, the Quickstep S does not disappoint. The 'snap' needed to make the complex percussion of Radiohead's Idioteque (Kid A) work was evident and as a result it sounded immediate and engaging.

Also faring well were the organic timbres of the predominantly electronic melodies punctuated by said rhythms, while the urgency of Thom Yorke's vocal was satisfyingly conveyed.

Switching to my familiar hi-res LSO/Naseda recording of Britten's War Requiem, I found that a proportionate sense of scale and dynamics ensured the music flowed naturally – without undue constraint.

CONCLUSION

The job of a speaker cable is to ensure that as much of your music as possible arrives from the amplifier intact – in this, the Quickstep S does indeed deliver the goods I felt.



BLACK RHODIUM QUICKSTEP S

£600 (3M) £800 (5M)



EXCELLENT - extremely capable

VERDICT

A good all-rounder, and a worthy successor to the original

FOR

- clarity, insight and musicality
- well-defined bass

AGAINST

- price increase

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As easy as QED

QED used to make more than cables. Martin Pipe provides proof, courtesy of an A270 integrated amp that was built in the early 1990s.



Deceptively-simple, the QED A270 is a surprisingly-flexible amplifier. Much of its design is inherited from the lower-powered A240 Mk II, and also found in the C300/P300 pre-power combination.

Today, we know QED as a firm that produces many different varieties of well-designed and sensibly-priced cabling. Now part of the Armour Group – the other hi-fi brands of which include Q Acoustics, Goldring and iFi – QED even went to the trouble of publishing the ‘Genesis Reports’. These documents attempted to explain, in technical but readable terms, the importance of cabling.

And it should know. Although QED started life in the early 1970s by producing accessories like source expanders, moving-coil preamps and speaker selectors, the Middlesex-based firm hit the big time with its ‘QED 79’ speaker cable. Named after the number of copper strands in each conductor, QED 79 was launched in 1976 – and many miles of the stuff were sold, as the audible improvement over traditional ‘bell-wire’ was obvious. QED 79 spawned numerous competitors...and an industry.

Flushed with the success of its cables, QED was – in the early 1980s – figuring out what to do next. The answer: electronics. Who

better to take up the story than Bob Abrahams, QED’s founder. “I guess the story starts with QED’s desire to move up to making ‘real’ hi-fi products, rather than just accessories. The range started in January 1984 with the A230 solid-state amplifier and was followed by the A231 FM tuner and R232 turntable”. They were the work of “Graham Theakston, a very talented electronics designer”. QED even sold a neat little rack for them.

The new products – and in particular the A230 – sold very well at the serious end of the mid-1980s budget hi-fi market. This was despite one reviewer who, although appreciative of the A230’s performance, asked what “QED knew about making amplifiers”... much to Abrahams’ irritation. At that time, minimalism was becoming fashionable – thanks to the likes of Linn and Naim rejecting unnecessary features, like tone controls, in pursuit of the best possible subjective performance.

These two marques served more upmarket customers; QED attempted to bring British-made minimalist hi-fi to the masses. No

tone controls on any of the QED amps; instead you got the practical minimum of inputs (with Naim-style DINs for tuner and tape, MM-ready phonos being provided for the all-important turntable). The rather plain frontage of the A230 – an amplifier with a power output of 2x 30W, into 8 Ohms – offered buttons to switch between them, a headphone socket and volume/balance controls.

In 1986 came the A240 which, Abrahams reveals, was QED’s “most successful amplifier in terms of reviews, awards and sales numbers”. This – like what came before – is an unpretentious integrated design, albeit with an uprated output of 40W per channel (8 Ohms). Also the work of Theakston, its success could in part be attributed to design that complemented how music consumption was changing. “At that time” observes Abrahams “we were on the cusp of a transition from vinyl to CD. So we decided that if people were going to switch to CD, then why spend a lot of money on a phono stage?”

QED’s answer was to produce two models. The cheaper A240CD



QED's "Signal Path Optimisation" in practice. The SA phono stage can be seen in the top left of the picture. To minimise hum pickup, the power supply – built around a toroidal transformer that's larger than its A240 Mk II equivalents – is located at the opposite end of the case. Between them lie the preamp stage, power supply capacitors and power amp associated with a small rear heatsink. The signal paths are completely free of ICs.

was aimed at those who would be listening primarily to CDs – hence the name. For the benefit of those who might listen to their old LPs and singles from time to time, a very basic op-amp based phono stage was nevertheless included. The second version, the A240SA ('Super Analogue'), was "designed for people who still valued their vinyl collections". For its input



The A270's power amplifier is a fairly conventional complementary Class AB design, a split-rail power supply ensuring there's no need for unweildy (and signal-impairing) coupling capacitors on the output. Japanese power transistors are specified, and the heatsink they're fitted to is compact for a 2x50W amplifier.

count as low as possible...we took the view that fewer (semiconductor) junctions – i.e. avoid ICs if possible – equals better sound".

With the help of new engineer Steve Privett, QED revised its amps towards the end of the decade. At this point QED's circuit diagrams were "still being hand-drawn" and its amplifier circuit boards "laid out using masking tape and a craft knife", according to electronics engineer Jon Jeary. A significant change was that the A240 Mk II – again, in CD and SA versions – had full-width (430mm) casework, as opposed to the same non-standard (approximately midi) proportions of the originals.

Instead of the push-buttons previously used by QED, a more flexible and sophisticated method of selecting sources was incorporated – separate rotary knobs for choosing what you



Instead of the push-buttons that QED fitted to its first amplifiers, the A270 used rotary switches to choose source input, and what is sent to your recording equipment – they did not have to be the same! The concentric volume control offers independent adjustment of the left and right channels; earlier QED amplifiers featured balance and volume knobs instead.

connectors, QED had – mercifully! – switched from DINs to phonos. There are separate inputs for MM and MC cartridges – only one type can be connected at a time, and in any case the MC inputs are only functional if a SA board is fitted.

Talking of which, a 'CD' version could be upgraded to an 'SA' version, as the phono stages are plug-in modules – a nice touch on QED's part. At the opposite end of the amp's circuitry were two speaker terminal options – one Direct and 'always on', the other Switched to mute whenever headphones were plugged in. Between them lurks something called "Signal Path Optimisation". This, Abrahams told me, described QED's "attention to detail in the way the audio signal path (and earthing) was prioritised, and our objective of keeping the transistor-

listen to, and what is sent to your recording equipment. Furthermore, additional line inputs and a second tape loop were added. The balance and volume knobs were replaced with a simpler arrangement that gives the listener independent control over the levels of left and right channels.

QED was well in its stride by this time – it even introduced a C300/P300 pre-power combination, which took pride of place at the top of its amplifier range, and later on the microprocessor-controlled "Vector" passive preamp.

Somewhere in between is the A270, as featured here. This is basically a more refined version of the A240 Mk II, with a more potent output stage; each channel is capable of 50 watts into 8 Ohms. As well as CD and SA models, QED offered an A270 with a



This A270 CD has been upgraded with the SA phono stage shown here. Changing between the MC and MM inputs isn't as easy as plugging a deck into the appropriate sockets – you also have to flip a couple of internal switches, shown here.

The fully-discrete SA board fulfils QED's "objective of keeping the transistor-count as low as possible...we took the view that fewer (semiconductor) junctions – meaning no ICs – equals better sound".

newly-designed PA ('Premium Analogue') phono stage. By the time the A270 hit the market, bi-wireable speakers were becoming available in larger numbers. To accommodate this trend, the A270's designer also equipped the new amp with two sets of speaker outputs.

The A270 is certainly a capable and practically-designed amp that's well worth a listen – you can find a working one for between £100 and £200. Thanks to the well thought-out design, it's pretty reliable although dried capacitors, noisy controls and even the odd output stage blowout aren't unheard of (note that QED tells users to steer clear of "electro-static speakers... and high-capacitance speaker cables").

My A270, which was upgraded to 'SA' status, has a very slight

hum that's only audible through headphones; after 30 years, I expect that the power supply's reservoir capacitors are in need of replacement. If you're into vinyl, the SA phono stage – which was constructed from discrete components – is surprisingly effective; the budget stage fitted as standard to CD models is, in contrast, rather noisy and lack lustre in musical terms.

Changing between the MC and MM inputs of an SA model isn't as straightforward as simply plugging your deck into the appropriate phono sockets – you also have to flip a couple of internal switches on the

spectrum. Aside from a slight 'warmth', the A270 is however fairly neutral from a tonal perspective. Vocals and lead instruments are communicated well, while treble is clear and free from sibilants – certainly at normal listening levels. It also handles percussion and subtler details adeptly, giving listeners a taste of what they could expect from budget Naim amps that cost twice the money!

No wonder QED's amps sold so well to budget users; indeed, they still have a small but loyal following today. However, QED's line of amps wouldn't last long into the 1990s. The company eventually withdrew from the hi-fi separates market, Abrahams told me, because competition "became even more intense...we reverted to designing and manufacturing cables and



The A270 is a robust and sensibly-designed amplifier – and here's another attention to detail. In recognition that it's usually the power amp that goes wrong, QED has provided a removable panel for access to the underside of its PCB area.

phono board.

With appropriate speakers, the A270 can easily service a medium-sized room without audible stress. Early A230s – according to some – tended to favour the bass end of

accessories". The amps didn't die straight away, though: "We were a very early player in the emerging custom-install market – and guess what design of amplifier we used? Why, the A230 of course!"



Two tape loops, three line inputs and a decent onboard phono stage – nothing remotely digital here. According to the label, this is an A270 CD equipped with the simple MM phono stage (under such circumstances, the MC input isn't connected to anything). This one has been upgraded with the SA board.

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"It's sort-of simple if you've stood in front of a water wheel"



Noel Keywood

"Perhaps you could cover 'current' v 'watts' in one of your columns" says Mike Tartaglia

Kershaw. Hmm... well I can, but how to explain without boring readers? There is a way though, by keeping away from all the standard stuff on the 'net and taught to every budding electrical engineer. It involves water and history – and is intuitively understandable.

The use of water flow as analogy for electrical flow is as old as our understanding of electricity and actually pre-dates it. When the phenomenon of electricity was being investigated in the past by the greats such as Alessandro Volta (Italy), Andre-Marie Ampere (France), Georg Ohm (Germany) and James Watt (UK), it was seen as a force that flowed, being likened to the flow of water. So the terms we are faced with today in hi-fi hark back to those analogous views of the physical world. And they're still good enough for gaining an understanding of what's meant by current in Amperes (Amps) and power in Watts.

A current of water we all empathically understand. Think of a small pipe squirting water at your face at high pressure: best example here is one of those electric tooth cleaners where a motor whirs away to send a small high pressure jet to blast the gaps between your teeth. Gets rid of gunk but doesn't blow you away; you won't fall down under the weight of the water. This is an example of high pressure (Volts) but low current (Amps).

A Karcher pressure washer ups the action by adding in extra current flow to blast away gunk from paths, walls, bicycles and cars. You can still hear a motor whirring away to add

pressure to the current flow.

To move the notion of current up a few pegs we can move to a large diameter water pipe of the sort that may feed a water wheel. The current of water here is much greater, so great it can start to do serious work, push a heavy old wooden water wheel to either drive a mechanical system for grinding flour or spin an electrical generator.

Imagine standing in front of such a pipe spewing water at you; chances are you will be thrown backward by the current. That's a form of work too: you have just been physically moved, not something the small tooth cleaner managed. So current in Amps is considered a basic property, whilst the pressure behind the current (Volts) is a driving force.

Can't spend all day at this so let's get onto power amplifiers! Most of 'em produce 20 Volts to 30 Volts of electrical pressure between two terminals. A load is connected, the loudspeaker, that offers resistance to current flow, somewhere between 4 Ohms and 8 Ohms. Current flows through it, but not too much, just enough to make the loudspeaker cones move in appropriate fashion.

So the amplifier is pushing current through the loudspeaker. The pressure applied (Volts) multiplied by the amount of current flowing (Amps) gives the total amount of power (Watts) being consumed by the loudspeaker, which is set by the loudspeaker's resistance (Ohms) to current flow. This is a simple model – I'm deliberately avoiding a.c. characteristics. But it will do as a basic analogy.

To relate this to everyday experience, you get around 40V maximum from an amplifier where the mains in the UK gives 240V. It takes around 90V to kill you so hi-fi amplifiers are considered safe. The current they can deliver is up to

10 Amps or so before protection circuits kick in, or a fuse blows.

The power hi-fi amps can deliver is a few hundred Watts, around the power the human body can produce as measured on an exercise bike in the gym – but you have to pedal hard to get there I've found!

Just like a human on a gym bike, producing Watts generates heat so if you ask an amplifier to produce Watts over any period it will heat up, as will the loudspeaker motors driving the cones. There are usually protection mechanisms to sense this in an amplifier. Less common in loudspeakers because dissipating lots of Watts will produce huge volume that most humans will perceive and turn volume down.

I've deliberately kept this explanation simple and biologically analogous as it were. If you want a deeper view then read M.G. Scroggie's 'Second Thoughts on Radio Theory', first published 1955. Amazon had two second-hand copies at £16 each when I looked whilst writing this in February 2021. Scroggie's explanations are unlike anything on the 'net and far more insightful. This book has other brain-teasers like How Fast is Electricity? Squadron Leader Scroggie was in charge of Pevensey Bay radar station in WW2. Undoubtedly a brilliant man, able to dig right into the nature Volts, Amps and Watts, but you'll need a cup of strong cocoa afterward to get to sleep!

Best to keep away from such heavy stuff methinks, if you want to get an empathic understanding of what's going on. A nice, simple water analogy is the best way of getting to grips with "current and Watts" in a hi-fi system. It's sort-of simple if you've used a high-pressure tooth cleaner, a Karcher power washer or have stood in front of a water wheel! ●

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"streaming: music picked over like a vulture picks at fresh meat"



Paul Rigby

So anyway...I was talking about why vinyl is important. Last month saw a few reasons.

To briefly recap, they included basic superiority of sound quality and that you own the music and you can listen to it at any time. I praised the creative limitations that vinyl brings to artists in terms of the allotted time available. I also talked about the satisfaction of the product as an object. The sense of ownership and value.

There's more though. Let's go straight to point 5: Anti-piracy. Sure, you can copy the music but then you no longer have vinyl. You have a digital file which takes you somewhere else entirely. All of the positive aspects of vinyl are lost.

And yes, you can physically copy a vinyl album via a back-street press but the sound quality is never as good, the packaging is sub-standard and it's relatively expensive to make – which defeats the object.

The anti-piracy aspect of vinyl maintains income flow for the artist who feels encouraged to make more music, and for the label who feels encouraged to support the artist and new artists – and the end user because they're offered more and varied product.

Then there's point 6: Art. Vinyl sleeves are famously large: 12in x 12in. So any band can give their music visual impact – and I stress the word 'impact' when they feature painted, drawn or photographic art on their sleeve.

You can ally, you can associate, you can forever link a piece of sleeve art or art style to your music and to the band itself on a large vinyl sleeve. A small CD case

lacks visual impact and the sleeve artwork is fogged by the plastic case. Even in Digipak format, small size lessens impact. The sort of impact that can draw a passing customer.

How many of you have been reeled into a mysterious vinyl album sleeve? How many have picked up a sleeve, purely because the sleeve art grabbed you?

Remember? You ambled along a shop's aisle. Glanced to the side, an incredible image suddenly filled your head. You said to yourself "My goodness, just what the...?" and before you knew it, picking it up, turning it over and then – only then – you looked to see who the artist actually was! But the sleeve art had done its job. It had drawn you to it.

CD art has never done that to me. As for a screenshot on a streaming interface? They serve as a visual tag only, a point of recognition. Who's going to be wowed to their soul by a piece of miniature art from a streaming album? An image, surrounded by buttons, text, many other images, menu options, flashing advertisements competing for your attention and more. How's a piece of 'sleeve' art going to do its thing on a streaming platform? I'll tell you how. It isn't. That's how.

And then there's Track Order, which is point 7. Do not underestimate the track list of a vinyl album. Do not dismiss the actual order of those tracks. Do not ignore the fact that the end of Side A has this track and the first track on Side B has that track.

Producer Lou Adler once talked about his involvement in Carole King's legendary album 'Tapestry'. He said "Sequencing

meant a lot in those days, the journey or the experience or the adventure of listening to a new album and sitting down by yourself putting on that vinyl, the story that it told, the sequencing was very important. I was sequencing for the person who was listening at home, alone. John Phillips of the Mamas & Papas influenced me a lot on sequencing and what the final chord on one song is to the first note on the next one so it's not jarring music transitions".

Now I come to Running time, point 8. A variation on last month's point. An album's timed length is organic and dependent on its status as a piece of art. It lasts as long as it should last. Be it 40 minutes or 21 minutes. When the artist has said what they need to say. Then that album should end.

That changed when CD was launched. CD was all about packing in as much music as possible. I remember that this fact was a selling point for CDs back in the day. A selling point. I'm paraphrasing but the line ran something like "...and CD can pack in more music!" I felt like a customer at Tesco's. I felt like I was now expected to buy music wholesale. Art? Nah. CD encouraged labels to pile music high and sell it cheap.

Although it wasn't even that because, for many years, CD was sold at inflated, rip-off prices, triggering customer resentment. Which takes us back to last month and the value that vinyl brought to the process.

Streaming is worse, I must add. It reduces albums to jukebox containers to be picked over like a vulture picks at fresh meat.

And I ain't finished yet, oh no. ●

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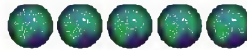
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"Philips didn't charge manufacturers royalties"



Martin Pipe

It was sad to learn that the inventor of the cassette tape, Dutch engineer Lou Ottens, passed away on March 6th aged 94. Like many of those who have made significant contributions to audio, he was a avid 'tinkerer' during his formative years. As a teenager during the Nazi occupation of his country, Ottens built a directional aerial that allowed his family to circumvent 'jamming' and listen to Dutch-language broadcasts from the BBC European Service.

After graduating in mechanical engineering from the Delft University of Technology, he joined Philips – where he remained, until retiring in the mid-1980s. Initially Ottens worked on mechanisation projects, before being transferred to a Belgian facility that made radios, record players and early tape recorders.

Three years after his arrival, Ottens was appointed head of product development. His first fruit was the 'all-transistor' EL3585, a battery-powered portable tape recorder. I actually have one of these very unusual machines, acquired as a child. Launched in 1962, it resembles a transistor radio – but with spool holders set into the top panel. A removable acrylic lid protected these from the elements, although an aperture allowed the rewind, play and fast-forward buttons to be operated. The half-track mono EL3585 would only accept spools of up to 10cm in diameter, and so Ottens had to specify a low tape speed (4.75cm/s) to ensure sensible running times. Sound-hunters would use the EL3755 microphone that was stowed in a compartment; sadly, mine went missing years ago.

The EL3585 sold well, but Ottens knew he could come up with a more practical portable. Thus was born the 'Compact Cassette', a flip-over cartridge containing tape half the width of the quarter-inch stuff used by the EL3585. Its 4.75cm/s tape speed was, however, retained. Ottens conceived the size and shape of the machine that was to launch it (1963's EL3300) by whittling down a block of wood until it would fit into a pocket. Ever the pragmatist, this historic carving was allegedly lost forever after it was used to help jack up his car.

The EL 3300 was lo-fi and mono, but improvements came rapidly – not least because Philips didn't charge manufacturers royalties. However, I doubt that even Ottens could have envisaged machines of the Nakamichi class. Although he didn't come up with the Walkman – a matter for personal regret.

Cassettes played a significant role in making bootlegs. In March's *Olde Worlde*, I featured the Nakamichi DT-550 portable cassette deck. For a while this well-built item was the 'go-to' choice for serious field recordists. With the 550, a fair few live musical performances were documented – especially those of the taper-friendly Grateful Dead, a band that also went to a lot of trouble to ensure the best possible PA sound.

As the 1970s gave way to the 1980s, Sony's TC-D5 – in portability terms, somewhere between the 550 and the familiar Walkman Pro that was to follow – became a popular choice. The Grateful Dead's taping policy encouraged all kinds of recording experimentation to take place. In 1984, the band deemed it

necessary to dedicate space at concerts specifically to recordists so their obsession didn't intrude into the fun of other fans – it wasn't unknown for tapers to impolitely 'shush' others in the audience. I have seen a photo of a tapers' section, in which no fewer than five D5s are stacked on top of a 550. Other photos, published in the January 1988 edition of 'Audio' magazine (<https://bit.ly/2L9u9yt>), showed the forests of microphones, booms, windshields and reflectors – arranged in every conceivable configuration – that fed the recording gear. The cassette had found a place in the recording world.

Following the 'source first' philosophy that's commonplace in hi-fi, those Neumanns, Schoeps, AKGs and Sennheiser microphones could also be found in recording studios. Other Deadheads went to even greater lengths to capture the band at work. Some staggered with Revox, Tandberg or Nagra reel-to-reel decks, plus the associated paraphernalia, into venues.

Quadraphonics and ambisonics were attempted at such concerts on numerous occasions; quad recordings tended to use soundboard feeds for the front channels and mikes placed strategically among the audience for rear-channel ambience. Generously, some enthusiasts allowed others to patch recording equipment into their mixers.

Much of this activity was born out of the Compact Cassette. It provided a way ahead, one that others improved upon, most notably Nakamichi. Philips early portable Compact recording system, to which Lou Ottens contributed much, played a big role in high fidelity. ●

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"buying someone else's 'reference' may be a longer term disappointment"



Dave Tutt

Ah the reference speaker! As Noel was saying in his column (March 21 issue) bit of an issue here – especially if you are a shop trying to sell any number of speakers.

Do you remember how it used to be in your average hi-fi shop? Dozens of pairs of speakers all in a row on the shelves – and those that wouldn't fit were on the floor, all pushed back to the wall and all switched on a huge box?

And if you hadn't been thoroughly confused by trying twenty different models, that box switched sources and amplifiers too. So by the time you had been through a selection of models, with a salesman trying to push whatever they had a huge pile of that no one wanted, you either walked away unimpressed, or depressed – or both.

Perhaps in such a demo you bought something, regretted it and decided never again to set foot in the hi-fi shop.

Richer Sounds had tiny shops where you just bought a box – usually of an end of line or vastly discounted piece of kit – then rightly you got what you deserved, but fortunately there wasn't true dross on sale. You bought a box and just got on with it!

Then shops got listening rooms. Well, if you went to buy a sofa you wouldn't buy it without sitting on it would you? So initially little rooms were made in shops. In places like London's Tottenham Court Road the little rooms were less than ideal, especially those with glass walls. What were they thinking?

Things have now become more sensible – but how could

any shop put out a reference speaker as some sort of guide? Price doesn't help and neither size; manufacturers are totally irrelevant. I have heard some very expensive speakers in peoples' homes and thought that they were not worth half the price.

There are other things that come into play here. Who is your customer? For a shop it is crucial to understand this. Not everyone is a long term hi-fi owner, nor a complete beginner. Are they a well heeled youngster who just wants something that looks right in the flat? Or perhaps a couple who, having made enough money and with the children doing their own thing, want to play music from their youth – be it on vinyl or CD?

Is it possible to have a pair of 'speakers on demo that would fit as a 'reference' model that would satisfy all the people who visit the shop? I would have to say no. Reference is a very subjective term. What is a reference to the manufacturer, to the reviewer, to the buyer, cannot be truly defined.

What fits in with a reference might be – as Noel says – the LS3/5a, but from my standpoint they are only any good if you accept their limitations and listen exactly as they were intended, probably no more than two metres away, just as they would have been mounted on the back of a mixing desk atop of the channel meters in the back of a well deadened space in the back of a truck. The design was very much intended to ensure that chesty male vocals could be kept out of the transmission chain.

There are others of course. I am always aware that some companies don't do bass until you spend enough to buy yourself

a new car. So that their lesser 'speakers cannot be a reference at all and with an inability to do the rest of the frequency response you end up with a very expensive lump awaiting the next upgrade.

Some loudspeakers have such a unique sound that you either love it or hate it since balance across the frequency range seems to have gone out the window! No reference here either.

So what do we have? A reference would have to be reasonably true to whatever comes into it so it has to do bass as well as the rest of the frequencies. If it doesn't then it cannot be a true reference surely?

And it has to be capable of creating a sound field within a normal domestic space so something that only works at huge volumes in very large rooms doesn't count either.

What about the age of the buyer or for that matter the age of those that tell us it's a reference? We know that our hearing deteriorates as we get older and the high frequencies start to fail first. So simple adjustment here might just tip the balance perhaps?

What we really have though is that everyone's reference is their own. The manufacturer defining their reference speaker is purely their opinion. You can agree or disagree with their analysis.

Your reference is that sound you like that you have lived with all your life, especially if you have had a hi-fi for more than twenty years. You know what you like and buying someone else's 'reference' – or for that matter a speaker that might be similar – may be a longer term disappointment. Always best to get a listen and decide for yourself. ●

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ROXETTE

Bag of Trix: Music From the Roxette Vaults Parlophone

I only found out recently that pop/rock duo Roxette were second to Abba in Sweden, in sales terms, pushing out 75 million records. I never thought the duo held such significance.

Nevertheless, I was certainly aware of them as a musical force and their impact on the charts with the likes of 'The Look', 'Listen to Your Heart', 'Joyride' and 'It Must Have Been Love' was plain to see.

And when lead singer, Gun-Marie Fredriksson sadly died from cancer at the end of 2019, it was King Carl XVI Gustaf of Sweden who made a statement noting the loss. Let's not forget, this band mattered. Both to Sweden but also millions of fans.

And those fans will be happy about the contents of this 4LP collection, that arrives in a pizza-style box.

What you get here is a host of rarities including demos,

alternative mixes, Spanish-language versions and bonus tracks from 1986-2016.

So that means a host of Abbey Road sessions from 1995 including 'Listen to Your Heart' and 'The Look', Studio Vinden demos including 'Every Day' and 'Always the Last to Know' and the Swedish single version of 'Dangerous'.

Ideal for fans, the mastering on this set is big, bold and rather epic in its presentation. Hence, there is a sense that the levels are not strictly neutral but neither are they pushed too high either. That is, there's a sonic enhancement here, a slight boosting across the frequency range to give each area a strength boost. Bass is thus heavy, massy and full of heft. The mids are full and packed with detail but lack a sense of fragility. Treble doesn't really have time or air to frolic here. In effect, the power pop direction of this music takes precedence.

AUDIOPHILE VINYL



PARADISE LOST

Draconian Times: 25th Anniversary Edition Music For Nations

I've heard music fans refer to this band as US-based but no, they stem from that exotic Yorkshire locale, Halifax. Originally the band consisted of vocalist Nick Holmes, lead guitarist Gregor Mackintosh, rhythm guitarist Aaron Aedy, bassist Steve Edmonson and drummer Matthew Archer. And they've been at it since 1988.

The band has shifted their presentational style, changing the tone and direction of their music. They moved from doom to death metal, goth and even trancy downtempo.

This album formed part of a trio – 'Shades of God' (1992) and 'Icon' (1993) being the other two – from the Music For Nations imprint that could be neatly packaged into one phase. Goth being the primary underlying vibe but goth of a higher tempo with plenty of noise. Nevertheless, goth with a

heap of melodicism and rhythm that makes the music here eminently approachable.

Goth isn't the only anchor here, though. 'Forever Failure' ramps up the metal-esque/doom while the following track 'Once Solemn' increases the tempo. There's a tidal effect on this album as the tempo and moods subtly change with each track.

As for the mastering of the album? There is a certain claustrophobia around the midrange but I sense that this is an active decision, to give the guitars especially a closed in presentation, adding weight and density to the sound. Cymbals can be heard but I would have liked to hear more from them. An infusion of space to add a greater sense of drama would have been nice too, but I'm being greedy. The band gets the sound it's looking for here, I'm sure.

Continuing the company's release schedule to focus on the works of Gerry and Sylvia

Anderson, Silva Screen has released a double-album gatefold for the classic children's TV series 'Fireball XL5'. This is the fourth such release in the series.

As a fan of all things Anderson, this release gladdens my heart, I have to say.

Fireball XL5 was a TV series that launched towards the end of 1962 and would run until mid-1963 – but was set in 2062!

The focus of the show was the titular spaceship and what a magnificent beast it was too. It was commanded by the wonderfully named Colonel Steve Zodiac, a member of the World Space Patrol, no less. He and his colleagues would trot around the screen in glorious Supermarionation, an advanced puppetry system of the time.

The gatefold, sealed by a paper

band, offers numerous photo images that flow around a suite of liner notes including a track-by-track analysis, a list of musicians plus mini-essays on the music itself alongside thoughts on the TV show. I never knew, for example, that the TV music included output from something called an Ondes Martenot, a French invention from the '20s, a sort of proto-synth but in fact a valve-powered, electric keyboard that produced alien-esque sounds.

That instrument features within the 24 tracks on this LP. There are sixteen episodes covered including the Fireball XL5 main theme, all under the auspices of Barry Gray.

Also included is the pop song 'Fireball', performed by Don Spencer and a minor hit in the UK.

The mastering is open and dynamic and wholly lovely with resonance in the upright bass and real texture within the brass section.



FIREBALL XL5

Original Television Soundtrack
Silva Screen

AUDIOPHILE VINYL

Although many will know him as a country music star from his work in the seventies and eighties, Twitty began as a rock'n'roller back in the fifties. Twitty decided to enter the music business after hearing Elvis Presley do his thing. If he hadn't, he would probably have become a professional baseball player - he actually walked away from a contract with the Phillies.

His path to country stardom started in 1965 but this album was recorded in 1962 and featured a collection of tracks originally recorded from 1958 to 1960 on MGM.

This new edition features four bonus tracks that were not on the original album: 'Platinum High School', 'I Vibrate (From My Head To My Feet)', 'It's Only Make Believe' and 'Long Black Train'. The

album itself is a collectable but the rarest pressing of the original LP was the 10" version that was only ever released in Japan.

Hardcore collector, Marcel Meersmann, loaned his copy to Bear Family for reproduction. It's worth it too, with all of the rear-printed liner notes being in Japanese, although the track titles are in English.

A 10" release, this 500-only copy pressing on light blue vinyl is available only from the Bear Family online shop.

Mastering on this release is good - it's not amazing and that surely reflects the source material - but it's decent. So, spinning 'Great Balls of Fire' there's a slight warmth to the mids as the upper mids are rolled off a touch, along with the treble. The bass, although a little woolly, is harnessed so it never becomes boomy.



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WORLD CLASSICS

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

TURNTABLES

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



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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

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

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



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

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

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

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

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

PIONEER PL12D 1973 £36
When vinyl was the leading source, this bought new standards of noise performance and stability to the class, plus a low friction S-shaped tonearm. Later PL112D was off the pace compared to rivals.



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

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

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

GOLDRING LENCO GL75 1970 £15.65
Simple, well engineered motor unit with soft, sweet sound and reasonable tonearm. Good spares and servicing support even today.

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



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

TONEARMS

REGA RB251 2009 £136

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

HELIUS OMEGA 2008 £1,595

Stylish and solid lump of arm with fabulous build quality, that turns in a dynamic and weighty performance.

AUDIO ORIGAMI PU7 2007 £1,300

The classic Syrinx PU3 updated to spectacular effect. Hand made to order, with any mass, length and colour you care for. Fit, finish and sound truly impressive.



GRAHAM PHANTOM 2006 £3,160

Sonically stunning arm with magnificent bass dexterity and soundstaging. Build quality up to SME standards, which is really saying something!

TRI-PLANAR PRECISION 2006 £3,600

Immaculate build, exquisite design and one of the most naturally musical and lucid sounds around.

MICHELL TECNOARM A 2003 £442

Clever reworking of the Rega theme, using blasting, drilling and rewiring!

SME 309 1989 £767

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

NAIM ARO 1987 £1,425

Charismatic unipivot is poor at frequency extremes but sublime in the midband; truly emotive and insightful.

SME SERIES V 1987 £2,390

Vice-like bass with incredible weight, ultra clear midband and treble astound, although some don't like its matter of factness!

NAIM ARO 1986 £875

Truly endearing and charismatic performer - wonderfully engaging mid-band makes up for softened frequency extremes.



ALPHASON HR10US 1981 £150

First class arm, practically up to present-day standards. Buy carefully, though, as there is no service available now. Totally under priced when new, exceptional.

SME SERIES III 1979 £113

Clever variable mass design complete with Titanium Nitride tube tried to be all things to all men, and failed. Charming nonetheless, with a warm and inoffensive sound.

TECHNICS EPA-501 1979 £ N/A

Popular partner for late seventies Technics motor units. Nice build and Titanium Nitride tube can't compensate for middling sound.

LINN ITTOK LVII 1978 £253

Japanese design to Linn specs made for a musical, rhythmic sound with real dynamics. The final LVIII version worth seeking out.

AUDIO TECHNICA AT 1120 1978 £75

Fine finish can't compensate for this ultra low mass arm's limited sonics - a good starter arm if you've only got a few quid to spend.

HADCOCK GH228 1976 £46

Evergreen unipivot with lovely sweet, fluid sound. Excellent service backup.

ACOS LUSTRE GST-1 1975 £46

The archetypal S-shaped seventies arm; good, propulsive and involving sound in its day, but ragged and undynamic now.

SME 3009 1959 £18

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

PHONO STAGES

CREEK OBH-8 SE 1996 £180

Punchy, rhythmic character with oodles of detail makes this a great budget audiophile classic. Partner with a Goldring G1042 for an unbeatable budget combination.

MICHELL ISO 1988 £ N/A

This Tom Evans-designed black box started the trend for high performance offboard phono stages. Charismatic, musical and punchy - if lacking in finesse.



LINN LINNK 1984 £149

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

INTEGRATED AMPLIFIERS

NAIM NAIT XS 2009 £1,250

With much of the sound of the Supernait at half the price, this is powerful, articulate and smooth beyond class expectations.

MUSICAL FIDELITY PRIMO 2009 £7,900

Seriously expensive, but one listen explains why. Wonderfully exuberant sound that can only come from a top quality tube design.

SUGDEN A21A S2 2008 £1,469

Crystalline clarity, dizzying speed and forensic detailing. Power limited so needs sensitive speakers.

CREEK OBH-22 2008 £350

Brilliant value budget passive, with remote control, mute and input switching, plus an easy, a neutral sound.

CAMBRIDGE 840A V2 2007 £750

Version 2 addresses version 1's weaknesses to turn in a mightily accomplished performance, offering power, finesse and detail.

SUGDEN IA4 2007 £3,650

Goodly amount of Class A power, icy clarity and a breathtakingly fast, musical sound make this one of the very best super-integrateds.

NUFORCE P-9 2007 £2,200

Impressive two box preamp with superb resolution and an engaging sound.

MELODY PURE BLACK 101D 2007 £3,295

The clarity and openness of valves plus firm grip and fine detail make this a preamplifier masterclass.

AUDIOLAB 8000S 2006 £400

In another life, this sold for three times the price, making it a stand-out bargain now. Very clean, powerful and tidy sound.

MCINTOSH MA6800 1995 £3735

Effortlessly sweet, strong and powerful with seminal styling to match.

DELTEC 1987 £1900

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

EXPOSURE VII/VIII 1985 £625

Seminal pre-power, offering most of what Naim amps did with just that little bit extra smoothness. Lean, punchy and musical.



AUDIOLAB 8000A 1985 £495

Smooth integrated with clean MM/MC phono stage and huge feature count. Extremely reliable, too. Post '93 versions a top used buy.

VTL MINIMAL/50W MONOBLOCK

1985 £1,300

Rugged, professional build and finish allied to a lively and punchy sound (albeit with limited power) make them an excellent used buy.

MUSICAL FIDELITY A1 1985 £350

Beguiling Class A integrated with exquisite styling. Questionable reliability.

MISSION CYRUS 2 1984 £299

Classic 1980s minimalism combines arresting styling with clean, open, lively sound. Further upgradable with PSX power supply.



NAIM NAIT 1984 £350

Superb rhythms and dynamics make it truly musical, but tonally monochromatic. Fine phono stage, very low power.

CREEK CAS4040 1983 £150

More musical than any budget amp before it. CAS4140 loses tone controls, gains grip.

MYST TMA3 1983 £300

Madcap eighties minimalism, but a strong and tight performer all the same.

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

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

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

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



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

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

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

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

POWER AMPLIFIERS

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

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

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



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

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

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

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



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

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

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

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

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

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

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

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

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



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

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



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

PRE AMPLIFIERS

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



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

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

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

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

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

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

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



LEAK POINT ONE STEREO 1958 £ N/A
Good for their time, but way off the pace these days. Use of EF86 pentode valve for high gain rules out ultra performance. Not the highest-fi!

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

LOUDSPEAKERS

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



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

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



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

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



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

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

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

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

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

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

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



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

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

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



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

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

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

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



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

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

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



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

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



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

MISSION 770 1980 £375
Back in its day, it was an innovative product and one of the first of the polypropylene designs - warm, smooth, clean and powerful sound.

ACOUSTIC RESEARCH AR18S 1978 £125
Yank designed, British built loudspeaker became a budget staple for many rock fans, thanks to the great speed from the paper drivers - although finesse was most definitely not their forte...

YAMAHA NS1000 1977 £532
High tech Beryllium midband and tweeter comes and brutish 12" woofers in massive sealed mirror image cabinets equals stunning transients, speed and wallop allied to superb transparency and ultra low distortion. Partner carefully!



JR 149 1977 £120
Cylindrical speaker was ignored for decades but now back in fashion! Based on classic KEF T27/B110 combo as seen in the BBC LS3/5a. Doesn't play loud, needs a powerful transistor amplifier, but has clarity and imaging.

KEF R105 1977 £785
Three way Bextrene-based floorstander gave a truly wideband listen and massive (500W) power handling. A very neutral, spacious and polite sounding design, but rhythmically well off the pace.

IMF TLS80 1976 £550
Warm and powerful 1970s behemoth with transmission loading and a mixture of KEF and Celestion drive units. Impressively physical wideband sound but rhythms not a forte.

SPENDOR BC1 1976 £240
Celestion HF1300 tweeter meets bespoke Spendor Bextrene mid-bass unit. The result is a beautifully warm yet focussed sound. A little bass bloom necessitates careful low-stand mounting.



HH ELECTRONICS TPA-50D AMPLIFIERS 1973 £110

Simple design with easily available components, solid build quality and fine sound make for a surprisingly overlooked bargain. Not exactly stylish, however.

BBC LS3/5A 1972 £88
Extremely low colouration design is amazing in some respects – articulation, stage depth, clarity – and useless in others (both frequency extremes). Came in wide variety of guises from various manufacturers building it under licence.

LEAK SANDWICH 1961 £39 EACH
Warm sounding infinite baffle that, with a reasonably powerful amplifier can sound quite satisfying

QUAD ESL57 1956 £45 EACH

Wonderfully open and neutral sound puts box loudspeakers to shame. Properly serviced they give superb midband performance, although frequency extremes less impressive. Ideally, use in stacked pairs or with subwoofers and supertweeters

SYSTEMS

MERIDIAN SOOLOOS 2.1 2010 £6,990
Crisp styling, bright, colourful touchscreen, plus excellent search facilities. This is one hard disk music system with a difference. Best partnered to Meridian active loudspeakers.



NAIM UNITIQUE 2010 £995
Great little half width one-box system with truly impressive sound allied to a wealth of source options.

ARCAM SOLO MINI 2008 £650
Half the size and two-thirds the price of a full-sized Solo, the Mini gives very little away in terms of performance to its bigger brother

MERIDIAN F80 2007 £1,500
Fantastically built and versatile DVD/CD/DAB/FM/AM unit, designed in conjunction with Ferrari. Ignore nay-sayers who sneer that it isn't a 'proper' hi-fi product. Just listen.

MARANTZ 'LEGEND' 2007 £22,000
The combination of SA-7S1 disc player, SC-7S2 preamp and MA-9S2 monoblocks delivers jaw-dropping performance.

SHANLING MC-30 2007 £650
Quite possibly the cutest all-in-one around with fine performance from the CD player, tuner and MP3 player input. Very low power, though.



AURA NOTE PREMIER 2007 £1,500
Lovely shiny CD/tuner/amplifier with fine sound quality and dynamic abilities.



ARCAM SOLO NEO 2006 £1,100
Excellent all-in-one system, with a warm, smooth and balanced sound to match the features and style.

PEACHTREE AUDIO IDECCO £1,000
Excellent sounding iPod dock, impressive DAC and fine amplifier section make this an excellent one box style system.



TUNERS

ARCAM FMJ T32 2009 £600
Excellent hybrid FM/DAB+ tuner with a smooth, engaging sound. Factor in its fine build and it's a super value package



MAGNUM DYNALAB MD-100T 2006 £1,895
One of the best ways to hear FM that we know; superbly open and musical sound in a quirky but characterful package.

MYRYAD MXT4000 2005 £1,000
Sumptuous sound and top-notch build quality make for a tempting AM/FM package. Warm and richly detailed on good-quality music broadcasts.

NAIM NAT03 1993 £595
The warm, atmospheric sound is further proof of Naim's proficiency with tuners.

CREEK CAS3140 1985 £199
Excellent detail, separation and dynamics – brilliantly musical at the price. T40 continued the theme...

QUAD FM4 1983 £240
Supreme ergonomics allied to a pleasingly lyrical sound with plenty of sweetness and detail made this one of the best tuners around upon its launch.



NAD 4040 1979 £79
Tremendously smooth and natural sound allied to low prices and good availability make this budget analogue esoterica.

MARANTZ ST-8 1978 £353
Marantz's finest radio moment. Warm, organic sound plus an oscilloscope for checking the signal strength and multipath.

YAMAHA CT7000 1977 £444
Combines sleek ergonomics, high sensitivity and an explicit, detailed sound.

SONY ST-5950 1977 £222
One of the first Dolby FM-equipped tuners, a format that came to nought. Still, it was Sony's most expensive tuner to date, and boasted good sound quality with brilliant ergonomics.



ROGERS T75 1977 £125
Superb mid-price British audiophile design, complete with understated black fascia. Smooth and sweet with fine dimensionality.

SANSUI TU-9900 1976 £300
A flagship Japanese tuner. It boasts superlative RF performance and an extremely smooth and lucid sound.



TECHNICS ST-8080 1976 £180
Superb FM stage makes for a clean and smooth listen

REVOX B760 1975 £520
The Revox offers superlative measured performance although the sound isn't quite as staggering as the numbers. Fine nonetheless, and surely the most durable tuner here?



SEQUERRA MODEL 1 1973 £1300
Possibly the ultimate FM tuner. Massive in terms of technology, size and features. Dedicated to extracting every ounce of performance from radio, including impressive multi-purpose oscilloscope display.

LEAK TROUGHLINE 1956 £25
Series I an interesting ornament but limited to 88-100MHz only. II and III are arguably the best-sounding tuners ever. Adaptation for stereo easy via phono multiplex socket. Deliciously lucid with true dimensionality.

HEADPHONE AMPLIFIERS

GRAHAM SLEE NOVO 2009 £255
Dynamic headphone amplifier with a great sense of timing. Crisp, clear treble and warm midrange gives an involving sound.



MUSICAL FIDELITY X-CAN V8 2008 £350
Open and explicitly detailed sound plus serious bass wallop. A great partner for most mid-to-high end headphones.

CD PLAYER/RECORDERS

MUSICAL FIDELITY TRIVISTA 2002 £4000
When playing SACDs, the sweetest, most lucid and lyrical digital disc spinner we've heard. Old school stereo, pure DSD design. CD sound is up in the £1000 class, too! Future classic.

MARANTZ SA-1 2000 £5,000
The greatest argument for SACD. This sublime Ken Ishiwata design is utterly musically convincing with both CD and SACD, beating most audiophile CD spinners hands down.



SONY MDS-JE555ES 2000 £900
The best sounding MD deck ever, thanks to awesome build and heroic ATRAC-DSP Type R coding.

PIONEER PDR-555RW 1999 £480
For a moment, this was the CD recorder to have. Clean and detailed.

MARANTZ DR-17 1999 £1100
Probably the best sounding CD recorder made; built like a brick with a true audiophile sound and HDCD compatibility.



CAMBRIDGE AUDIO CD4SE 1998 £200
A touch soft in the treble and tonally light, but outstanding in every other respect.

SONY TCD-8 DATMAN 1996 £599
Super clean sound makes this an amazing portable, but fragile.

LINN KARIK III 1995 £1775
The final Karik was a gem. Superb transport gives a brilliantly tight, grippy dynamic sound, albeit tonally dry.

NAIM CDS 1990 £ N/A
Classic Philips 16x4 chipset with serious attention to power supplies equals grin-inducing sonics.

TECHNICS SL-P1200 1987 £800
CD version of the Technics SL-1200 turntable. Massively built to withstand the rigours of 'pro' use and laden with facilities - a great eighties icon.

SONY CDP-R1/DAS-R1 1987 £3,000
Sony's first two boxer was right first time. Tonally lean, but probably the most detailed and architectural sounding machine of the eighties.

MARANTZ CD73 1983 £700
A riot of gold brushed aluminium and LEDs, this distinctive machine squeezed every last ounce from its 14x4 DAC - super musical



MERIDIAN 207 1988 £995
Beautifully-built two-box with pre-amp stage. Very musical although not as refined as modern Bitstream gear. No digital output.

CAMBRIDGE AUDIO CD1 1986 £1500
Inspired Stan Curtis redesign of Philips CD104, complete with switchable digital filter. Lean but tight and musical performer.



MERIDIAN MCD 1984 £600
The first British 'audiophile' machine was a sweeter, more detailed Philips CD100. 14x4 never sounded so good, until the MCD Pro arrived a year later.

SONY CDP-701ES 1984 £890
Sony's first bespoke audiophile machine used a 16x2 DAC to provide a clinically incisive sound; supreme build quality allied to the pure unadulterated luxury of a paperback-sized remote control.

YAMAHA CD-X1 1983 £340
Nicely built 16x2 machine with a very sharp and detailed sound; sometimes too much so. Excellent ergonomics, unlike almost every other rival of the time.

SONY CDP-101 1982 £800
The first Japanese CD spinner was powerful and involving. Brilliant transport more than compensated for 16x2 DAC, and you even got remote control!



ANALOGUE RECORDERS

AIWA XD-009 1989 £600
Aiwa's Nak beater didn't, but it wasn't half bad nonetheless. Massive spec even included a 16x4 DAC!

NAKAMICHI CR-7E 1987 £800
The very best sounding Nakamichi ever - but lacks the visual drama of a Dragon.



SONY WM-D6C 1985 £290
Single capstan transport on a par with a Swiss watch, single rec/replay head better than most Naks. Result: sublime.

PIONEER CTF-950 1978 £400
Not up to modern standards sonically, but a great symbol of the cassette deck art nonetheless.

YAMAHA TC-800GL 1977 £179
Early classic with ski-slope styling. Middling sonics by modern standards, but cool nonetheless!

SONY TC-377 1972 £N/A
A competitor to the Akai 4000D open reel machine, the Sony offered better sound quality and is still no slouch by modern standards.

REVOX A77 1968 £145
The first domestic open reel that the pros used at home. Superbly made, but sonically off the pace these days.

COMPACT DISC TRANSPORTS

ESOTERIC P0 1997 £8,000
The best CD drive bar none. Brilliantly incisive, ridiculously over engineered.

TEAC VRDS-T1 1994 £600
Warm and expansive sound made this a mid price hit. Well built, with a slick mech.

KENWOOD 9010 1986 £600
The first discrete Jap transport was beautifully done and responds well to re-clocking.

DACs

DCS ELGAR 1997 £8500
Extremely open and natural performer, albeit extremely pricey - superb.

DPA LITTLE BIT 3 1996 £299
Rich, clean, rhythmic and punchy sound transforms budget CD players.

CAMBRIDGE AUDIO DAC MAGIC 1995 £99
Good value upgrade for budget CD players with extensive facilities and detailed sonics.

PINK TRIANGLE DACAPO 1993 £ N/A
Exquisite, the warmest and most lyrical 16bit digital audio we have ever heard.

QED DIGIT 1991 £90
Budget bitstream performer with tweaks aplenty. Positron PSU upgrade makes it smooth, but now past it.

CABLES

MISSING LINK CRYO REFERENCE 2008 £495/0.5M
High end interconnects, with deliciously smooth, open and subtle sound without a hint of edge.

TECHLINK WIRES XS 2007 £20
Highly accomplished interconnects at an absurdly low price. Stunning value for money.

VDH ULTIMATE THE FIRST 2004 £250
Carbon interconnects that help you forget the electronics and concentrate on the music. Miraculous transparency. Tight and tuneful bass mixed with air and space.



WIREWORLD OASIS 5 2003 £99/M
Excellent mid-price design with a very neutral, silky and self-effacing sound. Superb value for money.

TCI CONSTRICTOR 13A-6 BLOCK 2003 £120
Top quality 'affordable' mains outlet block, with fine build and good sonics. Well worth the extra over standard high street specials, which sound coarse and two-dimensional by comparison.

Mg Test-drive

Can magnesium set your ears alight? Martin Pipe thinks so...

First there was the £3.5k Utopia headphone from Focal, one of the finest devices ever conceived for the conversion of electronic signals into

sound waves. Its clarity, tonal neutrality, freedom from distortion, attention to detail and sheer musical engagement have rarely been bettered by loudspeakers – never mind rival headphones. Focal followed up this sophisticated electromechanical object of desire with cheaper (OK, less expensive!) models capable of bringing such standards of reproduction within the reach of more audiophiles.

One of these was the £1,500 Clear – another deluxe circumaural ‘open-back’ effort. Launched in 2017, it has just been replaced by the redesigned Clear Mg (which, bucking some recent trends, is a Cockney ton more affordable than its predecessor). That ‘Mg’ suffix refers to the metal magnesium, which you might remember from school science lessons due to the intense light produced

when it burns. But it's also a very stiff metal and in alloy form tends not to set light! Magnesium headshells have been available to vinyl-lovers for many years; Focal now makes the M-shaped diaphragms, a key component of the Clear Mg's transducers, out of the stuff.

Interestingly the original Clear's diaphragms were fashioned from an aluminium/magnesium alloy, in an attempt to approximate the exotic beryllium that Focal specifies for

the Utopia and the tweeters it fits to its high-end loudspeakers. Evidently the French firm's had a rethink, as the 40mm diaphragms of the new ‘phones are now pure magnesium. Focal explains that the metal's “lightness and damping characteristics” yield “perfect dynamics, detail and balance”. However, aluminium hasn't entirely been banished from this new version of the Clear – from it is fashioned the yokes that couple the elegantly honeycomb-grilled cups to the constant-curved leather/microfibre-covered headband.

As before, the voice-coils of the Mg's transducers have 55 Ohm nominal impedances for good compatibility with personal players; also helping here is high efficiency (104dB/1mW @ 1kHz). Such properties help to conserve battery life, as well as avoid audible straining of your player's headphone amplifiers when listening on the move.

Coupling these transducers to ears are perforated microfibre earpads. Removable for replacement or cleaning, they are a good ear fit I found. Their softness, in conjunction with the design of the headband, are intended to ensure long-term listening comfort – despite the Mg's not-insignificant half-kilogram weight.

No expense may be spared on the headphones, but Focal has saved some of that aforementioned ton on cabling. You still get the 3m balanced cable (with 4-pin XLR plug) and the 1.2m lead terminated in a 3.5mm plug for portables – but the 3m unbalanced interconnect, with 6.3mm plug, is no longer bundled. You do however get a 6.3mm adaptor that allows the 1.2m cable to mate with ‘standard’ socketry – however, I personally found this to be impractically-short for home use. As before, the cables plug the base of each cup via 3.5mm mono plugs. Thankfully, Focal hasn't skimmed on the



carrying-case – the sheer elegance of which is in keeping with the beauty and luxurious nature of what’s kept in it...when you can tear yourself away from the music.

And, believe me, that’s difficult.

SOUND QUALITY

The Mg is just as addictive as the Utopia, whether you drive it from a personal player (like the Astell&Kern SR25) or home-use devices. As regards the latter, I tried an A.N.T. Audio Amber 3T – driven from a Systemdek / Alphason / Denon/ Pro-ject all-analogue source – as well as my usual Cambridge streamer-fed Prism Callia and Chord Hugo TT headphone DACs.

Analogue or digital, it was compelling listening all the way. Most obvious was the sheer

Town (DSD64) are perhaps too hard-panned to the extremes of the stereo image to sound ‘live’, but their nuances and subtleties were easily caught via the Mg. Instruments occupying the lower octaves were handled with equal confidence – kick-drum and double-bass given appropriate scale and depth.

Big electronic basslines, like the synth of Kraftwerk’s Man-Machine as experienced via LP, also articulated well without sounding overblown. Playing a Kraftwerk album from the digital era, Tour de France Soundtracks,

revealed that energetic rhythms are handled with fantastic precision and speed. Treble was clean and clear, a complete absence of sibilance or artificiality being praiseworthy, while vocals and speech were remarkably uncoloured – no ‘throatiness’ or nasality here.

Headphones allow you to ‘go mobile’, enjoy music late at night without disturbing others and circumvent issues of room acoustics. They are also the sole beneficiaries of binaural recording, and its near-3D soundscapes. The BBC, amongst others, has been offering a fair spread of binaural audio in recognition of today’s headphone popularity. I instead turned to a mid-1970s import LP from JVC, which did much to popularise the concept. Although you get the expected ‘gimmicks’ like earthquakes and timepiece emporia, the instruments of the musical selections were believably-positioned (that said,

its rendition of a famous Leroy Anderson composition placed you on the top-plate of the eponymous typewriter). Thankfully, more conventional (stereo) recordings also image superbly – it was easy to accurately-place within the soundstage the performers in a BIS recording of Mozart’s Clarinet Concerto (Deutsche Kammerphilharmonie Bremen/ Martin Fröst).

CONCLUSION

Like the Focal headphones that preceded it, the Clear Mg is a natural and musical performer – its name is utterly appropriate. Audio it’s fed comes over as free of tonal imbalance or audible distortion. Half a kilo is not an insignificant weight to carry on your head, but thanks to the efforts of Focal’s designers the Mg is comfortable to wear for long periods – just as well, as its presentation makes for addictive listening.



The package comes with sturdy carrying-case and two pairs of cables. The shorter one has a 3.5mm jack plug (unbalanced), the longer one is balanced for home use.



The Clear Mg’s soft earpads clip into place and can easily be removed for cleaning or replacement. A honeycomb grille protects the magnesium driver.

detailing, which gave me lucid insight into the composition of well-mixed and recorded music. Take for example the Steve Reich-inspired instrumentation of Track X, by Black Country, New Road (CD FLAC rip). The ‘breathing’ of the saxophone sounded just as authentic as the keyboard melody that’s not quite as prominent in the mix. Seeing a band or orchestra perform live gives visual ‘cues’ that are denied to the audio-only hi-fi experience – but faithful reproduction can help, given the right circumstances, to turn that stereo illusion into something more tangible.

The guitars of David Elias’s Crossing: Morning Light Western



A 3m balanced XLR cable for home use with 4-pin XLR plug and shorter 1.2m lead for portable use possessing a standard 3.5mm stereo jack plug. The cables plug into the base of each cup via standard 3.5mm mono plugs.

FOCAL CLEAR MG
£1,399



OUTSTANDING - amongst the best.

VERDICT

These coffee-coloured cans are beautifully made and deliver a reference-class performance.

FOR

- transparent, accurate and engaging
- balanced (XLR) and unbalanced cables (3.5mm, plus 6.3mm adaptor) supplied

AGAINST

- 1.2m unbalanced cable short for home listening

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vinyl section

contents

MAY 2021

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ORTOFON MC PER WINDFELD TI CARTRIDGE 69

Sitting above the Cadenza range and one of Ortofon's top MC cartridges. Noel Keywood listens in.

SOUNDECK PM PLATTER MAT 73

Martin Pipe spins an interesting platter mat from Soundeck.

HART VINYL BRUSH AND RUSS ANDREWS STASIS SUPER CLEAN BRUSH 75

A few small accessories, checked out by Martin Pipe.

AUDIOPHILE BOOK 77

The Lyrics of Syd Barrett, reviewed by Paul Rigby.

news



SUZI QUATRO

A new album from the seventies glam queen? Oh yes. Called 'The Devil in Me' (SPV). Speaking of seventies, the lady is herself now seventy years of age but oh does she rock. She screams, her voice has grit and her energy roams throughout this vinyl disc.

This is yet another double album complete with gatefold sleeve – there's a fair few of them around at the moment. This one includes a couple of bonus tracks on Side D.

DEMON

More from Demon (www.demonmusicgroup.co.uk) and Joe Brown shares something with Chas Hodges. Hodges had The Beatles open for his band The Outlaws. The Beatles also opened for Joe Brown in 1962, when Brown was sailing high on the single, 'A Picture of You': Track 1 on 'Gold', his new, sixteen-track hits package.



Also check out the 1995 studio album from Ace of Base, 'The Bridge'. Their second release. Similar presentation. Better songwriting.

For Gene's 'To See The Lights', this 1996 compilation appears as a double album gatefold featuring B-sides, non-album singles, radio sessions and live tracks. It's arguably a better overall collection of tracks than their debut studio release of the previous year.

Brit-pop outfit, Menswear is next. '¡Hay Tiempo!' (1998) was only released in Japan after the band had been dropped like a hot tattie by the music industry. A reasonable album, it falls back on more conventional rock structures. Right after this one was released, the band called it a day. This relative rarity is a great purchase for fans.

Finally, look out for The Creation's 'Psychedelic Rose' (1987). Described by Demon as a "lost album", this LP wasn't released until 2004. Think 'record label problems'. It appears here on clear vinyl. It's unfair to ask the eighties' version of the band to sound as good as their sixties' original incarnation so don't be disappointed when you hear that they're not. Good for Creation completists.



THE BLACK CROWES

The 30th anniversary pressing of 'Shake Your Money Maker's out now. The 1990 band debut is packed with classic blues rock, full of guitar dripping electricity. Very Rolling Stones. More than that, even. Very Humble Pie. Which means that we've been here before. But that's OK, the band's passion leads you by the hand.



CHAS...NO DAVE

The thing about Chas & Dave or, in this case, Chas – because this is a Chas ‘thing’ – is that Chas Hodges was more than ‘Gertcha’ and ‘Rabbit’. I say this because I recall seeing ol’Chas singing his heart out on a 1971 edition of ‘The Old Grey Whistle Test’ as a member of Heads Hands & Feet, expelling country blues rock with the likes of the legendary Albert Lee, Pete Gavin (Vinegar Joe) and legendary Sun Records artist, Ray Smith.

Chas Hodges worked with Joe Meek (“[Meek’s] house was knee-deep in bits of tape”), in The Outlaws, featuring future Deep Purple man, Ritchie Blackmore and was with Cliff Bennett in the Rebel Rousers, touring with the Beatles.

Chas deserves respect, not novelty-tinged cynicism. ‘Right at Home’ (Demon) features a number of home recordings from the man, curated by his son, Nik. Yes, a lot of this work continues the Chas & Dave style but there’s also intriguing links with past. His take on Lennon’s ‘I’m So Tired’ is very intriguing.



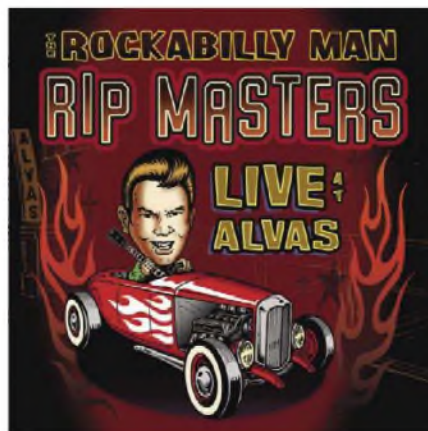
FOGERTY'S FACTORY

...is the new album from John Fogerty (BMG), twelve tracks from the man and, get this, his family. This is a lockdown album. One produced while the Fogertys were twiddling their thumbs. John taught his three children, Shane, Tyler and Kelsy, how to play in a band and then...did that very thing. There's some fair deep catalogue stuff here plus covers ('Lean on Me', Bill Withers). Offering a laid-back approach with a family warmth to the presentation that's very appealing.

THE ROCKABILLY MAN

...has released 'Rip Masters, Live at Alvas' (Wondercap, www.wondercaprecords.com). This new double album, presented in a gatefold sleeve and mastered at RTI, offers full-on rockabilly. It's all there, the slap from the drum, the twangy twanginess from the lead guitar plus, on occasion, moody reverb and the vocal bounce from Masters' delivery, complete with rockabilly affectations.

The Masters delivery is not of the 'all energy, no direction' variety. He sings his songs with care. Even on a track like 'Wham Bam Thank You Ma'am', the performance is energetic yet considered and measured.



TRANSATLANTIC

A quite magnificent package from this prog outfit who feature elements of Dream Theater, Spock's Beard, Marillion and the Flower Kings.

The band has been active since 2000 and is an occasional project for these busy musicians. 'The Absolute Universe' arrives as a double album gatefold and suitably evocative steampunk sleeve art.

This new album arrives in three favours. This 14-track version over two discs subtitled 'The Breath of Life' (*Inside Out*; www.insideoutmusic.com), an eighteen tracker subtitled 'Forevermore' and a third version that combines elements of the previous two.

A concept album, it focuses on, as the band has it, "Someone moving through their life, trying to find out who they are and where they fit in".



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Titan Of The Track

With its titanium body and excellent tracking this high-end moving coil cartridge shows its mettle, Noel Keywood says.

If you've got the pockets and the nerve then temptation awaits with moving coil (MC) cartridges. They've grown ever more exotic over the years as new materials and – especially – industrial processes have arrived. Henley Audio, Ortofon importers for the UK, explained that the Per Windfeld PW Ti (£3100) is for those who want something special. It's a step up from their Cadenza range of MCs into something more esoteric – hence the price increase. You need nerve because as always with MCs if you break it then it must be returned for repair, or exchanged. A steady hand helps, especially if you hand cue as I do.

The Per Windfeld Ti body is similar to our Cadenza Bronze but Ortofon build it using Selective Laser Melting of titanium powder for strength and rigidity to best suppress resonances in the structure. At top are three pads that interface with the arm's head shell for stable contact. Weighing 11gm this solidly built cartridge is heavy but most arms accept up to 12gm so compatibility should not be an issue.

Ortofon supply three sets of gold plated brass screws, the longest having just 6mm of thread length, of which 2mm is needed to occupy the shallow blind threaded fixing holes in the body. Since our SME headshell is 3mm thick I used the 5mm screws supplied but those with thick head shells, such as rosewood, may need to obtain

longer screws.

Attaching the cartridge is easy enough but you need to be a little dextrous to connect up the signal pins because they lie in a recess, and a strong lamp helps too. A set of high quality headshell wires is supplied, plus a stylus brush and small screwdriver. You don't get a down-force gauge of the plastic variety that Ortofon includes with some of its other cartridges though: I guess at this level something a little more sophisticated is expected. Recommended downforce is 2.3gms, but a range of 2gm-2.5gm is quoted. The PW Ti has Ortofon's wide range damper in its hinge assembly and this contributes to excellent tracking ability at 2.3gm, measurement showed (see Measured Performance).

Ortofon tell us the field magnets within the body are Neodymium and the signal coils attached to the top of the cantilever are of gold plated 6NX oxygen free copper called Aucurum (gold Au on copper Cu?), wound onto a metal alloy armature. There is a Field Stabilising Element to improve behaviour of the magnetic circuit. All the same, output is low at just 200µV in their spec. – and that's exactly what we measured. The Cadenza series have higher output – the PW Ti needs a low noise Phono stage, something I say more about in Sound Quality later on. Ortofon sell a step-



up transformer for moving coil cartridges that can be used to feed an MM input; it isn't meant for high-end MCs such as this one but would do as a temporary solution.

The stylus is Ortofon's own Replicant 100 long-contact profile on a rectangular shank for optimal alignment. This is attached to a boron rod cantilever – a popular choice nowadays; they are popping up everywhere. Ortofon say the stylus guard is "easily removed and replaced" but I find this guard, also used on the Cadenzas, is difficult to align and attach. Easy to get it off, that's for sure, but not so easy to get it on – which as a reviewer I have to worry about because the cartridge gets heavily manipulated under measurement and photography.

SOUND QUALITY

I used the PW Ti in our SME309 arm, sitting atop a Timestep Evo modified Technics SL-1210 Direct Drive turntable with linear external supply and much else. With such low output and being an MC where stage depth can be resolved it was a first choice to connect into our Icon Audio PS3 MkII phono stage with input transformers – and here I was greeted with total silence



The sturdy body has threaded holes to accept fixing screws, but they are 'blind', giving a clean outline – no screw protrusion.

even with volume cranked up. It fed a Creek Voyage i20 amplifier through Chord Company Epic balanced cables, giving a representative modern system of not excessive cost.

Inevitably, after some time I had to switch to our Icon Audio Stereo 30 SE valve single-ended amplifier, as you should when



The boron rod cantilever is set to give correct rake angle for the Replicant 100 profile stylus.



The boron rod cantilever is bonded into a small sleeve at the top of the stylus assembly.

running a high quality moving coil cartridge, since expensive MCs are hard-core optimised analogue and it's always best to go pure to get the most from them – meaning input transformers, valves and

electrostatics. Then you get to fully appreciate the benefit of those few coil turns at the top of the cantilever, the measly length of wire that cost so much!

I have long experience with Ortofon's lovely Cadenza Bronze – I gravitate to cartridges with tapered aluminium cantilevers for their tonality. The heavy body of the Cadenzas is responsible for their strong, solid bass I suspect and that's what I got from the PW Ti. The fast drum work in Sing Sing from the Syd Lawrence Orchestra's Big Band Spectacular studio-cut LP had thunderous low-end power and, when I turned volume up, there was superb resolution of the timbral nuances from the drums being used; less of a simulacrum, more like the real thing, as I think my neighbours will agree.

There was plenty of low end drive to the synth in Alison Goldfrap's Fly Me Away, where its swirling sound and rumbling lows moved my room nicely. Ms Goldfrap was suitably breathy, crooning into the microphone, the Replicant stylus doing a nice job in getting out the shimmering textures here. I felt she was in the room.

As the LPs rolled by I realised that I could not detect the presence of a boron cantilever. They commonly bring a sense of surgical sterility that may appeal as technically correct but I don't find it empathically engaging; I don't want my LPs to sound like CD! This is why the Cadenza Bronze is so good. But the PW Ti has quite an easy going air to it – gentle, subtle and free of taint; I wouldn't have known it had boron.

Hugh Masekela's trumpet blared out strongly from Abangoma (Hope LP) and the slow kick drum strikes had heft; they moved me on the sofa. This track and Uptownship, both airy recordings because instruments and singers are captured by microphones, showed the PW Ti digs out ambient cues lurking in the LP groove – especially noticeable with the Stereo 30 SE amplifier. There was no sign of sterility, just a mild flavour free of surface noise and spit: very much all of a piece.

This sort of sound suits

Classical and here the Ortofon showed its sophistication. With our superb LP of Marianne Thorsen playing Mozart violin concertos (2L of Norway) her instrument was sublimely reproduced, smooth textured, organic and natural, yet with richly biting strings full of vivid detail. The Trondheim soloists accompanying her sat in what was obviously an open space graced by its own identifiable acoustic. It all came over as completely natural in best analogue fashion (yeah, OK, it's a DXD recording!), making clear that Classical is best on LP if you don't obsess over ticks and pops. But as I mentioned earlier the PW Ti is almost curiously muted in this respect, as well as supremely quiet



The signal pins sit in a cavity that makes attachment of signal leads difficult. Best done with an illuminated bench magnifier.

in itself – at least, in conjunction with the silent input transformers of our PS3 MkII Phono stage.

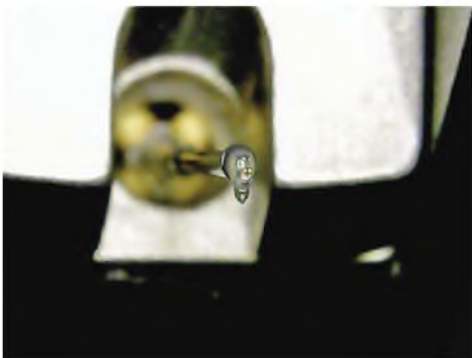
Finally, I swapped the SME309 arm leads to balanced and plugged them into a Pro-Ject Phono Box



A clear view of the bonding used to attach Ortofon's Replicant 100 stylus to the boron rod cantilever.



Precise attachment of the rectangular diamond shank to boron rod is seen in detail here, with bond agent carefully applied.



A shot of Replicant 100 stylus and cantilever end-geometry shows what the PW Ti puts into the groove.

RS2, using Chord Company balanced output leads to the Creek iA20 amplifier. This all-balanced system changed the sound in obvious fashion. There was more high-end information and apparently greater insight. Some of the silkiness went, to be replaced by an insightful sound where older LPs started to show limitations. Not as darkly silent but very clear and concise, as balanced working usually is. Although this made the PW Ti's top end more obvious, it still showed the Repllicant stylus works well, especially when spinning really high quality cuts like our 2019 re-master of Abbey Road on superbly quiet vinyl, re-cut by Miles Showell at Abbey Road. Here the PW Ti displayed poised tonal balance and tonal neutrality, there was clear light and gorgeous filigree treble detail (from harpsichord?) emerged from Because. Abbey Road in latest form was made for this MC cartridge it seemed, balanced working giving a tightly composed forensic view of extraordinary quality that extended right into inner grooves, The End being as stable and distortion free as outer grooves, cymbals of



Ringo's drum kit sounding sweet and sonorous.

CONCLUSION

When moving coil cartridges get as technically advanced as Ortofon's Per Windfeld Ti, LP moves into dramatic territory. For such a low output design with so few coil turns it demands a very good pre-amplifier if those qualities of a classic moving coil are to be appreciated, but they're there in abundance with this design. In a suitable system however the PW Ti is undoubtedly a moving coil of enormous ability and refinement, with powerful bass, superb clarity and filigree treble, all knit together into a coherent whole.

The large presentation box comes with a set of high quality signal leads, 6mm, 5mm and 3mm (thread length) gold plated screws, a carbon fibre stylus brush and mini screwdriver.

MEASURED PERFORMANCE

Frequency response of the Per Windfeld Ti, measured with JVC TRS-1007 – an industry standard test disc – shows it runs almost ruler flat from 20Hz to 3kHz and then starts to rise slightly to +1.5dB at 10kHz before dropping down to the 0dB datum up to 20kHz. Overall, a very flat characteristic with just enough lift to obviate warmth or softness in the sound.

The Replicant stylus traced inner grooves very well the red trace shows, with only small loss above 12kHz – a very good result if not as good as Ortofon's newer 2M Black LVB MM cartridge with Shibata stylus (April 21 issue) where there was no inner groove loss at all – an extraordinary result.

Tracking was excellent at the recommended downforce of 2.3gms, with no mistracking of the top 90µm cut of CBS STR-112 test disc (300Hz). The top torture track of B&K QR2010 test disc (25cms/sec, 1kHz) was cleared with only slight mistracking, an excellent result. Ortofon's are consistent in having superb tracking and the Windfeld Ti was no exception.

Distortion measured a low 1% lateral (CBS-STR112, 45µm) which is about as expected. This rose to 5.3% on vertical modulation (45µm) due to a high measured vertical tracking angle (VTA) of 30 degrees (DIN 45 542 test disc). The ideal is 22 degrees and the PW Ti is further from it than most, raising second harmonic distortion.

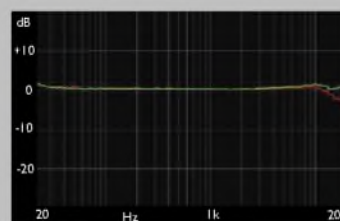
Channel separation measured a low 20dB and output was very low at just 200µV at 3.54cms/sec. This is a very low output MC, lower than the Cadenza series.

The Windfeld Ti measured well but low channel separation, very low output and high vertical tracking angle lag later designs, from Ortofon and others. **NK**

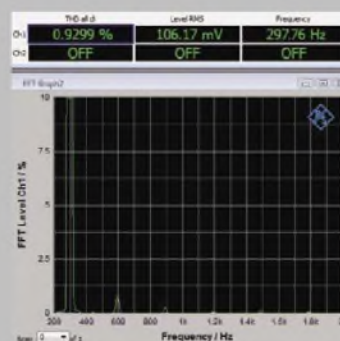
- Tracking force** 2.3gms
- Weight** 11gms
- Vertical tracking angle** 30 degrees
- Frequency response** 20Hz-20kHz
- Channel separation** 20dB
- Tracking ability (300Hz)**
- lateral** 90µm
- vertical** 45µm
- lateral (1kHz)** 25cms/sec.
- Distortion (45µm)**

lateral 1%
vertical 5.3%
Output (3.45cms/sec rms) 0.2mV

FREQUENCY RESPONSE



DISTORTION



ORTOFON PER WINDFELD TI £3100



OUTSTANDING - amongst the best.

VERDICT

Smooth and refined sound with great depth. Very high quality all round.

FOR

- sophisticated sound
- superb tracking
- stage depth

AGAINST

- awkward stylus guard
- awkward signal pins

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— STEREO TIMES

Best of Year Award "the Origin Live Silver tonearm is phenomenal and makes me realize what a bargain it truly is at its asking price"

— 6 MOONS

"Design of the decade"

— HI FI WORLD

Enterprise C Arm

"The ultimate real world tonearm"

— HI FI WORLD

Conqueror MK3C Arm

Tonearm of the Year Award

— HI FI WORLD

Most wanted component award

— STEREO TIMES (USA)

Best sound at the show award

— KLANGBILDER (Vienna)

Perfect 10 award "The most addictive product I've heard"

— AUDIO 10 (USA)

"For me Origin Live in the analogue sector is the discovery of the year! ..."

— IMAGE HI FI (Germany)



Good Vibrations

Martin Pipe plays his records on an engineered turntable mat.



Soundeck is an offshoot of an established Newcastle firm - SDS - that produces damped materials to "solve a very wide range of noise and vibration control problems". SDS's MD, Leslie Thompson is also a hi-fi enthusiast. He wondered if the materials he knows so well could also be applied to turntables and the like.

The result is the Soundeck PM mat - basically, a precision-made sound-damping laminate that has been tailored to the dimensions of a turntable mat. It's a high-tech sandwich - two layers ('skins') of non-magnetic aluminium, separated by a thin (65 to 80 microns) coating of polymer damping material. The job of the latter, according to Thompson, is to "resist, as the skins try to vibrate against each other".

Through this 'constrained layer damping' process, unwanted vibrations - such as turntable motor rumble, which would be usually be picked up by the cartridge and heard as intrusive noise - are instead transformed into tiny amounts of heat. So too are the stylus counter-forces that occur as records play. Such heat is negligible, and safely-dissipated by the mat's metalwork.

We have previously reviewed a Soundeck mat, but this one is different. CNC-machined rather than laser-cut, it is now closer to the thickness of most platter mats at 4mm (the previous one was 2.2mm thick) and so there's less chance you'll have to alter arm height. A central depression accommodates the label area so that the record lies flat. Three different models of PM, each of slightly different diameter, will cover various platter sizes. All weigh 700g or so.

Soundeck's textured finish is safe enough for records to be placed on directly, although some users have played it safe with intermediate mats made from materials like leather. I certainly had no trouble with the 'contact' side of the record being scratched, and so I felt that a secondary mat was unnecessary. Relative to, say, a rubber mat, there is however more risk of slippage - I use an A-T AT618a disc stabiliser, although Soundeck also manufactures such devices (which it calls 'damping pucks').

There was definitely an audible improvement - especially in terms of detail retrieval - on the two decks I tried, a

glass-plattered Systemdek/Alphason/Denon belt-drive and a 'stock' Technics SL1200 Mk3. The difference was particularly noticeable in the all-important mid-band; I noticed, for example, that the rhythm guitar playing in an old Britfunk 12in. single (Beggars and Co's 1981 classic Somebody Help Me Out) had become easier to follow. Improvements to percussion were also noted.

Modern machining and new technology have all but banished audible rumble from today's turntables. But what about vintage idler-driven decks like the Lenco GLs and Garrard 301/401, which are noisier but still prized for their musicality? Time for an experiment with my Technics, which has an internal source of vibration (a mains transformer). With the turntable powered up but not spinning, I carefully lowered the stylus of my Audio Technica AT-440MLb cartridge onto - in turn - the 'bare' platter, the platter with a standard rubber mat and the platter with the Soundeck PM.

The results were digitally-captured, amplified (25dB in each case) and compared. To be honest, there was little difference between the three. There could however be an explanation - the Technics tonearm is an integral fit, with little or no decoupling from the moulded plinth. Thompson reckons that vibrations from the transformer are "likely being conveyed through the tonearm". To help with this, Soundeck has introduced its own cartridge decoupler - the DC1, which fits between the tonearm and cartridge. One is being sent to us for review. Even as it stands, though, the Soundeck PM mat delivers enough of an audible improvement to be enthusiastically recommended.

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292mm (Linn, 730g)
285mm (Technics, 695g)

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VALUE - keenly priced.

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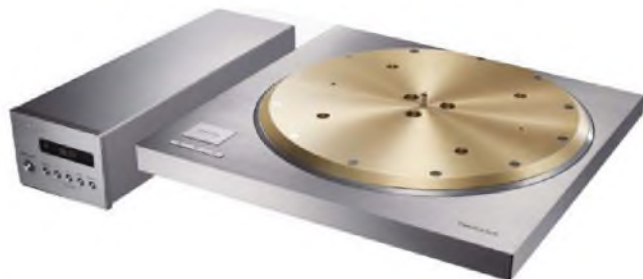
- an obvious improvement in clarity and definition
- 'standard' 4mm thickness eases installation

AGAINST

- record might slip, without a spindle 'puck' to weigh it down
- machined note-shaped holes could be disastrous to styli if you're not careful!

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Hi Fi News said:

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

Miyajima - Stereo - Mono - Denon DL-103 - Audio Technica AT33 & OC9

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HART AUDIO 'SPECIAL SOURCE VINYL SUPER CLEANER' £9.99 (PLUS POSTAGE)

Here's a product that will take some hi-fi enthusiasts back to the 1970s. The 'Special Source' is a record brush, which is itself reason enough. Unique here, though, is a handle that will remind 'old-timers' of the wooden side-panels fitted to many a Japanese amp and receiver. And as if that wasn't enough, the Hart Audio brush – hand-made on the Isle of Wight – is supplied in that

most '70s of audio artefacts, a flip-up cassette case. Cue dewy-eyed nostalgia...as you recall making up compilation tapes with music sourced from albums and singles, occasionally brushing 'fluff' off the vinyl before you committed it to cassette.

The actual 'brush' part of the Hart product is securely-attached to aforementioned wooden handle via a tough self-adhesive material. According to the company's David Hart, it's 'synthetic microfibre' – specifically a mix of "polyester, polyamide, and polypropylene" that's formed into brown 'hairs', each "finer than one denier... having a diameter of less than ten micrometres". Although you can expect a long life from the brush – Hart claims to have been using one for three years, cleaning "probably 1000 records with the same great results" during this time – I was told

that Hart will 're-brush' the handle for half the price of a new unit.

I couldn't fault the brush. It made a visible difference with 'everyday' fine dust and hairs – the audible improvement it yields is equally obvious. Although it's no substitute for a wet clean, Hart's brush is fine for subsequent care. This effectiveness, I was told, is due to "small fibres long enough to angle against the groove", digging out the dirt and leaving it on the surface to wipe off easily. As supplied, the Hart brush sold for £5 – truly a bargain. It has however since been replaced with a Mk.2 'Super Cleaner' with "twice the width of pile, to increase efficiency and grip". Unfortunately the new model also sells for twice the price...but that's still only a tenner. HFVW readers can use the code "Keep Flippin" for free postage (call direct only). **MP**

[Hart Audio, (01983) 612924 davidgowler-hart@hotmail.co.uk. eBay: <https://bit.ly/3c23fU2>]

SOUNDBITES



STASIS STYLUS SUPER CLEAN BRUSH, £19.99 (£29 WITH 'TIPTONIC' FLUID, A £2 SAVING)

A pristine stylus is as crucial for decent vinyl playback as well-cared for records. If either is neglected, the result can be severe mistracking and a muddy, indistinct sound that fails to do justice to the format's potential. Your stylus, together with the cantilever that couples all that analogue goodness to the cartridge's magical innards, are even more delicate than black analogue discs – and a moment's carelessness can be very expensive to put right. Record care is well catered for, a wide range of brushes and cleaning machines

now being available. The choice of stylus-care products has also mushroomed since the vinyl revival began, and so there's no longer an excuse to tempt fate with that occasional finger-wipe of a dusty diamond.

Last month, we reviewed Russ Andrews TipTonic. This specially-formulated organic cleaning fluid is carefully-applied to the cantilever and stylus tip via a mini-brush; it's more fiddly than some alternatives – Audio-Technica's gel-pot, for example – but does a thorough job.

For what it considers to be the ultimate in stylus care, Russ Andrews is now bundling TipTonic with the 'Stylus Super Clean' brush from Stasis, whose 'Groove Cleaner' record brush was also featured in the April issue. The Super Clean is a black spatula-like device that closely-resembles a dentist's tool than a hi-fi accessory. Indeed, you can be

forgiven for believing that it's not a 'brush' at all. That's because the anti-static carbon-fibre bristles fitted to its business end are so fine, they visually-merge into a foam-like block.

Yet for all this, they're surprisingly resilient. To use the device, you take it by the handle – which has a recess for secure grip – and gently brush from back (cantilever) to front (tip); side-to-side movement must be avoided. Stasis recommends using the device before every play; it reminds us that a "typical LP carries half a mile of grooves", over which your stylus encounters dust and micro-debris. The Super Clean is great for removing 'regular' fluff from one play to the next, but TipTonic is more effective when it comes to removing caked-on dirt that a magnifier will reveal – hence the Russ Andrews 'package deal'. How often you have to use the latter depends on the cleanliness of your records and record-playing environment. **MP**

[Russ Andrews, (01539) 797300. www.russandrews.com]

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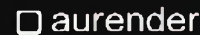
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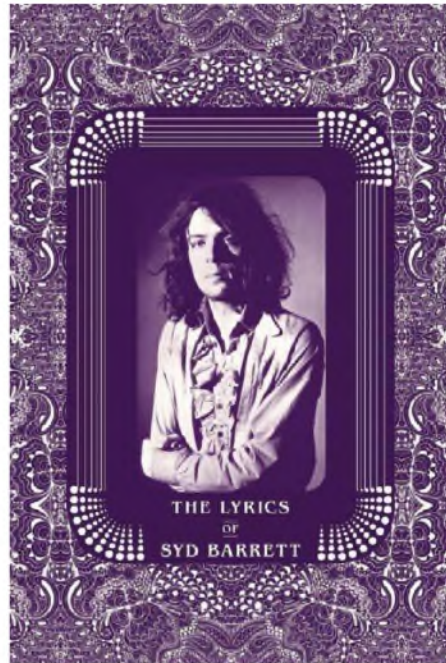
Paul Rigby gets to understand Pink Floyd's *Astronomy Domine* from this book about the lyrics of Syd Barrett.

THE LYRICS OF SYD BARRETT

Price: £15

Pages: 96

Omnibus



*"I've got a bike, you can ride it if you like
It's got a basket, a bell that rings and things to make it look good
I'd give it you if I could, but I borrowed it".*

The almost primitivist lyrics to the simple song 'Bike' sung to a favoured lady by, quite possibly, a simple man. Yet a man whose thoughts and ideas are direct, to the point and almost childlike in their sheer simplicity.

These words are not shrouded in metaphor. There's no complex wordplay here. There's no imagery. No cynicism. No sarcasm. The thoughts form in the mind and are delivered without sugar coating or translation. Like a vending machine.

*"Arnold Lane had a strange hobby
Collecting clothes
Moonshine, washing line
They suit him fine
On the wall hung a tall mirror
Distorted view, see through baby blue
He dug it"*

The first verse from Arnold Lane which tell an almost abridged tale of a man who steals clothes from washing lines. Lady's clothes, if I take 'see through baby blue' to mean what I think it means.

"Now he's caught – a nasty sort of person

*They gave him time
Doors bang, chain gang
He hate it".*

Barrett's use of grammar is interesting. Not 'he hated it' but 'he hate it'. In the song 'Birdie Hop' Barrett sings 'Birdie hop – he do, he hop along'. It's this playful grammatical trimming which has lead me to wonder if Barrett formed his music first and pushed the words into the music to fit because, on this track for example, the words read awkwardly on the page but sound perfect in the song itself. They flow easily around the melody which has a bird-like, hopping movement.

And that's part of the joy of this book. Divorcing the words from the music firstly gives you an appreciation of the song and the construction of the same but it also allows you to see the connected thoughts of the lyrics and the poetry of the body of work. It also shows that Barrett was a singular artist. He didn't sound like anyone else. He also wasn't in it for the cash. I'm not even sure if he was in it for the art. I think he was in it because he had no choice and this stuff had to be 'got out'.

This is the first time that Syd's lyrics have been collected, certainly in authorised form. Floyd band member, David Gilmour and Barrett's biographer,

Rob Chapman have been involved in its creation too.

In fact, Chapman adds an introduction looking at Barrett as a songwriter. Chapman quickly tracks the changes in Barrett's personality which were connected to his growing stardom. Chapman remarks that Barrett's "sardonic tone became more evident as [his] disillusion with fame increased". By the time he penned his final Pink Floyd song or rather the song that held his final Floyd credit "...he had married impeccably delivered speech to impeccably delivered derision".

His "retreat from commitment" also included a retreat from his band and everyone connected to it.

Pink Floyd manager, Peter Jenner, also notes that retreat in his forward. It was in Jenner's sitting room, that Barrett wrote the song 'Vegetable Man'.

This book is not all lyrics, it must be said. There are colour images of a selection of Barrett paintings plus photographs of the man in happier times.

As for me? Well this book means that I can understand words to the song 'Astronomy Domine' for the very first time. And that can't be bad. **PR**

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NEXT MONTH JUNE 2021 ISSUE

Cambridge Audio DacMagic200M

Cambridge Audio recently launched their latest DacMagic digital convertor – the DacMagic 200M. Always a popular DAC, it has now been substantially upgraded by the use of two ESS Sabre series DAC chips strapped for mono by paralleling all channels for best performance, one per channel. This has massively improved the paper spec – but will DacMagic reach expected ESS standards? Only advanced measurement can determine this and as always we use it, as well as listening tests, to reveal how well the DacMagic 200M really performs. Don't miss our in-depth report in the June 2021 issue.

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 Icon Audio 6
 Infidelity 78
 Inspire Hi-Fi 78
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 KEF 14,16,18
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ESOTERIC



"this band were both gifted in songwriting and instrumental terms"

They mixed a host of sub-genres into their music which may have diluted any potential hardcore following because this band did well in the heads of critics but never really flowered amongst the general populace.

They offered prog rock but also dabbled in psychedelia. There was some country-rock in there but also smatterings of West Coast pop. Whatever the direction or directions of their music, you couldn't deny that this band were both gifted in song writing and instrumental terms with multiple vocalists to share the load.

This is one of those coulda-shoulda bands that should have hit the heights but never actually got there.

The group emerged from the exotic surroundings of...Hampstead (London) in 1970. The 'scene' – that was the accepted term in those days – was incredibly active and the University College School in Hampstead was a hub. Jamie Rubenstein (who ended up as vocalist and guitar player), Nico Ramsden (vocals, guitar), future Blockhead with Ian Dury, Chaz Jankel (vocals, guitar), Robin Lambie (bass, vocals) and Steve Corduner (drums) all emerged from this place to enter the band.

After a few demos were cut, the band were picked up by Billy Gaff. Gaff was manager of Rod Stewart, no less. A&M offered a contract and the band were off and running. Easy, eh? Well, no. Not really. As the guys would find out.

Trident Studios recorded their debut, 'Ora' but the public couldn't handle it. There was too much going on, it was too complex. The line-up changed and so they tried again. But rather than go simple to hit more of the public's ears, the group veered into the opposite direction adding more symphonic and complex prog-rock with hard rock guitar and American flavours. And hey, good for them I say. They stuck to their vision instead of hunting for hits.

A self-titled album didn't do much better, neither did 'Season's Changing'. The band dumped their manager and shrunk

to a quartet. Then released 'Live/Studio' in 1974 initially as a private-press, 100 copy limited-edition. It was used as a sort of demo to tempt in record labels – which is where most copies were sent.

I hear a lot of The Grateful Dead in this album. There's also elements of The Byrds allied to the inclusion of vocal harmonies plus some excellent guitar work serving as the foundation.

The blend of vocal harmonies, musicality in melodic terms and complex guitar work will appeal directly to those who admire Crosby, Stills & Nash. There's no cloning going on here, Byzantium are their own band with their own inherent style but there's enough ingredients for CSN fans to be attracted, put it that way.

UK magazine Let It Rock also noted of this album "Byzantium's solution to their hassles with the music industry is to try and promote and manage themselves".

Not that the industry took much notice, even then. Rubenstein didn't care too much. "We had a great time" he said "It was a real team effort: one for all, all for one...there were few gigs that Byzantium didn't seem to play in these later years, up and down every dodgy dive in the country – and some rather more civilised and heavily smoke-filled rooms throughout Holland".

Money was running out though. An Atlantic-funded LP 'High Time' (1975) seemed to offer a crucial life line but the label were "...not impressed" said Rubenstein. The band were not signed and the group split a month or so later, forging ahead on productive music careers of their own.

UK-based Grapefruit has done us all a service by releasing all of the band's albums within a very nice clamshell CD box set, including 'Live/Studio'. You also get a nifty 31-page booklet packed with rare photos and a band history. There are five albums in this set, most providing bonus cuts too, plus four bonus tracks which derive from an unreleased EP, recorded at Tangerine Studios back in 1975. All worth hearing. **PR**

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