



Cute Chordette

The bijou TX headphone amp that's hitting all the right notes in *Choice Extras* p119

Linn classic

RETRO: love it or loathe it, the Sondek LP12 is a massive turntable icon



Hi-Fi Choice

PASSION FOR SOUND

Issue No. 371

May 2013

£3.99

My Naim is...

DAC/Amp combo for the streaming generation

WORLD EXCLUSIVE
Naim DAC-V1
& NAP100

BEAUTIFUL SYSTEM:

Gothic good looks from McIntosh and Art

Rip it up!
Making computer audio simple p40

30

products on test from Atlas, Elac and Heed through to XTZ...



Amp it up

New Arcam FMJ A19 integrated amp – classic looks, great sound and price

GROUP TEST

Stand & deliver

Six of the best standmount speakers up to £1,000

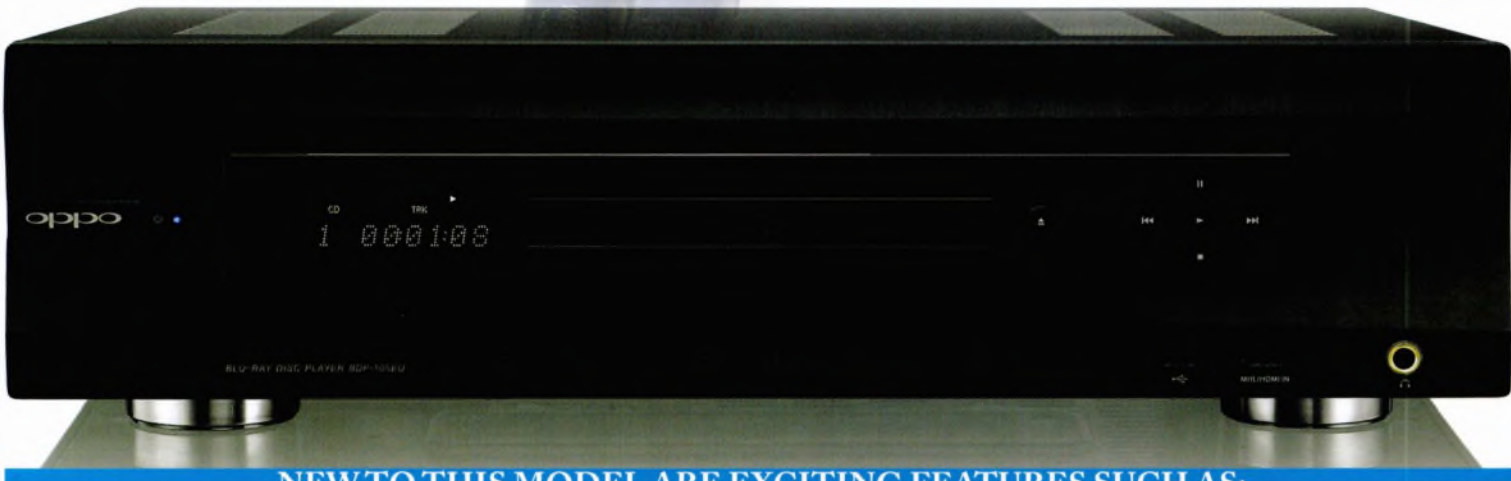


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05

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44

Arcam FMJ A19



90

Beautiful System McIntosh/Art

Music reviews



Jimi Hendrix *People, Hell & Angels*



The annual Sound & Vision Bristol Show is as much a feature of the Bristol landscape as the Clifton suspension bridge just down the road from the show's advertising banner spanning the footbridge outside the Marriott City Centre venue. It's been a regular February event for as long as I can remember,

and has seen almost all exhibitors return to their stereo roots rather than the multichannel audio that was muscling in on my last visit some six or seven years ago.


The city has been rejuvenated since then, but little seems to have changed in the show's format or layout during my time away, which is both reassuring and disconcerting at the same time. I'm not suggesting that time appears to have stood still at The Bristol Show (the products being showcased are as shiny and new as the Cabot Circus shopping centre just down the road from the venue), but exhibitors and their stands appear to be sited in the exact same locations as the last time I was here. The feeling of *déjà vu* surely aided my navigation around the ground and terrace levels, but climbing the stairs to the upper levels and identifying what corridor you're on was as confusing as ever.

According to the organisers attendance was up, and I personally witnessed queues snaking around the block every morning of the show – both are encouraging signs in these recessionary times. I understand the enthusiasm to get inside, and so can you if you turn to our Bristol Show report on page 12 to see some of the highlights that were on display. Plus, if you couldn't get a seat at the second *Hi-Fi Choice* high-resolution digital audio demo, you can read all about what you missed on page 40.


Lee Dunkley Editor

BADGES EXPLAINED


OUR AWARDS



EDITOR'S CHOICE:
Awarded to those products that are judged to deliver reference-standard performance



RECOMMENDED:
Products that we feel meet a high standard of performance



GROUP TEST WINNER:
Comparative tests can only have one winner, and this badge says it all!



HADLOW HOUSE, 9 HIGH STREET, GREEN STREET GREEN, ORPINGTON, KENT BR6 6BG



Listening to Music – the Benefits

There have been many studies carried out over the years that have shown remarkable benefits for mankind through listening to music. It is an activity that is intrinsic to all cultures and is one of the few that involves using the whole brain. Listening to music is now often used for various therapeutic purposes because it is believed to improve memory and intelligence, improve physical development and coordination, reduce stress and blood pressure, and even reduce levels of pain.

However, music can also be irritating if it's too loud or distorted, or if it distracts from other activities we are involved in. Most of the studies have been carried out using a reasonably good quality of musical reproduction. Quite remarkably, many people today and probably a majority of teens and late teens, are listening to a considerably lower quality level of music than their peers back in the 1970's. Back then a basic hi-fi system, often consisting of just a turntable, amplifier and a pair of speakers, was a 'must have'. Students going off to university would make it a priority to set themselves up with a decent hi-fi system – and the quality was, in retrospect, surprisingly good.

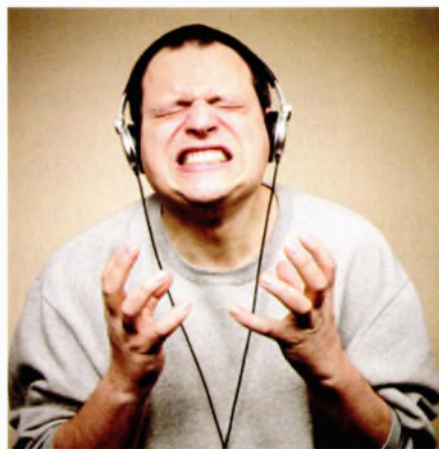


Quality vs Quantity

How different it is today where advances in technology have driven the desire for convenience and quantity at the considerable expense of quality. For many young people especially, the iPod, MP3 player or mobile telephone, connected to a pair of in-ear headphones, is their primary source of listening to music. The problem with this is that low-grade reproduced music is not going to deliver any significant beneficial outcomes for the listener. Probably the opposite will be true.

Style over substance?

Have advances in technology driven the desire for convenience and quantity at the expense of quality?



Low-grade music in this context is the result of two main factors, a) the delivery system (the hardware) and b) the source material (the 'music'). Although the amplification section of the mobile device is a technological wonder, it's not hi-fi! Nor are in-ear headphones. They can't hold a candle to the stereo-typical system from the 1970's. As far as the source material is concerned, it's being over-generous to call it music if it's a typical MP3 or AAC (the iTunes default format) download. These are both highly compressed formats with the most

popular download speed of 128 kbps being about one-eleventh the size of a full resolution CD track (1411 kbps), so the quality is inevitably far inferior. Information is irretrievably lost and the full dynamic range is lacking. Using an iPod while jogging does not really raise a quality issue but playing low-resolution tracks through, for example, an iPod docking station that feeds into a decent hi-fi system, is a disaster area. It is very poor quality made louder and this even affects the type of music listened to. For example, most classical recordings downloaded as an MP3 or AAC file are a complete waste of time because there is so much information missing, all the complexities of the music are lost, and the recordings are reduced to just the essence of a tune.

Future of Recorded Music

If convenience has trumped quality for many people, we must ask what the future prospects are of maintaining high quality music recordings. Fortunately audiophiles, or hi-fi connoisseurs, or perhaps most accurately described, music lovers, continue to drive the demand for quality because there are some wonderful hi-end systems available and being sold today. Another important reason for hope within the mass-market is that there is no longer any over-riding reason for MP3 and AAC to have such a following. These formats were designed to overcome very slow download speeds pre-broadband and expensive memory capacity. These are not significant factors for most people now. Even iPods, if loaded with full resolution tracks, can deliver acceptable results through a good system. The trade-off is a smaller selection of stored music. Full resolution audio streaming, as well as CD quality downloads, are already available and will become the norm as the wider public becomes aware of the tremendous quality benefit.



Audiophiles and Hi-Fi Connoisseurs

Hi-fi connoisseurs and audiophiles are very important to the music industry. By their nature, they are generally avid music lovers who enhance their enjoyment through listening to music at its very best quality level, which means playing great recordings through hi-end hi-fi to achieve the most outstanding results. Without them, the main driver for quality would probably be removed from the music industry.



Specialist Dealers

Specialist hi-fi retailers also come into this category because it's their interest that has driven them into their particular business. These specialist retailers also perform another very important function because, without them, hi-fi manufacturers would have to rely on the internet and hi-fi magazine reviewers to try and assess the relative merits of different brands for potential customers – a notoriously unreliable decision making process. Specialist hi-fi retailers are constantly being offered new products for assessment and potential stocking and, as it is also their hobby as well as their livelihood, they are greatly interested in achieving the best performance and seeking out the most outstanding combinations. More than that though is their relationship with audiophiles and hi-fi connoisseurs for, if they are to stay in business, they must satisfy the most discerning customers in the industry. The reality is that audiophiles and specialist hi-fi retailers (and the ones listed on this page represent the UK's finest) are essential to each other.

Specialist dealers know how to choose the products that combine as a superb

system and how to get the best out of it by expert installation in the home. They also appreciate how exciting and involving music can be and how it can deliver a powerful emotional experience. If there's a price premium over an internet purchase by choosing a specialist dealer, it's probably a small one, but it's unquestionably worth the difference.

Listed below is our selection of **THE BEST HI-FI DEALERS IN THE UK.**

They have been chosen because they are known to do an excellent job in guiding customers towards hi-fi that will give years of musical enjoyment and total satisfaction.

Our Top 20 UK Hi-Fi Dealers

SOUTH

Ashford, Kent
SOUNDCRAFT HI-FI
 40 High Street.
 t: 01233 624441
www.soundcraft-hifi.com

Chelmsford
RAYLEIGH HI-FI SOUND & VISION
 216 Moulsham Street.
 t: 01245 265245
www.rayleighhifi.com

Kingston-upon-Thames
INFIDELITY
 9 High Street,
 Hampton Wick.
 t: 020 8943 3530
www.infidelity.co.uk

Maidenhead
AUDIO VENUE
 36 Queen Street.
 t: 01628 633995
www.audiovenue.com

Norwich
MARTINS HI-FI
 85-91 Ber Street.
 t: 01603 627134
www.martinshifi.co.uk

Rayleigh
RAYLEIGH HI-FI
 44a High Street.
 t: 01268 779762
www.rayleighhifi.com

Southend-on-Sea
RAYLEIGH HI-FI SOUND & VISION
 132/4 London Road.
 t: 01702 435255
www.rayleighhifi.com

LONDON

Ealing
AUDIO VENUE
 27 Bond Street.
 t: 020 8567 8703
www.audiovenue.com

N1
GRAHAMS HI-FI
 190a New North Road.
 t: 020 7226 5500
www.grahams.co.uk

SW11
ORANGES & LEMONS
 61/63 Webbs Road.
 t: 020 7924 2043
www.oandlhifi.co.uk

SOUTH WEST

Bath
AUDIENCE
 14 Broad Street.
 t: 01225 333310
www.audience.org.uk

Exeter
GULLIFORD HI-FI
 97 Sidwell Street.
 t: 01392 491194
www.gullifordhifi.co.uk

MIDLANDS

Banbury
OVERTURE
 3 Church Lane.
 t: 01295 272158
www.overture.co.uk

Birmingham
MUSIC MATTERS
 363 Hagley Road,
 Edgbaston.
 t: 0121 429 2811
www.musicmatters.co.uk

Coventry

FRANK HARVEY
 163 Spon Street.
 t: 024 7652 5200
www.frankharvey.co.uk

Leicester
CYMBIOSIS
 6 Hotel Street.
 t: 0116 262 3754
www.cymbiosis.com

Nottingham
CASTLE SOUND & VISION
 48/50 Maid Marian Way.
 t: 0115 9584404
www.castlesoundvision.com

NORTH

Cheadle
THE AUDIO WORKS
 14 Stockport Road.
 t: 0161 428 7887
www.theaudioworks.co.uk

Chester
ACOUSTICA
 17 Hoole Road.
 t: 01244 344227
www.acoustica.co.uk

Hull
THE AUDIO ROOM
 Savile Street, Hull
 t: 01482 891375
www.theaudiroom.co.uk

York
SOUND ORGANISATION
 2 Gillygate.
 t: 01904 627108
www.soundorg.co.uk

These specialist dealers have been selected because they are known to do an excellent job in guiding customers towards hi-fi that will give years of musical enjoyment and total satisfaction.



STAR QUALITIES

VALUE FOR MONEY	★ ★ ★ ★ ★
SERVICE	★ ★ ★ ★ ★
FACILITIES	★ ★ ★ ★ ★
VERDICT	★ ★ ★ ★ ★

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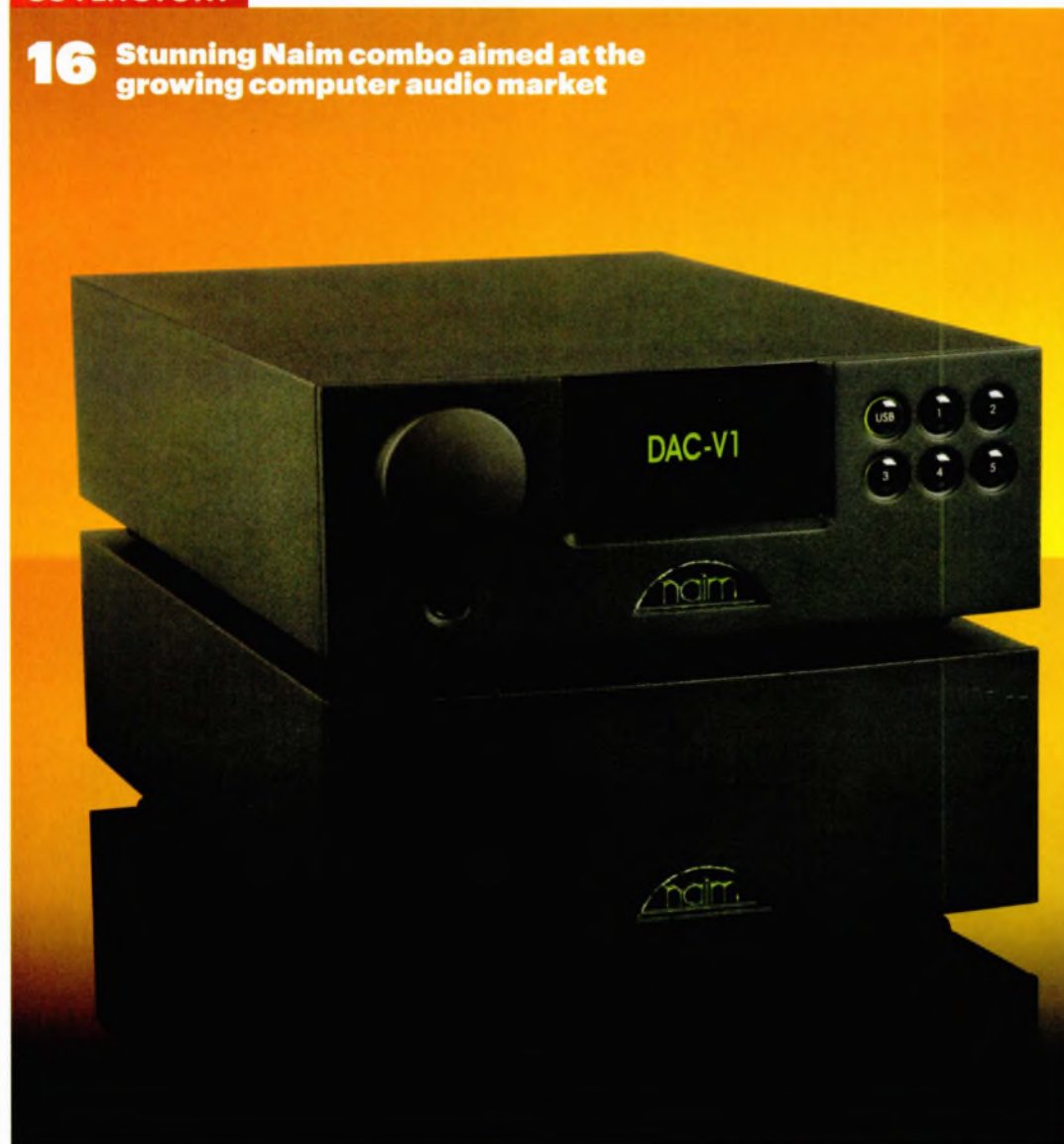
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Arcam FMJ A19 integrated amplifier

“As punk rock as they come when tasked to get the joint jumping.”

David Price: Timestep T-01 MC phono stage p62

TESTED THIS MONTH



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ISOKinetik Modular 1.5 turntable



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Heed Audio Canalot DAC headphone amp



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GROUP TEST

COMPACT
STANDMOUNTS
£800-£1,025

25 Acoustic Energy

AE1 Classic

27 Audiovector

Ki1 Super

29 Focal

Chorus 807v

31 Monitor Audio

Gold GX50

33 Neat

Motive 3

35 Opera

Mezza

Never miss an issue – turn to p102 for our latest subs offer

Mini marvel

Mini component systems are back in fashion it seems, and Pioneer's new X-P01DAB-K/S has launched to prove that less is more. **David Price** shows his spatial awareness...

PRICE: £400/£550

AVAILABLE: NOW

CONTACT: 01753 789789

WEB: PIONEER.CO.UK

The X-P01 'pure compact stereo system' is said to take inspiration from Pioneer's high-end audio equipment



CD's final stand

THE BRITISH MUSIC industry may not have had a great time of things last year, but according to the International Federation of the Phonographic Industry (IFPI), the global music business is finally starting to show signs of bouncing back. For the first time since 1999 the global trade value of recorded music grew in 2012.

The IFPI's new Digital Music Report 2013 says that the music business grew by 0.3 percent, which is very good news. It also states that digital revenues in 2012 reached \$5.6 billion, which is 9 percent up on 2011, showing downloads to be ever-more important in the great global scheme of things. Last year, downloads represented 34 percent of total market value. A number of major music markets now get more revenue from digital music distribution than they do from CD sales.

The IFPI also found that the number of paying subscribers to music services has increased 44 percent and that download unit sales are up 12 percent. Interestingly then, streaming services are becoming increasingly important. Subscription services are described by the IFPI as a now "integral part of the recorded music market", and there were 20 million subscribers globally in 2012, the report says. Subscription services are expected to have crossed the 10 percent mark as a share of total digital revenues in 2012 for the first time.

Another fascinating statistic is the breakdown between single track sales and albums. In recent years, singles have migrated to online distribution, while CD has clung on as the choice of album buyers. But the report shows that download sales increased 12 percent in 2012 to 4.3 billion units globally, which is more than twice the pace of single tracks. There were 2.3 billion single track downloads in 2012 (up 8 percent on 2011) and 207 million digital album sales (up 17 percent on 2011). This shows the market is maturing, and more music fans are now downloading music. With this in mind, it is no surprise that a number of hi-fi manufacturers – who serve the 'serious' music fan market – are now gearing up to produce streamers. Compact Disc's last stand – the album market – is now moving online.



The growth of digital downloads means that streamers like the Marantz NA70040 will start to replace CD players

Every decade or so, the hi-fi world rediscovers its love of mini systems. The first time round it was in the late seventies when Toshiba launched its superb Aurex microsystem, then some 10 years later Denon chipped in with its excellent D-series. Then we had a decade of TEAC's Reference Series ruling the roost, before we seemingly forgot about the breed altogether.

Now though, Pioneer is back with something special. Unveiled at the Bristol Sound and Vision Show, the X-P01 'pure compact stereo system' is said to take inspiration from Pioneer's high-end audio equipment. It's also fair to say that back in the early eighties, the company made some very nice micro components, and the X-P01 is redolent of these too. Described as a two-channel system packed into an impressive and stylish, compact unit, it comprises two 'audiophile' components, the SX-P01 stereo receiver and PD-P01 CD Player. Partnering these are the S-P01 bookshelf speakers.

The PD-P01 CD player sports a 192kHz/32-bit digital converter and a large EI core transformer, and is equipped with a gold-

plated coaxial digital output, as well as a gold-plated analogue output. It plays a range of computer file formats (MP3, WMA and WAV), and adds support for iPhone, iPod and iPad mini via its front-mounted USB socket.

The matching SX-P01 stereo receiver delivers a claimed 75W RMS per channel from its Class D power amp section, and is fitted with two digital inputs (optical/coaxial), plus two gold-plated analogue inputs and gold-plated speaker terminals, a subwoofer pre-out, a headphone out, and an FM tuner with RDS and DAB. A Source Direct Mode switches off all unused circuitry for the purest possible sound, and the unit is carefully shielded inside. Both units have a rigid aluminium front panel.

Completing the set are the optional S-P01 loudspeakers, a two-way bass reflex design finished in piano black gloss. A 120mm 'high strength' glass fibre cone woofer and 25mm soft dome tweeter is also fitted. The system comes in a choice of black or silver finishes. Prices range from £400 without speakers to £550 with them included. Watch this space for a review soon.



Mini maestros

Audiolab announces Q-DAC & M-PWR

Audiolab chose Bristol Sound & Vision to preview its Q-DAC and M-PWR components, which are the latest additions to the compact LAB Series, that began with the highly acclaimed M-DAC.

Audiolab says the new Q-DAC delivers 98 percent of the more expensive M-DAC's performance. It still incorporates the same preamp and headphone amp functionality, and handles data up to and including 24-bit/196kHz on USB and coaxial (24-bit/96kHz on optical).

Key differences are a simpler display; analogue outputs are RCA-only instead of balanced XLRs; optical and coaxial inputs have been trimmed down to one a piece; and there's no remote control. Internally, the Q-DAC uses a different ESS Sabre DAC chip (9016 instead of 9018), which the makers claim is still an extremely high-end solution. The matching M-PWR is a 40W per channel power amplifier with the flexibility to handle both unbalanced and balanced inputs.



PRICE: Q-DAC £399; M-PWR £499 **AVAILABLE:** MAY **CONTACT:** 01480 447700 **WEB:** AUDIOLAB.CO.UK

A new Concept in sound

Q Acoustics unveil Concept 20 standmount speakers

The Concept 20 loudspeaker also made its first public appearance at The Bristol Show as Q Acoustics revealed what it claims represents "An astonishing sonic leap forward". As Alex Munro, channel director of Armour Home with special responsibility for Q Acoustics, explained: "Applying scientific methodology and state-of-the-art technologies, such as laser spectrometry and chemical engineering [our designers] have designed and advanced an ultra-low resonance speaker cabinet. In short, a cabinet that allows loudspeaker drive units to simply play the music unconstrained by cabinet interference."

The result is a speaker incorporating Gelcore Construction to, in effect, create a cabinet within a cabinet with a special resonance-cancelling compound adhering between the inner and outer shells. The cabinet is rigid and exhibits extremely low resonance. Q Acoustics claims that when compared with a good conventional cabinet, midband distortion is reduced while treble and bass frequency improvements are in excess of 10dB.

The two-way reflex stand mount has a 64Hz-22kHz claimed frequency response, with a 125mm bass accompanying its 25mm treble unit. Sensitivity is quoted as 88dB and there's recommended power of 25-75W. The speakers come in a choice of finishes and a matching Gelcore Construction floor stand is also available for £199 a pair.



PRICE: £350 **AVAILABLE:** NOW **CONTACT:** 01279 501111 **WEB:** QACOUSTICS.CO.UK

PVR with hi-fi credentials

REGULAR READERS WILL be used to seeing stories about Pure's DAB models, and so it comes as a surprise that the manufacturer has gone in a whole new direction and introduced a Freeview+ HD digital TV recorder. The Avalon 300R, as it's called, offers subscription-free HD and standard-definition broadcasts via a traditional aerial and, thanks to its dual tuners, can record one channel while you watch another.

As impressive as this sounds it has nothing to do with hi-fi, but the Avalon also offers the functionality of a DAB radio, thanks to Pure Connect. The feature operates much like any internet radio and opens up a world of on-demand radio programmes, podcasts and radio from around the world.

Pure Music, meanwhile, is Pure's new music subscription service, which promises access to millions of tracks for a £4.99 monthly fee. And then there's Pure Stream, which enables owners of iOS and Android mobile devices to stream music wirelessly to the Avalon 300R. Neither of these features will be available at launch, but Pure is expecting to add them in the coming months. Watch this space...





Real Wood Headphones

thinksound™ began with a simple goal; to create incredible sounding headphones with the smallest eco-footprint possible. The headphones are only created using the finest natural woods, to reproduce sound as it is intended to be heard.

The ts02+mic, made with real wood, creates a more natural resonance and unparalleled acoustics. Featuring an in-ear 8mm high-definition driver with integrated microphone and call control, the ts02+mic headphones produce a deep, precise bass, a warm midrange, and crisp, clear highs.

Only the finest components make it into a thinksound product.

We're also making smarter choices - to reduce our overall environmental impact:

- Wood is from renewable sources
- Packaging is made from recycled materials
- Smaller packaging size = less materials used
- Cotton carrying pouch is sewn from renewable sources
- PVC-free cables

Offered in a rich Silver Cherry or Black Chocolate finish, every pair comes with a cotton carrying pouch, and four sets of ear fittings to ensure a perfect fit.

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BIGGEST DEALS, BEST PRICE, FASTEST SERVICE

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SEVENOAKS
SOUND & VISION

www.sevenoakssoundandvision.co.uk

Superfi

www.superfi.co.uk

thinksound
exceptional sound, naturally.



Sound & Vision 2013

The biggest show for hi-fi manufacturers and enthusiasts alike heads to Bristol and **Jason Kennedy** picks his highlights...

The Marriott in Bristol may not be the most charming of hostels but it's the place to be in February if you want to see and hear the latest hi-fi kit. It's surprising just how many new products are launched here, and in many respects it's become the most exciting event in the UK, an achievement the Sound & Vision group should be applauded for.

Hardware that can play digital files is clearly high on the agenda for manufacturers, whether this be with DACs, servers or streaming solutions. A lot of rooms were being run with a PC as a source, in fact I get the impression that they were in the

majority, although there were some exotic CD players and a few rather lovely turntables, too.

This was the first year that the Clarity Alliance has given awards to exhibitors, these included Best Presented Room won by Canton and Best Home Cinema Room won by Primare and SVS. Best Sounding Hi-fi room went to CAD, which was making its show debut with the 1543 DAC, which sounded hugely impressive. One room that didn't have anything new, yet warrants a mention was Wilson Benesch. It had brought a very big system to go with the Cardinal speakers and it sounded as good as it looked – and that's an achievement at any show.

1 AVID INGENIUM

The Ingenium has the platter and sapphire bearing from a Diva II atop a T-shaped solid aluminium plinth. The base model is £800 without arm. The twin arm base version shown costs £1,200 without clamp.

2 LEEMA LIBRA

The £5,995 Libra DAC has a volume control and analogue inputs alongside 15 digital inputs. These include USB, AES/EBU and S/PDIFs of both types alongside an RJ45 connector for I2S signals.

3 NU-FORCE IA-18

Nu-Force added a new top-flight integrated amplifier to its range at Bristol. The slimline IA-18 (£2,900) runs a partial Class A, mostly Class D output stage that is specced to deliver 135W.

4 PRIMARE PRE60 & A60

This pre/power combo is still in pre-production but looks like costing €7,500 apiece for the PRE60 with streamer and DAC onboard and 300W A60 amplifier. The latter has Primare's UFB variation on the Class D theme and doubles its output into 4Ohms.

5 CHORD COMPANY TUNED ARRAY

Chord Company demonstrated a new interconnect geometry called Tuned Array for analogue and digital cables. It managed to blow me away with a stunning comparison between standard and TA Sarum digital coaxial. The price difference with this range topper is a relatively small £100 increase.

6 MICHELL CUSIS

Michell Engineering has introduced its first cartridge. The Cusis MC's body is made of carbon loaded acrylic, the same material that Michell uses to make platters. The generator is fitted with a boron cantilever and line-contact stylus, price will be £1,065.



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7 REGA ELICIT-R & ARIA

The £1,598 Elicit-R amp that's based on the output devices found in the Brio-R, has a phono stage and 105W on tap. Aria (£798) is an MM/MC phono stage with dip switches to adjust gain and impedance.

8 DALI KUBIK 3

The pre-production Kubik 3 is an active speaker with Bluetooth apt-X receiver, digital inputs and onboard amplifier. Kubik 3 (£1,000) can be used alone or with a slave speaker (£700) for stereo.

9 SVS ULTRA BOOKSHELF & TOWER

American subwoofer maker SVS launched its first range of

speakers at the show, which consisted of the Ultra Bookshelf (priced at £1,099), an attractive bookshelf with 6.5in main driver, and the Ultra Tower (yours for £2,199). The Ultra Tower has 8in bass drivers and 6.5in midrange units flanking the tweeter.

10 LEADING EDGE ACOUSTIC PANELS

Leading Edge's acoustic panels are designed to cunningly calm the air-flow in a room by operating as a velocity damper. They consist of a honeycomb core with a micro perforated cover and can be placed on or just sticking out from walls and ceilings. Prices start at £1,100 for a pair.

11 LOIT PASSERI

This 20kg CD player from Singapore has a valve output stage, carbon fibre chassis construction and ceramic decoupling in each leg. The transport is isolated in silicon gel and the electronics are dual mono all the way. The £19,950 Passeri will be imported by Alternative Audio.

12 AUDIOLAB Q-DAC & M-PWR

Audiolab has put the core engine of its M-DAC in a lesser-specced and more affordable variant called Q-DAC. It costs £399 has USB and S/PDIF inputs and retains digital preamp capabilities. The M-PWR power amp has a 40W Class AB output stage for £499.

13 BRYSTON BDP-2 & BDA-2

The BDP-2 digital transport, which costs £3,150, is a full UPnP streamer boasting both front and rear USB connections that can be utilised to hook up an internal hard drive of your choice. The BDA-2 (yours for £2,500) is a 32-bit DAC with USB, coaxial, AES/EBU and BNC inputs and a Class A output stage.

14 SPENDOR A6R

The A6R (launch price £2,500) sees in the introduction of an EP77 polymer cone as used so on the D7 (tested last month) and has a new crossover for smoother and more powerful bass.

Mini Reference

Teac shows compact hi-fi components

The new Teac Reference 501 series is a range of A4-sized stereo system separates priced at £699 and available to purchase on a mix-and-match basis to fit with individual needs.

The AI-501DA is a two-channel integrated amplifier with digital-to-analogue convertor offering a claimed 90W per channel from the tiny unit. The retro VU meters help to belie the high efficiency Class D amplifier technology that's hidden away under the hood, boasts Teac. It accepts computer digital audio from Mac OS and Windows (once the correct drivers are installed), and a fully asynchronous digital path is created for up to 24-bit/192kHz audio replay. There are four digital inputs that comprise a pair of optical digital, coaxial and USBs alongside two analogue inputs for non computer-based sources.

The UD-501 is a dedicated digital-to-analogue convertor that handles digital sources and outputs them as analogue signals to an amplifier that can handle "pretty much any digital signal adventurous computer audio fans care to feed it", claims Teac.

To accompany streaming sources is the PD-501HR CD player with a slot-loading disc mechanism. Feature highlights include the ability to play computer-created DVDs encoded with DSD 2.8/5.6MHz audio content natively as well as 24-bit/192kHz resolution sources.

The final model in the lineup is the HD-501 dual mono, Class-A headphone amp. It promises the flexibility to drive a wide range of regular headphones with an impedance range of 80-250ohms, but also more esoteric high-end 600ohm designs. The Reference 501 system is available in either black or silver finishes.



PRICE: £699 AVAILABLE: NOW WEB: TEAC-AUDIO.EU

LITTLE RIPPER

• MUSIC DATA BANK NOW IN WHITE

The compact Cocktail Audio X10 is a space-saving music streamer and CD storage device. The slot-loading CD mechanism features a high-speed internal drive capable of ripping CD tracks in MP3, FLAC, OGG or WAV formats. There are three storage options available: 500GB, 1TB and 2TB.

The X10 hooks up to your network via Ethernet or wi-fi, providing access and streaming of music on a PC, or transfer of music files to its hard drive. There's also access to thousands of internet radio stations, while the web app allows you to easily update album artwork.

The 3.5in screen aids navigation and the remote control has alphanumeric keys to search your music by title, album, artist or any matching string. A USB keyboard can also be connected.

Now available in both black and white, it's makers claim 30W per channel power output via the built-in amplifier. Matching speakers are available for £89.

COCKTAILAUDIO.CO.UK



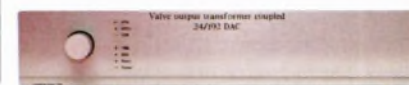
HOT DOG

• NEW VALVE DAC JOINS HI-FI RANKS

Distributed in the UK by MCRU, the Longdog Audio VDt1 DAC offers two electrically isolated S/PDIF inputs on RCAs (AES/EBU, on XLR, also available on request), with one isolated USB input. All inputs support up to 192kHz/24-bit data rates. The USB input offers asynchronous operation. DSD over USB is also supported with internal transfer via a pure DSD signal path. The digital board features 10 ultra-low noise voltage regulators. The zero feedback analogue stage offers a very short signal path with zero solid-state devices being used between the DAC chip and output RCA connectors.

MCRU claims a performance equal to solid-state designs but with the purity of sound and tone that only valves can offer. It comes in non-ferrous casework as standard with either a black or silver 10mm front panel.

MCRU.CO.UK



Marantz milestone

CELEBRATING ITS 60TH anniversary, Marantz is set to further expand its Premium collection with the launch of the delayed Reference Class NA-11S1 network audio player and digital-to-analogue convertor. The sumptuous-looking component – housed in a rigid copper-plated chassis – is engineered to reproduce a rich and full sound from all popular music sources, says its maker.

The NA-11S1 comes with an Ethernet port to hook up to your home network and access internet radio stations and music streaming services. Apple's AirPlay is on board to enable iTunes music streaming whether from a Mac or PC as well as directly from iPhone, iPad or iPod touch devices.

DLNA 1.5 compatibility also provides access to NAS devices and can handle formats including WAV, WMA, MP3, MPEG-4 AAC, FLAC and ALAC, as well as WAV 24-bit/192kHz and FLAC HD 24-bit/192kHz files.

The USB port works in asynchronous mode for connecting directly to a PC or Mac, and 24-bit/192kHz, DSD 2.8MHz and 5.6MHz is supported, offering even greater flexibility. Additionally, PC noise is reduced by the newly incorporated ground/signal isolator technology, claims the manufacturer.

Dual digital outputs allow the DAC to be used with other sources and analogue outputs come in both unbalanced RCA and balanced XLR connectors. For headphone fans there's a built-in headphone amp along with a precision variable analogue volume control. The NA-11S1 is available in a choice of black or champagne colour finishes.



PRICE: £2,650 (TBC) AVAILABLE: NOW WEB: MARANTZ.CO.UK

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OF THE NEW MILLENNIUM'**

Hi-Fi News

**'I PROMISE, THIS IS ABSOLUTELY
EXTRAORDINARY'**

Financial Times

**'THIS IS AS GOOD AS IT GETS...
IT'S CHANGING THE FACE OF
AMPLIFICATION'**

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**'MARVEL AT ITS SLEEK,
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OK computer

The DAC-V1 and NAP 100 DAC/power amp combination show how attuned to the rapidly growing computer audio-based music market Naim has become, says **David Price**



DETAILS

PRODUCT:
Naim DAC-V1
Naim NAP 100

ORIGIN: UK

TYPE: DAC
preamplifier and
power amplifier

WEIGHT:
DAC-V1: 4.3kg
NAP 100: 5.1kg

DIMENSIONS:
(WxHxD)
DAC-V1:
207 x 87 x 314mm
NAP 100:
207 x 87 x 314mm

FEATURES:

- Claimed power output: 50W into 8ohms
- Inputs: 1x RCA phono; 1x stereo DIN
- Outputs: 1 pair of speaker binding posts

DISTRIBUTOR:
Naim Audio Ltd

TELEPHONE:
01722 426600

WEBSITE:
naimaudio.com

The new Naim DAC-V1/NAP 100 combo you see before you here is the Salisbury company's latest attempt to make computer audio accessible. The easiest form of high-resolution file playback is, of course, straight off your computer,

effectively using it as a digital transport, and the new digital convertor is designed to facilitate precisely that. Essentially, it packages much of the technology that we've seen on the very capable (and expensive) Naim DAC, adds a bit more and then crams it all into a very

nice little 'half width' box complete with a decent display to tell you what it's up to. At £1,250 it's pretty affordable – certainly by Naim standards – and just for good measure it comes with a companion, the NAP 100 amplifier. This matching £650 box gives a claimed 50W RMS



per channel (in 8ohms), which should be enough for most tinnitus-averse types.

If this were the eighties and we were all wearing red braces and driving around in Golf GTIs, the word upon our lips would be "lifestyle" when looking at these two new bits of kit. I know, I'm sorry, but there's no denying that Naim has worked hard on presenting these two products well. The black powder-coated metal fascias and casework look lovely, and contrast particularly well with the pin-sharp, bright green OLED display. The size of each unit is perfect (with dimensions of 207 x 87 x 314mm), and they're stackable or can sit beside one another – where they're as wide as a standard hi-fi separate. They're not back-breakingly heavy, but substantial enough to confer a sense of quality.

Indeed, that's the user-experience Naim wishes to give – allied to simplicity and a fuss-free ownership experience. The DAC-V1 isn't just a digital convertor, as it has a volume control too – making the addition of the NAP 100 a sort of twenty first century NAC42/NAP110, which was also a cute, half-width pre-power with one eye on style some 30 years back. Its digitally controlled analogue volume control and a front panel headphone socket (with a discrete transistor, single-ended full Class A amplifier section behind it) give it useful flexibility, and there's a row of smooth acting, backlit buttons for switching five digital inputs and USB on the front panel.

Under the hood

Inside, a Burr Brown PCM1791A 24-bit/748kHz stereo voltage output DAC chip (as seen inside the NDX and SuperUniti) is found, with custom-designed digital filtering with Naim-authored code, giving 16 times oversampling. The latter is done on a SHARC ADSP21489 DSP along with a RAM buffer, and following this the analogue signal goes to a discrete Naim preamplifier gain stage using selected passive components. It will work up to 24-bit, 384kHz resolution via USB, which itself is asynchronous so the Naim DAC-V1 provides the clock lock.

Conventional digital inputs (one BNC, two RCA and a pair of TOSLINKs) work up to 24/192. Galvanic (optical) isolation is used between digital and analogue sections to cut out digital noise, and there's a linear power supply with 210VA transformer, with three separate windings for digital, DAC and analogue stages.

Multiple pre-regulated linear power supplies are used, as is a six-layer PCB designed for low electromagnetic interference. Discrete audiophile film capacitors appear throughout the signal path, alongside discrete tantalum capacitors in critical power supplies and in signal path AC coupling.

Despite its diminutive dimensions, the NAP 100 is a classic discrete transistor power amp, a dual mono design apparently based on the circuit topology found in Naim's SuperUniti reference all-in-one player. It has a claimed output of 50W into 8ohms and twice that into 4ohms. This suggests a strong power supply, and to that end sports a large toroidal transformer. In classic Naim fashion it has a DIN preamp input on the back panel, supplemented by its concession to the mass market – a pair of RCA phono sockets. As per the DAC-V1, the casework is a quality affair, having a non-magnetic, low resonance die-cast alloy chassis and sleeve.

Cleverly, the DIN connector is designed to float, ensuring that the cable does not transfer any microphonic disturbance on the PCB. The RCA connectors fix to the chassis, but where the connector meets the board

there are a number of stress relief methods applied to allow the PCB to flex. Naim says that special care is taken to apply the correct torque to the output devices as this has a considerable effect on sound quality.

Together, the pair is lovely to use – and clever details like the logo mute function, where you touch the backlit Naim badge and the music stops, make it all the nicer. The inclusion of a fancy OLED display to the new DAC-V1 allows functionality that the Naim DAC doesn't have. You can get detailed textual and graphical feedback on performance, such as the BitPerfect test, which tells you if the audio files streamed from your computer arrive at the DAC-V1 unmodified. Just press the input button you're currently using for a few seconds and a little screen pops up with all sorts of

A big soundstage, inside which all the strands in the mix are located with laser-guided precision

handy system information, such as the buffer capacity, file resolution, etc.

USB set up is easy; using a Mac it's just a case of selecting the output device in 'Sound' preferences and then telling the software player (Audirvana in this case) the same via its Preferences menu. This done, it shows up as 'Naim DAC-V1 Audiophileleo.com', and that's it, you're in business.

Sound quality

There's no mistaking what you're listening to. Like many fine brands, Naim Audio has a distinctive character to the way it goes about making music, which doesn't seem to change much regardless of the product. This is pure twenty-first century Naim, which is to say clean, tidy, tonally smooth – dark even – but grippy, rhythmic and dynamic, too. What you don't get is a rich, fat, bloated sort of sound, but nor is it thin and reedy, with detail etched on your cranium. And encouragingly, the DAC-V1/NAP 100 is consistent in this across all sources, and all digital resolutions.

Kicking off with some standard 16/44 silver disc from a Cyrus transport plugged into the DAC via coaxial digital, and Corduroy's *London England* is riotously good fun. This early nineties Acid Jazz recording is lovely, late-period analogue and the Naim combo is incisive enough to throw out every detail of the recording, yet refined enough to capture its innate smoothness. The track is highly percussive, with some very energetic drum kit work, and this pre-power reveals itself to be lithe enough to follow the histrionics of the drummer. Bass drum is nicely taut with that characteristic Naim 'on-off' sort of envelope, snares are penetrating and hard but not spitty, and hi-hats crisp and detailed, but with feathery



Q&A

Dave Barber

Design engineer, Naim Audio



DP: How close is the DAC-V1 to the Naim DAC?

DB: The key difference between them is the DAC-V1's Asynchronous USB input, allowing the user to connect the product directly to their computer, laptop or Mac. The Naim DAC is a line-level output device (designed to connect to a preamplifier) but the DAC-V1 incorporates a digitally controlled CMOS analogue volume control and preamp. The Class A pre-amp stage also doubles up as a high-quality headphone amplifier with the ability to drive many headphones, even high-impedance ones. There has been no compromise on the sonic performance on the DAC-V1.

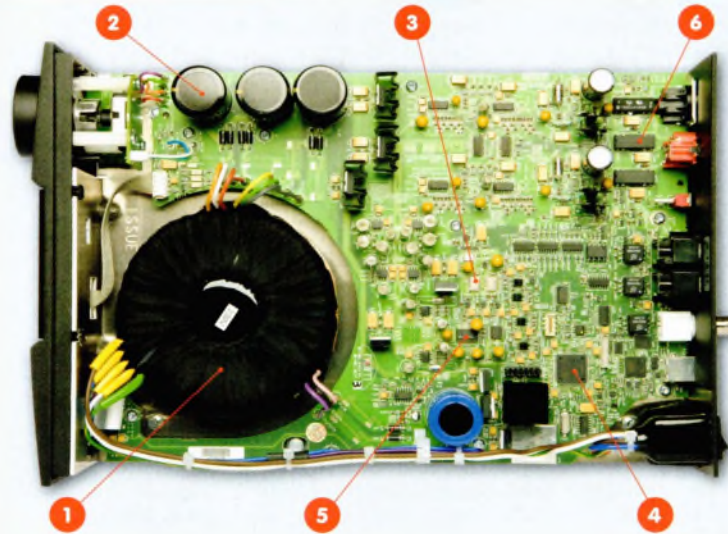
Does the DAC-V1 have any special aspects of its design over conventional rivals?

Along with a custom, fully asynchronous USB transceiver and host controller allowing support for up to 24bit/384kHz sample rate audio files, much work was carried out to reduce the effect of power supply and ground noise from the PC entering the DAC-V1. There is no reliance on the 5V line from the USB and its entry into the product ends at the connector. This eliminates power supply noise from the PC entering the product. We have also used components to suppress the noise between the computer ground and DAC-V1 digital ground. Ground lift switch enables use with preamps and existing earth products (ie a CD player) used for preventing ground loops.

Can you describe the circuit design on the NAP 100?

It's a Class A/B amplifier featuring the circuit architecture originally developed for the Super Nait, optimised and using discrete bi-polar transistors throughout the circuit, with the design symmetrical about the signal ground so the signal is not routed down two spurs that may at any instant be at different levels degrading sonic performance. It features a dual mono architecture, each channel is powered from a separate transformer winding.

LAB REPORT - DAC-V1



- 1 Substantial power supply transformer
- 2 Power supply reservoir caps
- 3 Two master clocks for multiples of 44.1kHz and 48kHz
- 4 SHARC digital processor from Analog Devices
- 5 Here's the DAC - a 24-bit/192kHz chip from Burr-Brown
- 6 Output muting and switching relays

ON TEST

Because the V1 is both a DAC and preamp, the ideal volume position will be determined by the digital media's peak recorded level. If you listen to a lot of rock and pop then digital levels will persist very close to the maximum odBFs at which point a volume setting of '55' will already have the partnering NAP 100 amplifier up at its rated 50W/8ohm output.

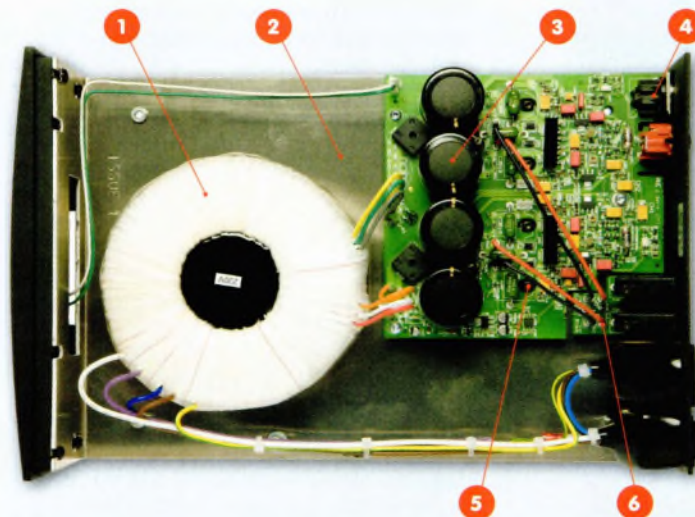
Volume setting '68' realises a standard 2V output from the V1 at a

higher-than-average (though not especially *high*) distortion of 0.025%, a figure that increases to 0.045% at 3V out (volume '75') and 0.085% at 5V out (volume '84'). More importantly, this distortion remains very steady indeed right across the audioband.

Measured at 2V output, the A-wtd S/N ratio amounts to a modest 103dB and although the DAC-V1 will accept media up to 24-bit/384kHz, the practical frequency response of

anything sampled at 88.2kHz-384kHz is limited to just 30kHz. This is due to a custom IIR upsampling filter, first unveiled in the Naim DAC in 2010 and used later in the ND5 XS. Payback comes in the form of reduced time domain distortions - it's a subjective trade-off on the part of Naim's engineers. Just as importantly, and in common with these related digital products, jitter is supremely well-suppressed at just 10psec. **PM**

LAB REPORT - NAP 100



- 1 Toroidal power supply transformer
- 2 Folded alloy chassis
- 3 PSU rectification and reservoir capacitors
- 4 DIN and (adj) RCA line inputs
- 5 Two pairs of power amp transistors bolted to chassis
- 6 Direct connection to 4mm speaker outlets

ON TEST

Described as a 'classic expression of Naim engineering', the back-to-basics NAP 100 is a robust little 'brick' of an amplifier dominated by a substantial linear power supply. The latter is more than capable of besting Naim's 50/75W 8/4ohm specification at 2x61W/8ohm and 2x91W/4ohm and encompasses sufficient headroom to accommodate musical peaks of 75W, 127W, 185W and 200W into 8, 4, 2 and very low 1ohm loads under dynamic

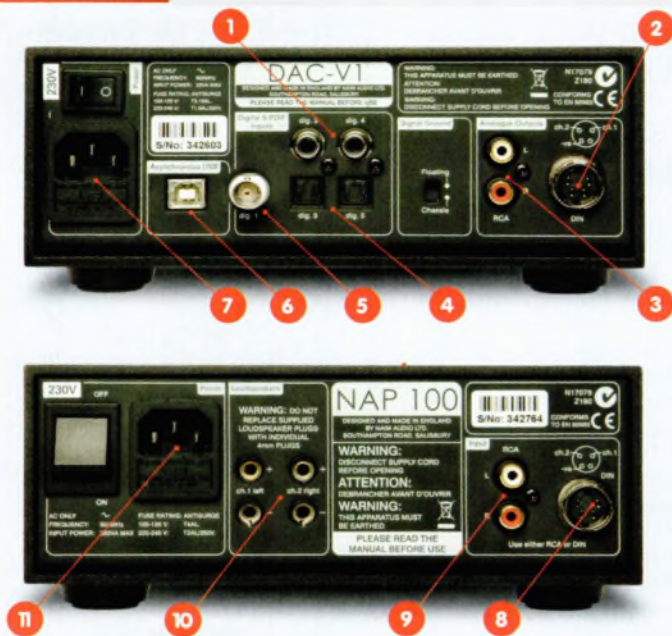
conditions at 1% distortion. Naim has also 'engineered' a very consistent level of distortion - just 0.0035% - from 1W right up to its rated 50W output through midrange frequencies. Distortion does increase slightly at very low bass frequencies (0.005% at 20Hz) and very high treble frequencies (0.015% at 20kHz) but this is subjectively benign.

The frequency response has also been sensibly tailored (-1dB/3Hz to

34kHz) just as the output impedance, while slightly high for a traditional solid-state amp at 0.22ohm, is perfectly in line with Naim tradition and remarkably uniform from 20Hz right out to 100kHz.

Noise is also very low (-83dBV hum) and the A-wtd S/N ratio impressively wide at 97dB (re. odBW) bearing in mind the size of that nearby mains transformer. This is a solid, by-the-numbers Naim amp. **PM**

CONNECTIONS



- 1 Coaxial digital inputs
- 2 DIN preamp output
- 3 RCA phono preamp output
- 4 Optical digital inputs
- 5 BNC digital input
- 6 USB digital input
- 7 IEC mains power input
- 8 DIN preamp input
- 9 RCA phono input
- 10 Loudspeaker terminals
- 11 IEC mains power input

smoothness – not something earlier vintage Naim kit would possess.

The combo really captures the song's rhythmic undulations, and is great at communicating the dynamic accenting of the players, making for a wonderfully lucid listen. However, switching to USB and ramping up the resolution, the Naim really sings with a 24/192 rendering of REM's plaintive *Texarkana* via an Audirvana-equipped MacBook Pro. Having heard this song once too many times at 16-bit resolution via

The NAP 100 is like a dog with a bone and you sure can hear it wagging its tail

silver disc, where it's splashy and gruff, the DAC-V1 really lets Peter Buck's Rickenbackers ring out joyously. In front of this is a sweet sounding Mike Mills singing his heart out – and some lovely, pacey drum kit work set behind. It is so easy to pull individual strands out of the mix, yet the whole song coheres so well together. In every respect, from the excellent depth perspective to the crunchingly strong bass guitar work, it is a pleasure to listen to.

However, despite the obvious talents of the DAC, I can't help feeling that the NAP 100 shouldn't go unnoticed. It pairs perfectly with the DAC-V1, of course, but in its own right it's a very sophisticated-sounding little amp for the money.

You'd never confuse it with a valve amplifier, of course, as it still has that crisp, clean, slightly shiny solid-state sound – but it is never hard or wiry across the upper midband (a real claim to fame for something at this price), serving up some super-sounding strings on a 24/88.2 file of Isaac Hayes' *Early Sunday Morning*. From his beautiful *Shaft* soundtrack album, it has some of the nicest sounding violin and trumpet work ever committed to tape, and the NAP 100 is well able to show why. At the same time, I love the ultra explicit location of instruments in the mix, and the great sense of space. This amplifier is tight enough to let the original recording push out into your room in proper proportion, yet never stifles it.

From the lovely, lilting, shuffling rare groove of Isaac Hayes to the pounding, pummelling electro of Herbie Hancock's *Rocket* via hi-res USB, this combo still doesn't falter. Naim electronics has come of age over the past decade, but feed it anything with a strong beat and it seems to revert back to its headbanging past with consummate ease. All of a sudden, the NAP 100 is like a dog with a bone and you sure can hear it wagging its tail. The combo sets up a big soundstage, inside which all the strands in the mix are located with laser-guided precision; the rock-solid bassline is an obvious entry point but the complex drum machine patterns with electronic snares, congas and rim shots make for a gripping listen. In



ALONG WITH LINN, Naim has done more to popularise hi-res audio among hi-fi enthusiasts. Both have their own record labels that sell hi-res downloads, and there's a good bit of cross-pollination between the music making and the music playback parts of the chain.

Naim says that with the DAC-V1 it wanted to create a product that allows the user to get great performance from their computer audio, coupled with ease of use. As such, the small form factor makes the DAC-V1 and NAP 100 fine desktop solutions and you can couple both with a UnitiServe to get a complete audio ripping and playback solution – just add speakers! The DAC-V1 is the only DAC/preamp in this smaller form factor in the Naim range and the only Naim asynchronous USB DAC. Paired up with the NAP 100, it's a remarkably easy-to-use package that provides true high-end sound.

front of this, Herbie's vocoded vocals and keyboard noodling add masses of extra drama, and the song's crashing dynamics show how the modest 50W NAP 100 is – in amplifier terms, at least – the mouse that roared. Another faultless performance from a DAC/power amp combo that makes you want to just keep on listening, then.

Conclusion

I find myself saying this with depressing regularity these days ('twas not always the way), but this is another masterful showing from Naim. It takes the good bits from the pricier Naim DAC, adds an excellent asynchronous USB implementation and a volume control and packages with a really capable little amplifier that's good enough to let rip into most speakers. In doing so, Naim has come up with a package that's greater even than the sum of the parts – and brilliant value too. Just like it was planned all along, it makes computer audio easy and accessible, yet will play back your 'legacy' disc collection and doesn't take over your listening room either. My only regret is that the DAC-V1 doesn't have a single analogue line input to plug a turntable in, but I suppose that's just being greedy! ●

Hi-Fi Choice

VERDICT - DAC-V1

SOUND QUALITY ★★★★★	LIKE: Excellent sonics; fine USB implementation; packaging; compact size and fine build
VALUE FOR MONEY ★★★★★	DISLIKE: Would an analogue input be too much to ask for?
BUILD QUALITY ★★★★★	WE SAY: Super-sounding DAC that gives you easy access to hi-res music
FEATURES ★★★★★	

OVERALL



Hi-Fi Choice

VERDICT - NAP 100

SOUND QUALITY ★★★★★	LIKE: Strong, clean, musical sound; real-world power; size; build quality
VALUE FOR MONEY ★★★★★	DISLIKE: In all honesty, we're struggling to find fault here
BUILD QUALITY ★★★★★	WE SAY: Really capable budget power amplifier that's the ideal partner for the DAC-V1
FEATURES ★★★★★	

OVERALL



How we test

Hi-Fi Choice employs the most rigorous test and measurement regime in the business. Here's how we do it...

Unique group tests

This month's loudspeaker group test is backed up by a comprehensive set of lab tests, explains **Keith Howard**...

GROUP TESTS

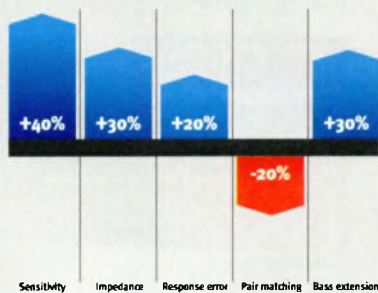
IN THE EIGHTIES, you not only needed a bunch of expensive equipment to measure loudspeakers, you also needed a large anechoic chamber with thick sound absorbers covering the walls to remove reflections. That all changed when time-gated measurement techniques were introduced, allowing pseudo-anechoic measurements to be made in a normal room using a computer. Since then, the software has become so cheap that almost anyone, with an inexpensive measurement microphone and soundcard, can afford to measure speakers for themselves.

Still, to achieve the most accurate results you do need a costly, highly specified measurement microphone, and to analyse and interpret the results it helps to be able to write your own post-processing software – which is exactly what we do at *Hi-Fi Choice*!

The measurement microphone comprises a GRAS 40BE capsule, coupled with the same company's 26CB preamplifier and 12AL power supply. Together these achieve an extraordinary frequency response, much wider than that of most measurement microphones, specified as 4Hz-100kHz, 3dB. They feed a custom preamplifier built around the ultra-low distortion, ultra-low noise AD797 op-amp, and thereafter a carefully calibrated M-Audio Audiophile 192 soundcard.

ARTA software measures frequency responses using a periodic pinknoisetest signal, with dual-channel measurement removing the effects of the driving amplifier. An average of 10 consecutive measurements reduces any influence of environmental noise. LIMP software is used to measure impedance modulus and phase, via a connector box containing a high-precision series resistance.

RESULTS AT A GLANCE



SENSITIVITY

A speaker's sensitivity determines how loud the music is at a given volume control setting. We measure the sound pressure level achieved at a distance of 1m on axis for a pink noise input of 2.83Vrms over the frequency range 250Hz-20kHz, averaged for the review pair.

IMPEDANCE

A speaker's impedance determines how easy it is for an amplifier to drive it – high impedance is easier, low impedance harder. We quantify this by measuring the minimum EPDR (equivalent peak dissipation resistance) – the load resistance that would cause the same peak power dissipation in a Class B amplifier's output stage as the speaker does, over the frequency range 20Hz-20kHz.

RESPONSE ERROR

To deliver a neutral tonal balance and low coloration, a speaker must give an almost flat sound pressure response versus frequency on the listening axis. We measure the difference between the highest and lowest output sound pressure level, in decibels, over the frequency range 250Hz-20kHz, using tenth-octave response smoothing.

PAIR MATCHING

In order to provide a stable stereo image and consistent tonal balance from both channels, a stereo pair of loudspeakers should have minimal disparity between their frequency responses. We measure the largest difference between the responses of the review pair, in decibels, over the frequency range 250Hz-20kHz, using tenth-octave response smoothing.



Measurement computer runs ARTA software for frequency response testing and LIMP software for impedance testing, plus custom-written code for post-processing of the results

BASS EXTENSION

Few speakers maintain their output down to the lowest audible frequency (nominally 20Hz), and bass extension has usually to be traded off against sensitivity and cabinet size. We measure bass extension using the near-field technique and then apply diffraction correction using the KHF tool in LspCAD. The quoted frequency is that at which the response has fallen by 6dB ref 200Hz.

REFERENCE SYSTEM

- Network audio streamer:
 - Naim ND5 XS (XP5 XS power supply)
- Integrated amplifier:
 - Cambridge Audio 851A

TEST MUSIC

Max Richter
Recomposed by Max Richter: Vivaldi the Four Seasons, Spring 01 (24/96 FLAC)



Mark Knopfler
Privateering, Privateering (24/96 FLAC)



Muse
The Second Law, Panic Station (24/96 FLAC)



Orbital
The Altogether, Doctor? (16/44.1 FLAC)



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nothing less...”



“Ridiculously good in every
aspect of vinyl playback”
Diva IISF Michael Fremer, *Stereophile*, January 2011

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Progressive Audio, 2 Maryland Court, Rainham, Kent, Tel: 01634 389004

www.avidhifi.co.uk

AVID HIFI LIMITED, Bicton Industrial Park, Kimbolton, Huntingdon, Cambs, PE28 0LW
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Group test

COMPACT STANDMOUNTS £800-£1,025

Sonic Sixpack

The standmount speaker market at the £800-£1,025 price point has never been tougher. **Ed Selley** checks out six of the finest in this popular group

HERE IN THE UK with our small houses filled with even smaller rooms, the standmount speaker has always been of considerable importance. With space at a premium, many will use a standmount speaker at price points far beyond the 'budget' reputation that they have in many other markets. With this in mind, the £800-£1,000 category is keenly contested for compact standmounts and what you see here is six of the best models available. At this price point, certain features and technology starts to appear that is not generally seen at lower prices. Within this group, wood veneers rub shoulders with vinyl wraps and as well as metal and soft dome tweeters, we also have a ribbon vying for contention.

Size wise, there is a fair amount of variation too and more money doesn't

necessarily equate to bigger in this context either, as the largest design in here is one of the least expensive. None of them should present a challenge to a 'normal' pair of speaker stands and a pair of Soundstyle Z60's ably filled this role. The partnering electronics

At this price point, certain features and technology starts to appear that is not seen at lower prices

comprised a Naim ND5 XS network audio streamer with XP5 XS power supply. A Cambridge Audio 851A was used for amplification – as with previous group tests, the big graphic volume indicator and linear volume control make it easy to level match with.

ON TEST



Acoustic Energy

AE1 Classic £1,025 p25

Arguably the original high performance standmount, the AE1 Classic is a re-launch of the original that still uses the trademark metal mid/bass driver mounted in a polymer lined cabinet for extra mass.



Audiovector

K12 Super £800 p27

The smallest speaker is also the only speaker to offer an upgrade path and can be turned into the highspec K12 Signature. All models use the trademark Audiovector woven mid bass driver and soft dome tweeter.



Focal

Chorus 807v £815 p29

The 807v is one of the less expensive Focal standmounts, making use of technology seen further up the range. The laminate driver is the largest in the test and it is also wrapped in the largest cabinet.



Monitor Audio

Gold GX50 £950 p31

The smallest of the Gold GX Series, this uses technology from the flagship Platinum range, making it the only ribbon tweeter on test. This is paired to the latest version of the company's aluminium driver.



Neat

Motive 3 £945 p33

The standmount member of the Motive range, this has some trademark features including the inverted titanium dome tweeter with large surround. The cabinets are heavily braced and have a real wood finish.



Opera

Mezza £850 p35

The latest addition to the Opera range, the Mezza features a soft dome tweeter with 5in PVC driver wrapped in striking cabinetwork that combines a leather baffle alongside a wood veneer. Nice...



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Acoustic Energy AE1 Classic £1,025

The test veteran can still show the newer competition a thing or two about clarity and cohesion

DETAILS

- ORIGIN:** UK/Malaysia
DIMENSIONS: (WxHxD) 180 x 295 x 255mm
WEIGHT: 7.5kg
FEATURES:
- 25mm magnesium alloy dome tweeter
 - 110mm ceramic sandwich aluminium cone bass driver
 - Quoted amplifier power up to 200W
- DISTRIBUTOR:** Acoustic Energy
TELEPHONE: 01285 654432
WEBSITE: acoustic-energy.co.uk

The AE1 is as synonymous with Acoustic Energy as the Big Mac is with McDonalds. The AE1 Classic before you here is not a homage to the all-original AE1 but an exact reproduction, mounting the same 110mm anodised aluminium cone. This is allowed to breathe via two small front-mounted ports and is partnered with a 25mm magnesium tweeter. Like a number of test participants, the AE1 is single-wired only via a sturdy pair of terminals.

The AE1 was always as much about the cabinet as the drivers and the rebuilt version is no exception. Each cabinet features a polymer composite lining that massively increases both weight and rigidity. In fact, the AE1 is the heaviest pair of speakers here and they feel extremely substantial.

Sound Quality

The most immediately apparent strength of the AE1 is the cohesion



from the high treble all the way through to the lower mid bass. There is absolutely no perception of where the tweeter and midbass driver hand over to one another and the effect with the massed strings of the Max Richter rework of *Spring* is controlled and impressively seamless. You will need to put a reasonable amount of power into them though as the AE1 requires the greatest amount of power of all the speakers to reach the listening level.

The top end of the AE1 is well lit and slightly over emphasised, but avoids tripping over into harshness or aggression. The reproduction of Mark Knopfler's vocals in *Privateering* has a very believable tonality and positively leaps out of the performance. The effect is sufficiently dominating that the guitar and other instruments seem slightly recessed by comparison. This is less noticeable in isolation but listen to the AE1 back to back and there's a sense that it isn't quite as even handed with information.

The timing and energy of the performance is extremely good, however. With the more upbeat and energetic Muse and Orbital pieces, the sense of timing and drive is impressive and the AE1 rarely sounds anything other than entertaining. Despite this, the low end bass response is more limited than some of the other designs here and the AE1 can't match the impact of some of its rivals. What bass there is, however, is detailed and extremely fast which further aids the sense of timing and drive that the speaker has.

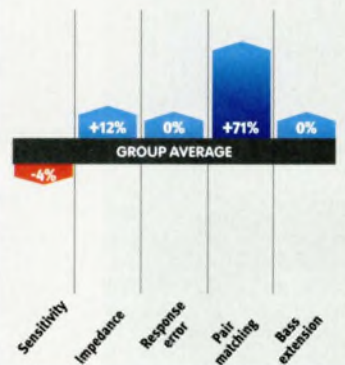
The result is that the AE1 is almost always extremely enjoyable to listen to. Musicality is a hard attribute to define, but over a wide variety of material the AE1 has it. When

compared with the competition though, there is a sense that the Acoustic Energy has a tendency to over emphasise the top end and this could be a problem in a system that is already somewhat energetic in this area. The lack of absolute bass weight is also something that could be an issue depending on the partnering equipment. Despite these foibles, the AE1 is still a hugely entertaining loudspeaker and if you value the integration and liveliness that it brings to music reproduction, it is still worth seeking out.

ON TEST

Acoustic Energy claims 86dB sensitivity for the compact AE1 Classic but that's about 3dB optimistic according to our measured pink noise figure of 82.8dB. There's payback, though, in the impedance. The modulus falls to a minimum of 5.2ohms and the EPDR (equivalent peak dissipation resistance, which also takes account of phase angle) to 2.9ohms, so this is an easy load to drive. On-axis frequency response has a flat trend but for a large narrow-band glitch at around 4.5kHz, without which the response errors would be significantly less than ± 4.6 dB and ± 4.2 dB for the pair. It is also here that the largest response disparities occur, resulting in a poor pair matching error of ± 2.4 dB. Bass extension is good at 37Hz for -6dB ref 200Hz but the cumulative spectral decay waterfall is marred by a prominent resonant ridge associated with the response glitch. KH

RESULTS AT A GLANCE



HIFI Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★
LIKE: Lively, cohesive and energetic sound; excellent build
- BUILD QUALITY** ★★★★★
DISLIKE: Limited bass response; slightly uneven detail retrieval
- EASE OF DRIVE** ★★★★★
- VALUE FOR MONEY** ★★★★★
WE SAY: Despite its flaws, the AE1 is still a lively and communicative speaker

OVERALL





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“*This amp's innate balance makes it a joy with a wide range of music; there's no sense of its failings flattering one type of programme material over another.*



Product link



Review link



Audiovector Ki1 Super £800

This diminutive Danish standmount majors on involvement and offers a truly unique upgrade path

DETAILS

ORIGIN: Denmark
DIMENSIONS: (WxHxD) 140 x 260 x 220mm
WEIGHT: 4.15kg
FEATURES:
 • 25mm fabric dome tweeter
 • 133mm glass carbon fibre midbass unit
 • Quoted amplifier power up to 100W
DISTRIBUTOR: Hentey Designs
TELEPHONE: 01235 511166
WEBSITE: audiovector.com

Audiovector ranges generally comprise of a single basic speaker design that is offered in a variety of versions offering higher performance through upgraded components. This approach is not unique, but what sets Audiovector apart is that its speakers can be upgraded any time after purchase.

The Ki1 Super is the middle model of the Ki1 range and is also the smallest speaker in this roundup. The driver compliment comprises a glass and carbon fibre weave midbass driver partnered with a soft dome 'high resolution' tweeter. Like the Acoustic Energy, the Audiovector has two small front firing ports to augment bass response and only supports single wiring.

Sound Quality

The Audiovector does an excellent job of sounding bigger than its size might suggest. With Richter's *Spring*

it sounds vibrant, detailed and also produces a very convincing soundstage. The tonality of the massed strings walks the difficult path between being detailed and explicit without tipping over into harshness or stridency. It also proves to be reasonably sensitive and places about half way in terms of the power requirements of the group.

This well judged top end and impressive soundstage is equally apparent with Knopfler's *Privateering* and it reproduces lead guitar and vocals with real conviction. The tonality of both is realistic and engaging as well with a very convincing sense of decay helping the performance further.

With the more energetic pieces, the Ki1 reveals an exceptional sense of timing and lucidity that makes more rhythm led pieces a pleasure to listen to. *Panic Station* fairly rips along with Matt Bellamy's soaring vocals arranged clearly atop the urgent and almost mechanical beat. The Ki1 has sufficiently good integration across the frequency range that it takes real attention to find fault with it.

The faults are there when you listen to it back to back with the competition. Although the bass response is impressive for such a small speaker, the rumblings of Orbital's *Doctor?* aren't as deep as they could be. Equally at the top end, the Audiovector seems to gain some of its smoothness from losing some of the detail right at the top of the frequency spectrum and listening to it immediately after the astonishingly insightful Monitor Audio reveals that the Ki1 is effectively sacrificing the frequency extremes for a more convincing performance across the main frequency range.

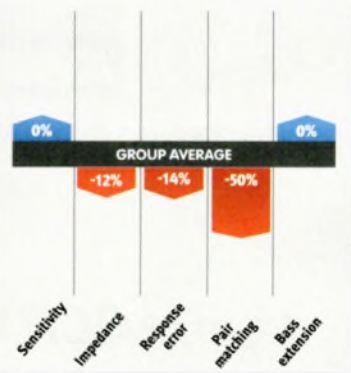
It is hard to be too critical of this approach when the result is a

speaker that is enjoyable as this one though. With more relaxed material, the Ki1 is lucid, spacious and refined and as soon as you pick up the pace, it reveals an impressive sense of drive and timing that means that it rarely sounds anything other than enjoyable and lively. I can't pretend that I'm completely sold on the looks but taking into account the very competitive price and the possibility of future upgrades, the Ki1 is an extremely capable and musical speaker that represents excellent value for money.

ON TEST

Given the Ki1's small cabinet it does a good job to achieve a measured pink noise sensitivity of 85.9dB, even if this is 2dB shy of Audiovector's spec. Low impedance helps achieve this but the minimum modulus of 3.9ohms amply justifies the 4ohms nominal figure and phase angles are well controlled, so the minimum EPDR is a reasonable 2.3ohms. While the overall on-axis response trend is flat and the measured response errors fair at $\pm 3.8\text{dB}$ and $\pm 3.7\text{dB}$ respectively, there are undulations in the lower treble followed by a rising output beyond 9kHz, so listening a little off-axis may give the most neutral tonal balance. Pair matching error of $\pm 0.7\text{dB}$ is first-class. Bass extension is good at 37Hz for -6dB ref 200Hz and the cumulative spectral decay waterfall reveals fast initial energy decay, but with low-level resonances visible in the lower treble. **KH**

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★ **LIKE:** Excellent drive and timing; upgrade options
BUILD QUALITY ★★★★★ **DISLIKE:** Limited frequency extremes, slightly showy appearance
EASE OF DRIVE ★★★★★ **WE SAY:** Sounds cohesive and entertaining at a competitive price
VALUE FOR MONEY ★★★★★

OVERALL



M2 SERIES



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Focal Chorus 807v £815

The largest speaker in the round up is also the most demanding when it comes to positioning

and habits and exactly what you are looking for in a loudspeaker. This is a very capable loudspeaker that can deliver an extremely detailed, accurate and refined performance and considering it's the second cheapest speaker here, it's beautifully built and rather attractive as well. There are other speakers in this test that fulfil these criteria with a greater sense of life and excitement, smaller cabinets and are less fussy about placement and positioning. This is a fine speaker, but it tends to be rather demanding.

DETAILS

- ORIGIN:** France
- DIMENSIONS:** (WxHxD) 237 x 448 x 280mm
- WEIGHT:** 10.1kg
- FEATURES:**
- 25mm TNV Al/Mg inverted dome tweeter.
 - 180mm Polyglass midbass unit
 - Quoted amplifier power 25-100W
- DISTRIBUTOR:** Focal UK
- TELEPHONE:** 01420 476767
- WEBSITE:** focal.com/en

The 807v is part of Focal's Chorus 800 range and is the larger of the two standmount speakers in the range. 'Large' is the operative word here as the Focal is the biggest speaker in the test by quite a margin.

The driver used by the 807v is a Focal trademark and makes use of the company's unique 'sandwich' of glass fibre and composite materials that varies in composition depending on the requirements of the particular driver. Beryllium is still a bit pricey for use at this level but the inverted aluminium dome tweeter here makes use of the same experience.

Sound Quality

The Focal swiftly reveals three very distinctive traits within seconds of being connected. The first is that this is by far and away the most sensitive pair of speakers here, requiring significantly less power than the

others to hit the test level. They also prove unhappy when placed in the same position that the other speakers were and needed to be further from the wall with less toe-in. The final aspect is that the 807v doesn't sound bigger than its rivals.

This is not to say that it sounds small. Across the four pieces of music, it manages to sound full and rich. The bass is agile and detailed, but ultimately there is no greater sense of extension than there is with the rather smaller Neat and Opera.

The slightly less toed-in position of the 807v generates an extremely competent soundstage with excellent placement of voices and instruments clearly and cohesively laid out but equally, there is no real difference in scale to the others.

The Focal is capable of impressive detail retrieval though. The looped strings of the Richter piece are extremely well defined as separate instruments (or at least multiple impressions of the same instrument) and the supporting instruments in the Mark Knopfler piece are given more space and attention than is usually the case. The performance from the two drivers is impressively seamless and there is no sense of harshness even when the less cultured Orbital track.

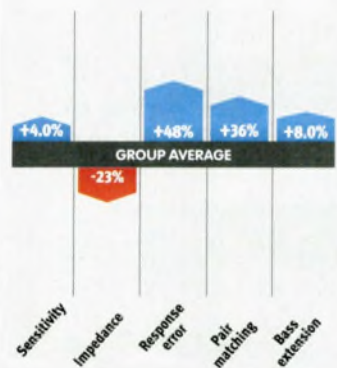
The most notable issue with the Focal is that although detailed and competent, it doesn't manage to provide the same rhythmic engagement as the best in the test. Even with the lively and energetic Muse and Orbital pieces, the 807v never really comes across as especially exciting or ballistic. The response is always slightly matter of fact rather than engaging at an emotional level.

How much this matters to you will depend on your listening preferences

ON TEST

With the largest cabinet here you'd expect the 807v to notch up the highest sensitivity but Focal's claim of 92dB looks distinctly optimistic against our pink noise result of 89.1dB. Low impedance helps as well as internal volume, Focal's claim of 8 ohms nominal isn't sitting well with its specified minimum of 4.2ohms or our measured minimum of 3.6ohms. Impedance phase angles are also quite high so the EPDR falls to a low of 2.0ohms. On-axis frequency response shows a distinctly concave trend, with extreme treble output rising rapidly above 15kHz due to the c23kHz breakup mode of the tweeter. This pushes the response errors up to ± 6.8 dB and ± 6.1 dB, and pair matching error was disappointing too at ± 1.9 dB. Bass extension is close to the group average at 40Hz, while the cumulative spectral decay waterfall indicates strong resonance at around 1kHz. KH

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★
LIKE: Detailed and spacious sound; impressive sensitivity
- BUILD QUALITY** ★★★★★
DISLIKE: Lack of emotional involvement; fussy about positioning
- EASE OF DRIVE** ★★★★★
- VALUE FOR MONEY** ★★★★★
WE SAY: A talented and efficient loudspeaker, but one that lacks rhythmic engagement

OVERALL



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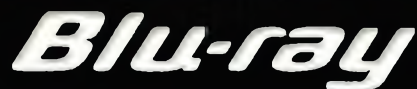
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Monitor Audio **Gold GX50** £950

The only ribbon tweeter in the test leaves a lasting impression

DETAILS

- ORIGIN:**
UK/China
- DIMENSIONS:**
(WxHxD)
170 x 300 x 263mm
- WEIGHT:**
7.5kg
- FEATURES:**
- 1 x C-CAM H.F ribbon tweeter
 - 1 x 139mm RST bass/midrange driver
 - Quoted amplifier power up to 100W
- DISTRIBUTOR:**
Monitor Audio
- TELEPHONE:**
01268 740 580
- WEBSITE:**
monitoraudio.co.uk

Monitor Audio's GX50 pairs that ribbon tweeter with a 139mm RST metal mid bass driver, which also uses bracing and mounts developed for Monitor's Platinum range. As the only ribbon speaker in the test, the GX50 is capable of a claimed upper frequency response of 60kHz, which should have all but the most superhuman of you covered.

Monitor Audio supplies port bungs for the rear-mounted bass ports to aid room tuning and the GX50 can be bi-wired via a quartet of very substantial speaker terminals. The speaker is also internally wired with silver speaker cable.

Sound Quality

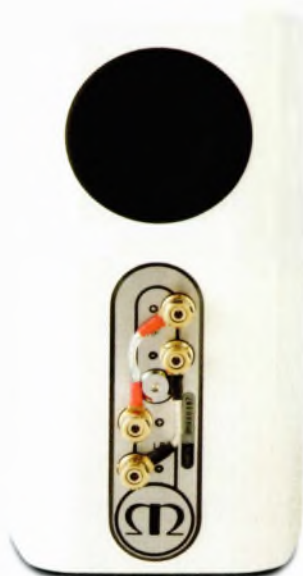
Together with the Audiovector, the GX50 represented the halfway point of sensitivity in the group and didn't need a huge amount of power to reach the test level. Having done so, it revealed exceptional qualities.

From the opening bars of the Richter piece, the GX50 showed the ribbon tweeter is not a gimmick. The Focal and Opera are capable of digging a great deal of information out of most music but the GX50 is pretty much untouchable in this regard.

Whether it is the strings of the Richter piece or the fretwork of Knopfler's guitar, the GX50 finds incidental details that elude the other speakers and then presents them in an exceptionally spacious top end that never seems forced or artificial. The tonality is exceptional and the GX50 handles vocals and instruments with an effortlessness that is very appealing. Integration between the drivers is good and the lower registers are equally detailed.

The Monitor Audio does have some weaknesses though and how serious these are will very much depend on your listening preferences. The bass response is as informative as the rest of the performance, but the GX50 is not the most seismic performer here and the lower registers of the Orbital piece don't have the same impact as some of the other performers manage. There is also a sense that the exceptional top end could tip over into becoming slightly forward with brighter electronics or more poorly recorded material.

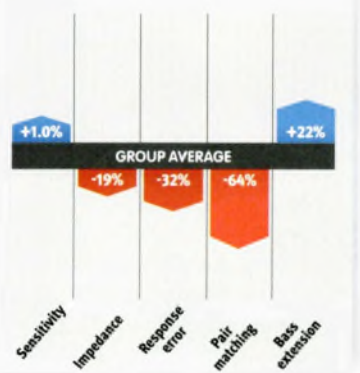
The other issue is that when the pace picks up, the GX50 is not as successful at replicating the excitement and energy of the music as it is the detail. It never sounds slow, but there is not the agility and sense of life that some of the other speakers can bring to the performance. The Muse piece sounds curiously matter of fact and the overall performance while undoubtedly accurate, doesn't grab the attention in the same way that some speakers can.



ON TEST

Monitor Audio's claim of 86dB sensitivity is slightly conservative according to our measurements, which recorded a pink noise figure of 86.7dB. This is assisted by an impedance modulus that dips to a low of 3.9ohms, which belies the specified Bohms nominal figure. Impedance phase angles are quite high too, so the EPDR drops to a minimum of 2.1ohms, making the GX50 one of the tougher amplifier loads in this group. Although the on-axis frequency response displays a mildly rising trend following crossover to the tweeter. Still the response errors were held to a tight ± 2.9 dB and ± 3.0 dB respectively, and pair matching error was outstandingly good at just ± 0.5 dB. Bass extension of 45Hz is poorest in the group, but can be bolstered by positioning close to a wall. The cumulative spectral decay waterfall is dominated by a strong breakup resonance at about 5kHz. KH

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY**
 ★★★★★ **LIKE:** Exceptional top end detail; spacious sound; excellent build
- BUILD QUALITY**
 ★★★★★ **DISLIKE:** Limited bass response; restrained
- EASE OF DRIVE**
 ★★★★★ **WESAY:** A very accomplished speaker that shines with a number of genres, but lacks excitement
- VALUE FOR MONEY**
 ★★★★★

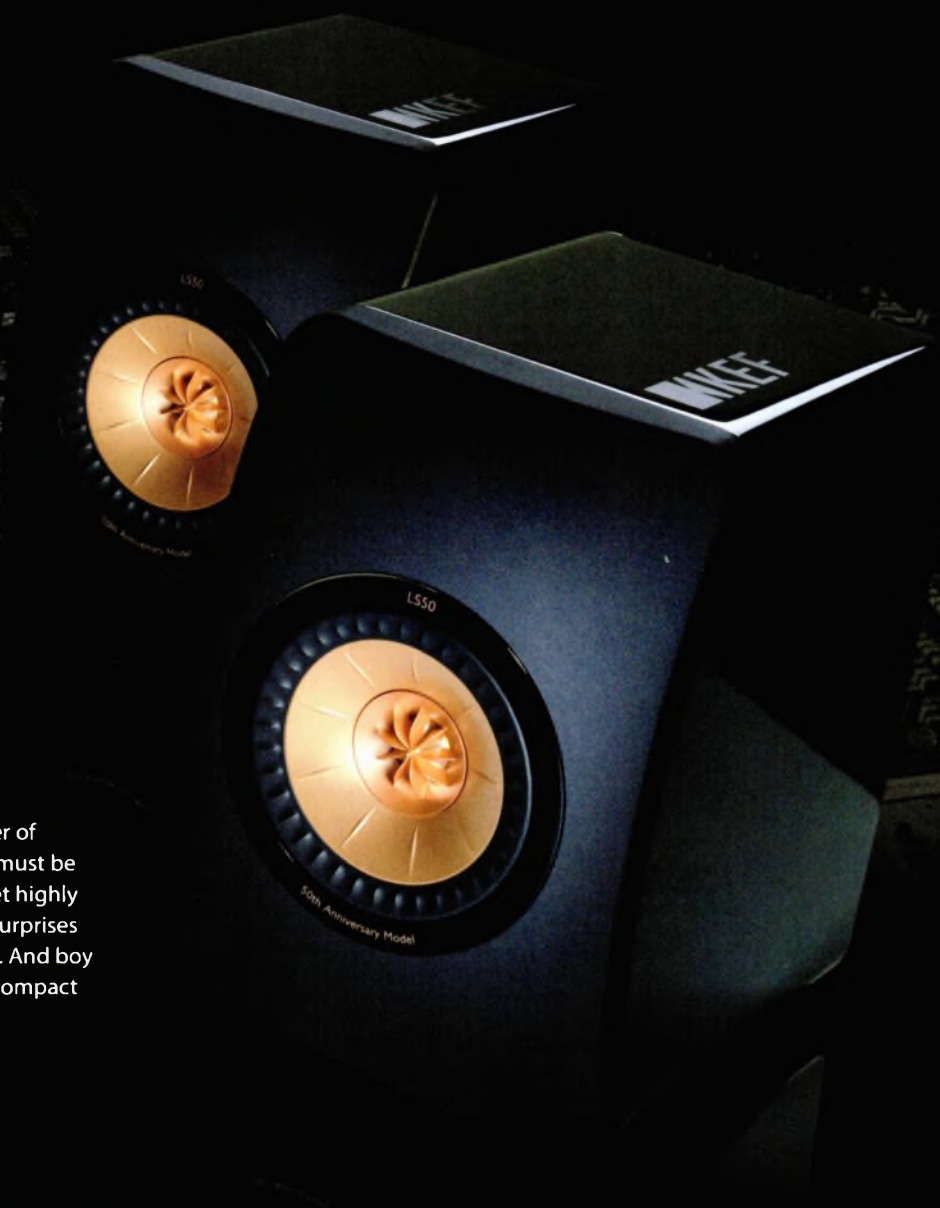
OVERALL





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Neat Motive 3 £945

The Neat is an impressive demonstration of all round ability that should suit many listeners.

Monitor Audio is able to achieve and although they are happy in the default listening position, placing the Motive 3s any closer to the wall creates audible energy from the bass port. Overall though, the Neat produces the most consistent performance across the entire frequency response and has a musicality that is hard not to like.

Throw in the solid build quality and the combination of handsome and unobtrusive aesthetics, and you have a speaker that is very hard to beat at the price point.

DETAILS

- ORIGIN:**
UK
- DIMENSIONS:**
(WxHxD)
160 x 325 x 200mm
- WEIGHT:**
6kg
- FEATURES:**
- 25mm inverted titanium dome NMT tweeter
 - 134mm bass/midrange driver
 - Quoted amplifier power up to 100W
- DISTRIBUTOR:**
Neat
- TELEPHONE:**
01833 631021
- WEBSITE:**
neat.co.uk

Neat speakers are the result of a protracted listening process with multiple recordings that takes precedent over engineering measurement. Broadly speaking, if it doesn't sound right, it doesn't matter how good the measurements are – it isn't going out the door.

The design pairs a 25mm inverted titanium tweeter with the trademark wide foam surround and a 134mm mid bass driver, both of which are customised to Neat's requirements. These are mounted in a well damped cabinet that is rear-ported and supports bi-wiring.

Sound Quality

There's plenty to get excited about when you start listening to the Motive 3. OK, so it might be slightly less sensitive than the group average,

but not unduly so and doesn't need a huge amount of power to reach the test level. Once there, the Motive 3 doesn't come out absolutely top in any particular area, but much more importantly, it's very strong across a wide variety of disciplines and this generates a performance that is extremely appealing.

With Richter's *Spring*, the Neat manages to produce a large and cohesive soundstage that is packed full of detail, but also not overblown or forced. The placement of the instruments is intuitively 'right' and helps in the suspension of disbelief that you are listening to the real deal and not a reproduction of it.

The Neat also has an engaging and believable tonality. The rasp of Knopfler's vocals and the movement of fingers across strings are entirely convincing and have a fantastic sense of decay to them. This vocal ability is equally apparent with Muse and this unforced, realistic and thoroughly involving tonal ability gives the Motive 3 an appeal with a wide variety of music. The sonic balance suggests that this is a hard speaker to tip into harshness as well.

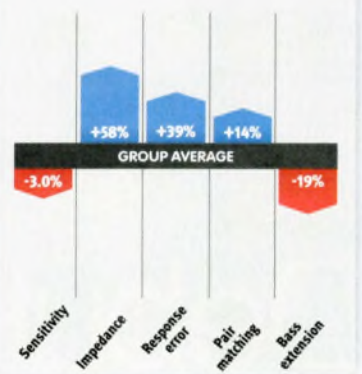
What further aids this is the sense of liveliness and rhythmic ability that the Neat brings to performances. With more relaxed music this reveals itself as an agility and fleetness of foot that is extremely beguiling, but as the tempo increases the simple control and ability that the Neat has over complex bass lines is absolutely exceptional. The only speaker that manages to get close to this is the Audiovector, but the Neat wins out because the bass response on offer is deeper and more detailed without losing any of the pace and energy.

This isn't a perfect speaker by any means. The absolute levels of detail extraction aren't as forensic as the

ON TEST

Neat claims 85dB sensitivity for the Motive 3 but our measured pink noise figure of 83dB suggests that specified figure is 2dB optimistic. Looking at the impedance data, it is easy to see why – for a modern speaker the Motive 3 is unusually easy to drive, certainly the easiest of this group. With a minimum modulus of 6.8ohms it comfortably justifies its 8ohms nominal figure, while good control of impedance phase angle ensures that the EPDR bottoms out at a high 4.1ohms. On-axis frequency response is less impressive, uneven output through the lower treble culminating in a rising response in the last octave above 10kHz, hence high response errors of ± 6.7 dB and ± 5.5 dB. Pair matching is also a little disappointing at ± 1.6 dB. Bass extension of 30Hz was best in the group and the cumulative spectral decay waterfall shows mostly good resonance control. KH

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY**
★★★★★ **LIKE:** Impressive musicality; good tonal balance; excellent build
- BUILD QUALITY**
★★★★★ **DISLIKE:** Slightly fussy positioning; not hugely sensitive
- EASE OF DRIVE**
★★★★★
- VALUE FOR MONEY**
★★★★★ **WE SAY:** An accomplished all rounder that manages to sound good across a wide variety of music

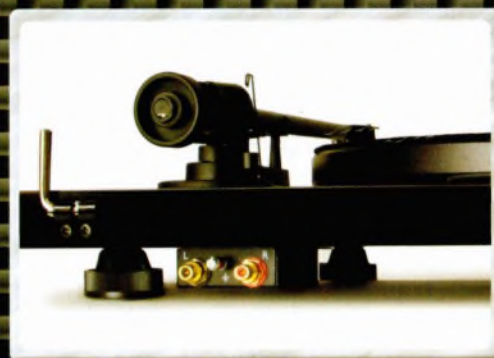
OVERALL



The Carbon Age



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Opera Mezza **£850**

This suave Italian standmount speaker has the sonic muscle to match that elegant appearance

ON TEST

Opera's claim of 88dB sensitivity for the Mezza squares very well with our measured pink noise figure of 87.9dB. Low impedance has been used to help achieve this, the modulus falling to a minimum of 3.4ohms – which is consistent with Opera's nominal impedance of 4ohms if not its claim that the impedance does not fall below that figure. The EPDR dips to a low of 2.0ohms, equal lowest in the group, but it might have been worse but for the impedance phase angle being quite well controlled. On-axis frequency response shows a mild presence band suckout, but despite this the response errors are held to a commendably tight ± 2.6 dB and ± 2.2 dB respectively, and pair matching is OK at ± 1.3 dB. Bass extension is very good at 31Hz and the cumulative spectral decay waterfall shows fast initial decay with only low-level resonances at treble frequencies. **KH**

DETAILS

- ORIGIN:** Italy
DIMENSIONS: (WxHxD) 170 x 315 x 290mm
WEIGHT: 8kg
FEATURES:
 • 25mm dome Tweeter, ferrofluid, decompression chamber
 • 127mm woofer double treated cone
 • Quoted amplifier power up to 70W
DISTRIBUTOR: UKD
TELEPHONE: 01753 652669
WEBSITE: operaloudspeakers.com/en

Opera has been producing a range of distinctively styled speakers from its Treviso factory since the late eighties. The speakers are all named for operatic terms and are intended to be visually elegant pieces of furniture as much as devices for music reproduction.

The Mezza is the smallest member of the Classica range. Like all the other designs here, it is a two way design with a ported cabinet. It contains a 25mm soft dome tweeter paired with a 127mm paper driver. The Opera is another speaker that only supports single wiring, but like all of the designs in this roundup, it provides a substantial set of terminals to facilitate this.

Sound Quality

The Opera came as a little bit of a surprise during the listening session. Historically, Opera speakers have been

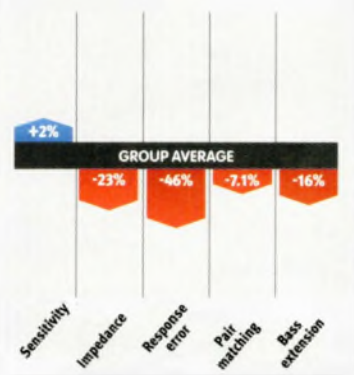
smooth and extremely beguiling, but this one tended towards slightly excessive warmth and smoothness as well as a somewhat soft bass response. The result is extremely appealing with certain genres of music, but means it's not necessarily a great all rounder.

The Mezza doesn't throw the baby out with the bathwater. This is still an extremely civilised loudspeaker. The upper registers have an almost liquid quality to them and the strings of the Richter piece are rich, detailed and extremely inviting. The Opera manages to produce an impressive soundstage that extends beyond the physical position of the speakers and places instruments in a logical and believable space. Knopfler's guitar is also presented with a depth and realism that is hard not to like. Vocals are impressive too. There is a sense with *Privateering* that the Opera actually gives precedence to the guitar, although there is still realism and composure evident that is extremely appealing.

So far, this is all in keeping with the standard Opera abilities but when you switch to the more muscular Muse and Orbital pieces, the Mezza reveals some surprising attributes. The first is that the bass response with both pieces, especially the seismic low end of the latter is impressively deep, fast and controlled and has a punch that is not something you would always associate with Opera speakers of old. There is also a sense of drive and timing that gives these more up-tempo pieces an intensity and liveliness that is extremely entertaining. The Opera has to give some ground to the Neat and Audiovector in terms of absolute agility but the combination of the lucid top end and the capable timing is very much appreciated.

The Opera Mezza is a welcome surprise in the test. This is a speaker

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Smooth, refined yet lively sound; excellent build and colour range options
- BUILD QUALITY** ★★★★★ **DISLIKE:** Some limits to bass; looks may well divide opinion
- EASE OF DRIVE** ★★★★★ **WE SAY:** A very refined speaker that still manages to sound exciting when required
- VALUE FOR MONEY** ★★★★★

OVERALL



Listening test verdict

Now that the dust has settled on this month's loudspeaker face off, **Ed Selley** provides us with the final verdict on how they really stack up

This was an exceptionally keenly fought test and all six speakers has something to offer, making this effectively a grading of 'least excellent first'.

The Focal Chorus 807v and Acoustic Energy AE1 are perhaps the most specialised on test. The Focal is civilised, detailed and controlled and impressively sensitive. It offers excellent build at a competitive price, but the fussy positioning and lack of excitement with more aggressive music counts against it.

The Acoustic Energy AE1 is very exciting indeed, but the uneven

detail retrieval, low sensitivity and the highest price in the group mean that it is perhaps best used nearfield and with more exciting music.

The Monitor Audio Gold GX50 and Audiovector Ki3 Super could effectively be combined to form a near perfect loudspeaker. The Monitor Audio boasts superb build quality and a truly fabulous top end with exceptional tonality and detail retrieval. When you pick up the pace, it remains detailed and coherent, but lacks a certain timing and excitement when the music demands it. If your tastes lean towards the more civilised it is a fine choice,

though. The Audiovector by contrast has this excitement and rhythmic ability in spades but the performance at both frequency extremes is a little weak. The reasonable asking price and clever upgrade path also impress.

The Opera Mezza manages to combine an exceptionally detailed and refined performance with acoustic material with a genuine sense of life and excitement when you ask it to pick up the pace. When you consider the reasonable asking price and the very high quality construction of the cabinet, this is a speaker that deserves an audition with any system.



WINNER
The Neat Motive 3 tops this test by virtue of its all round ability. When needed, it is a wonderfully refined and highly detailed performer that is capable of a performance that is never anything less than completely believable. When asked to pick up the pace, it does so with an ability that nothing else in the group can match.

RESULTS AT A GLANCE



Make/model	Acoustic Energy AE1 Classic	Audiovector Ki3 Super	Focal Chorus 807v	Monitor Audio Gold GX50	Neat Motive 3	Opera Mezza
Price	£1,025	£800	£815	£950	£945	£850
Sound	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Build	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Ease of drive	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Value	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Overall	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Key features	A communicative and lively speaker lacking bass response and with uneven detail retrieval	A clever speaker that sounds cohesive and entertaining at a competitive price	A talented loudspeaker that lacks rhythmic engagement and needs careful positioning	A very accomplished speaker that shines with a number of genres but lacks a little excitement	An accomplished all rounder that sounds good across a wide variety of music	A very refined speaker that still manages to sound exciting when it's asked to
Bi-wirable	No	No	No	Yes	Yes	No
Ported	Twin, front	Twin, front	Single, front	Single, rear	Single, rear	Single, rear
Wood veneer	Yes	No	No	Yes	No	Yes
Piano lacquer	No	Optional	Optional	Yes	No	Optional
Wrap	Optional	Yes	Yes	No	No	No

TRY WITH THESE



INTEGRATED AMPLIFIER: Cambridge Audio 851A £1,199

The big Cambridge is a useful tool in group tests, thanks to the ease of level matching, but behind the impressive features is an amp with huge power reserves and a wonderfully balanced and involving sound that works well with a variety of speakers.

PRE-AMP: Musical Fidelity CLiC £1,399

Whether used as a piece of source equipment or as a preamp, the CLiC manages to combine impressive flexibility with real sonic ability across a massive variety of formats and thanks to a very good control app is also a real pleasure to use.



TURNTABLE Rega RP6/Exact £1,000

The Rega is a fit-and-forget option for those that are looking for a stunning turntable that effortlessly manages to combine convenience with superb performance and in doing so never fails to entertain.





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W9	40. 46. 55



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VT65	50. 55. 65
ZT65	60

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FT60	42. 47
WT65	47. 55



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F8000	40. 46. 55. 65. 75
F8500	46. 55



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WHAT IS IT? AWARDS 2012

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PIONEER • SC-LX86 • AV RECEIVER

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Also Available: PIONEER SC-LX76



WHAT IS IT? AWARDS 2012

£449 OR LESS

YAMAHA • RX-V673 • AV RECEIVER

This AV receiver meets all the popular needs including Apple AirPlay for wirelessly streaming music from any compatible device

Also Available: YAMAHA RX-V373 & RX-V473



£1999 OR LESS

YAMAHA • RX-A3020 • AV RECEIVER

Yamaha's range of AV receivers include many performance enhancing technologies and innovative features

Also Available: YAMAHA RX-A1020

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ARCAM • FMJ CD17 / A19 • CD / AMPLIFIER
 Arcam's new A19 integrated amplifier delivers 50W per channel and includes 7 analogue inputs, a MM phono input and is the perfect partner for the CD17 CD player



CYRUS • CD8 SE2 / 6A • CD PLAYER / AMPLIFIER
 With its impressive 40 Watts per channel and six analogue inputs, the 6a amplifier is a great partner for the award-winning CD8 SE2 CD player



NAD • C 546BEE / C 356BEE DAC • CD / AMP / DAC
 Enjoy music from your computer without musical compromise via the DAC or listen to music from CD with the MP3 / WMA compatible CD player.



ROKSAN • CASPIAN M2 • CD / AMPLIFIER
 The M2 amp boasts 85wpc and five line inputs while the matching CD features a 24-bit DAC plus dedicated power supplies for the outputs



DENON • CEOL PICCOLO • STREAMING SYSTEM
 Connect Apple devices via the iPod dock, front USB or by AirPlay. Stream music on your PC, NAS or from the internet. Or listen to online services such as Spotify and last fm.



AUDIOLAB • 8200CD / 8200A • CD / AMPLIFIER
 The award-winning 8200CD features a wealth of digital inputs that will keep it playing all your music regardless of how it may be stored.



MARANTZ • CD6004 / PM6004 • CD / AMPLIFIER
 This award-winning CD player and amplifier is the result of extensive research and development by Marantz's engineering team, under the direction of Brand Ambassador Ken Ishiwata.



NAD • C 516BEE / C 316BEE • CD / AMPLIFIER
 Received an outstanding product award from Hi-Fi News magazine who described the C 316BEE as an "absolute barn-stormer of an amplifier". The C 516BEE is the perfect partner



ROTEL • RA-10 / RCD-12 • AMPLIFIER / CD
 Award-winning amplifier from Rotel. Delivers 40 Watts per channel and includes a four line level inputs and a phono input. Ideal partner for the RCD-12 CD player



ONKYO • CR-N755 • CD / NETWORK SYSTEM
 Streaming music system featuring built-in access to Spotify and Last FM along with Internet radio from AUPEQI. Includes a CD player, 24-bit/192kHz DAC, FM/AM tuner and USB port



AUDIOLAB • M-DAC • PRE-AMP / DAC
 Award-winning DAC featuring a USB input with asynchronous data processing along with two coaxial and optical digital inputs. High-res 24-bit/192kHz music files can be played via its coaxial input.



CYRUS • STREAMLINE 2 • MUSIC STREAMING SYSTEM
 Based upon the same platform as the Stream XP2 but it comes complete with a high performance built-in stereo power amplifier. Optional n-Remote available.



MARANTZ • NA7004 • MUSIC STREAMER
 This AirPlay® compatible player lets you connect to all your favourite music, whether it's from your PC, external hard disc or as an FM / DAB radio station broadcast or even on the other side of the world via Internet Radio



NAD • M51 • DAC
 This award-winning DAC / pre-amp features optical, coaxial, USB and HDMI inputs, all of which can handle files up to 24-bit/192kHz. The M51 will truly transform any system



PIONEER • N-50 • MUSIC STREAMER
 Audiophile Network player supporting AirPlay® and DLNA wireless technologies, allowing you to stream music wirelessly from your iTunes libraries or iOS devices.



NAIM • UNITILITE ALL-IN-ONE STREAMING SYSTEM
 Comprises a CD player, MP3/iPod and USB memory stick playback, digital to analogue converter, high resolution 32bit/192kHz capable network stream player and integrated 50W amplifier in one sleek enclosure

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Real People

Our staff are friendly, knowledgeable and passionate about music and film and the equipment needed to get the most out of your collection. They will be delighted to assist you in making the right selection to ensure you enjoy your system for years to come.

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Fantastic value for money is our aim. Although we remain independent, you will be pleasantly surprised just how competitive we can be - with the added benefit of seeing, hearing and touching the product before you buy, and someone to help if things go wrong.

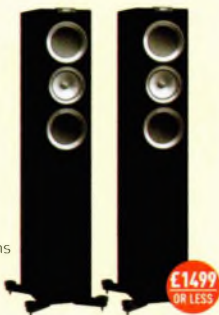
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BOWERS & WILKINS PM1

This luxury, compact loudspeaker is the latest in a long line of Bowers & Wilkins audiophile mini monitors. It offers an extremely high-quality audio performance and features several technological innovations including a new tweeter and groundbreaking cabinet design.

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TANNOY • REVOLUTION DC6T SE
Award-winning compact, floorstanding speakers featuring Tannoy's unique Dual Concentric™ drive unit along with luxurious real wood finish trapezoidal cabinets.



Q ACOUSTICS • CONCEPT 20
A truly remarkable new speaker which delivers a level of sonic performance previously only available to audiophiles able to invest in high-end models.

MONITOR AUDIO BRONZE BX2
Award-winning speakers featuring a 165mm C-CAM bass mid range driver and 25mm C-CAM tweeter.



PMC • DB1 GOLD SPEAKERS

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KEF • LS50

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PRO-JECT • DEBUT CARBON • TURNTABLE

With its Carbon armlube and supplied Ortofon 2m Red cartridge, the Debut Carbon sets new standards in its price range.



PRO-JECT • XPRESSION III • TURNTABLE

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REGA • RP1 • TURNTABLE

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SEVENOAKS

SOUND & VISION

Rip it up!

Last month's Bristol Sound and Vision Show saw the second annual *Hi-Fi Choice* high-resolution digital audio demo. Lord of the files **David Price** reveals all...

Right now, the way people buy, play and use music is going through a period of transition the like of which hasn't been seen since the advent of CD back in the early eighties. Many people are migrating to streamed music sources, and/or digital downloading, while many are seriously contemplating it. .

With this in mind, we decided to stage a follow up to last year's hi-res demo at the Bristol Sound and Vision show, this time focusing on streamed music via a home network rather than the 'Mac and DAC' approach. The object of the demo was to introduce a streamer and its associated components to readers, many of whom had little idea of how it worked, and demonstrate the sonic differences possible between standard CD-quality music and hi-res. The event proved a rip-roaring success, that raised as many questions as it answered!

The odyssey

The first question many people asked was, "why move to streamed music?" and the answer is: no-one's going to force you. CD is now in the twilight of its years, but it's still going to be around for a while and if you're a network music player refusenik, you'll not suffer too much by sticking with it. Moving to a networked music player should be seen as a positive thing offering you a wealth of extra choice over the quality of the music you can play – rather than a chore. But the general level

of confusion as to how to actually do it means that many see it as an onerous thing. One of the purposes of the demo was to show it can be done easily and inexpensively.

Another common query was, "if I decide to go ahead, how do I do it?" The joy of networked music is that it's largely format agnostic – with CD you're stuck in 1983 with 16-bit, 44.1kHz resolution, but with a streamer you can download hi-res files or rip 16/44.1kHz copies of your existing CDs, or both.

As it transpired, many were tempted by the hi-res side of things, but had practical worries about migrating their silver disc collections to computer hard drive (s). Many people I spoke to said they owned 100s of CDs and that it would take several days – or even weeks to do so.

There are CD ripping services such as Ripcaster or Podserve – but these are expensive (between 50p and £1 a disc) and people don't want to send their CDs away. The good news about ripping is that once you've

done it, you don't need to do it again. Or rather – you shouldn't if you back your data up! This is of course essential. Should you wish to do it manually, the choice of the cognoscenti is dBpoweramp, which can be found online at: www.dbpoweramp.com.

File formats

As for the best format to rip music into, there was some disagreement. The purest format is WAV as it needs the least amount of processing, but FLAC is easier to handle as it provides metadata (artist, album name, artwork etc). It also offers a reduction in the amount of disc space taken, without removing any data from the file itself; it compacts the data rather than compressing it. Some claim that FLAC sounds identical to WAV, but in my experience there's a slight loosening of focus to the sound. Just as Apple's Lossless codec looses that last half a percent of sweetness and openness, so does FLAC.

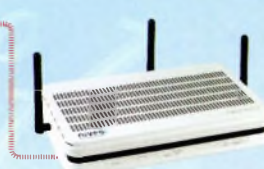


Other options are available, but for DP the streamer of choice is the Chord DSX 1000

THE SYSTEM



Chord DSX 1000 streamer £7,000
Brand new state-of-the-art streamer controlled by supplied remote and Apple iPod Touch running 8Player.



Niveo Professional NWAR33P router
Robust wireless router connecting DSX 1000 and NAS via Ethernet cable, and giving network for iPod touch remote control



WD My Book Live £100 (2TB)
Excellent affordable network attached storage hard disk for storing music. The 3TB version costs just £50 more.



Atlas Mavros cables £750
These high quality copper XLR interconnects and speaker cables (single-wired) give a fast, musical sound.



Chord CPM 3350 integrated amplifier £8,550
Superb quality one-box amp pushing out 2 x 220W RMS per channel into 8ohms. Glass-clear sound, oodles of detail.



Monitor Audio GX200 loudspeakers £2,300
Super compact floorstanders with metal-coned mid/bass units and ribbon tweeters, giving very clean and open sound



AC mains

IsoTek EVO 3 Aquarius power conditioner £1,200
Mid-priced, six-way mains conditioning component, offering filtered and isolated mains outputs; great for noisy mains!

The streaming system

Now you need a streamer. For our demo we chose the new Chord DSX 1000 – a beautifully built, brilliant-sounding design that sells for £7,000. It's worth pointing out that the Chord is based on the StreamUnlimited platform. This is a very stable streaming engine that gives great results and boasts an easy to see colour screen display. There are other more affordable products based on the same platform, such as the £1,400 Musical Fidelity M1CLiC, which works in just the same way.

This is connected to your router; for almost everyone this isn't an additional cost, as we've almost all got broadband internet anyway.

Interestingly, you don't need to connect your router to the internet. So even if you're not online, you can still run a network-based music system. The router simply acts as a connecting 'node' for the third bit of kit you'll need – your network attached storage (NAS) device. This is simply a hard drive in a box; it plugs into the router and your streamer plugs into the router.

For the purposes of the demo, we used a WD My Book Live (£99 for 2TB), which is a great 'plug and play' device with media server software built in. All you need to do is to copy your music files to it, and the streamer will see them and be able to play them. One nice thing is that you don't need to keep this,

or indeed the router, anywhere near your hi-fi system; only the streamer needs to be close (as you'll need to plug it in with RCA or XLR interconnects). The NAS drive can sit in a cupboard or under the stairs, connected to the router by Ethernet cable. We'd also recommend the router is wired to the streamer too; the Chord only works this way but cheaper streamers often come with Wi-fi. This is convenient, but doesn't sound quite as good.

The Chord comes with a swanky remote, and has front panel transport controls just like a regular disc spinner, so no other controllers are needed. However, if you have an Apple iPod touch, iPhone or iPad – or equivalent Android devices – you can use it to control the system even more easily. The app that we used is 8player (<http://o8software.com>), which is a £4 download at the iTunes store. It gave very stable, easy control of the Chord streamer, and should work with most other network players.

For me, this is where a streaming system really begins to romp ahead of a conventional CD. True, the CD player is easier to unbox, switch on and get going, but a streamer offers the ability to play pretty much any file you want at any resolution (including CD of course), and to access it via a smartphone or tablet – so you can scroll through thousands of tracks and call up the one you want to play without leaving your chair. Last but not least, there's the enjoyment of hearing high-resolution versions of recordings you've only previously been able to hear at CD-quality before – and this was the heart of our hi-res demo.

Hearing is believing

We ran 20 minute listening sessions, playing four recordings at different quality levels. Just to make a point, I'd start with a burst of a 128kbps AAC file, representative of the sort of thing you'd get from the iTunes music store. Then I played the same recording as a 16/44 FLAC, ripped in dBpoweramp from the latest version of the CD. Lastly, the same piece of music in hi-res, at 24-bit, 88.2kHz resolution.

The first tune was Miles Davis' *So What*. The listeners all agreed the AAC version was poor, many talking about it as sounding like "a cardboard copy of the music" or "just plain terrible". Moving to the CD-quality FLAC things got much better, with our listeners beginning to immerse themselves in a far more three-dimensional sound. Suddenly the trumpets hung back, and the soundstage widened. But it wasn't until the 24/88 file had been played that the tune sounded right; people said it was "a bit smoother and more open", "more lifelike" and closer to how they remember it on vinyl.

With the first track, most listeners said the move from AAC to CD-quality was larger than from CD-quality to hi-res. But with the next track, recorded some 15 years later at state-of-the-art Abbey Road studios, things changed. Pink Floyd's title track from *Wish You Were Here* sounded pretty rosey on AAC, and it was clear that CD-quality really improved on it. But still, most listeners felt CD was "pretty poor", sounding closed-in and a little hard and steely. Admittedly it's not as sumptuous a recording as the Miles track, but some folk on the front row

THE MUSIC

Miles Davis – *So What (Kind of Blue)*



Released back in August 1959, this three-track recording was made at Columbia Records' 30th Street New York studio, and was done in two sessions with – reputedly – very little

rehearsal. One of the most famous jazz records of all time, its commercial success is thoroughly deserved. Even now it sounds superb, although it's a little soft and hissy, especially via hi-res.

Pink Floyd – *Wish You Were Here (Wish You Were Here)*



The ninth studio album by England's finest progressive rock band, this September 1975 release was made at EMI's Abbey Road Studios, London – one of the best recording

facilities in the world. The album took over half a year to put down on tape and used sophisticated studio wizardry and effects. By today's standards it still sounds very fine, although lacks ultimate scale and transparency.

David Bowie – *Ashes to Ashes (Scary Monsters and Super Creeps)*



Released in September 1980 via RCA Records, this lead single is from the first album following Bowie's so-called Berlin Trilogy of *Low*, *Heroes* and *Lodger* (1977–1979).

Recording was done at The Power Station in New York, and co-produced by Bowie's great collaborator Tony Visconti. Sonically it's better even than the Pink Floyd song, but you'd never really know until you play the hi-res version.

looked positively pained! The 24/88 version was altogether much nicer though, everyone agreeing that the stage depth was dramatically improved, and the hardness of the CD (and iTunes) versions had gone. Suddenly you could hear right into the recording, and begin to get a sense of the emotional poignancy of the song.

Next on was David Bowie's early eighties odyssey, *Ashes to Ashes* from the *Scary Monsters* album. The AAC was pure torture, so we didn't dwell on this long, but surprisingly the CD-quality sound was relatively poor, too. It was clanky, steely, brittle and muddled; Bowie's vocal layering through the bridge of the song was unintelligible. Via 16-bit, you'd be forgiven for thinking this was a grim recording, it really was that bad. But moving to the hi-res produced smiles on people's faces, and a sudden air of relaxation in the room. Amazingly, some instruments in the mix dropped back quite a way, the hi-res version setting up a wonderfully expansive recorded acoustic. Bass got fuller, cymbals sweeter, and percussion sounded less forceful, yet far more rhythmic – and Bowie's vocals hovered majestically in space, never descending into muddle. Many listeners were quite flabbergasted by this transformation, using



DP welcomes visitors of the Bristol Sound and Vision show to his heavenly hi-res hangout

words such as “amazing” and “awesome”. I asked each audience at the end of the Miles Davis and Pink Floyd tracks whether the improvement they'd heard would tempt them towards hi-res; usually about half the group would say yes, but this time everyone answered in the affirmative.

The debrief

The message from the listening was clear; some hi-res music files are better than others – all are not blessed with a uniformly high level of pristine, glistening fidelity. That's because they can only be as good as the original recording, of course – something that owners of decent vinyl systems know all too well. Still, even if a hi-res file such as the vintage Miles Davis recording doesn't have amazing bandwidth, power and punch, hi-res will still make it sound more musical, lyrical and – well, you know, natural.

Overall, everyone who took part in this event was pretty categoric about the findings. One: iTunes sounds awful and if you think it doesn't then you're fooling yourself or not used to the sound of real music. Two: CD-quality FLAC was variable, but the better the recording got, the worse it seemed to do; at best it was listenable, at worst it was downright unpleasant on the ear. Three: hi-res always sounded better, but by different amounts depending on the quality of the original recording. Interestingly, it didn't always sound more impressive but it did always sound more natural, with a nice, easy rhythmic flow. Some vinyl users opined that it still didn't hold a candle to their LP systems, but also added they'd be happy to listen to hi-res, but not to CD. Seconded!

The tests threw up a few issues though, the first of which was compression. When moving from the CD-ripped file to the hi-res, I had to turn up the volume level a bit to compensate for the compression on the 16-bit recording. This was apparent on all the recordings we compared, and rather depressingly underlines

the amount of monkeying around that sound engineers do in their so-called 'remastering'. While it might impress cloth-eared *Q* magazine album reviewers, it doesn't do audiophiles – or indeed the music itself – any good whatsoever. So another, unexpected benefit of hi-res is that you don't have to listen to level compression, whereas on most modern CD reissues, tragically you do!

Finally, the vexed question of “where do you buy hi-res files from?” reared its ugly head. The answer is – at the moment – it depends on the artist. Right now, we're at a stage where (rather like SACDs and DVD-As a decade ago), you have to go and search for it. Happily, Linn Records is now selling a number of Universal Music titles – from Bob Marley to Steely Dan and Rush, plus a useful amount of classical, too. B&W's Society of Sound continues with some interesting releases, not least those from Peter Gabriel. Naim Label, Hyperion and others are also doing their bit. But after that it's down to the individual artists themselves; everyone from The Beatles to Kate Bush have hi-res versions of their music on sale. There's still a relative paucity of top-quality digital music available right now and, although things are improving, it's still happening at a snail-like pace.

Overall though, hi-res music hardware and software is cheaper and easier than it's ever been, and more and more people are making the move to digital streaming. As this event showed – there's enormous potential in this way of listening to music, and a lot of people have noticed and are actively considering it ●

THANKS TO:

Thanks to: Colin Pratt of Chord Electronics for his great help with the preparation of this event, and for the loan of the equipment. Also, a big cheers to KEF, Hi-Fi Racks, IsoTek and Quadraspire, too!



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Jumping Jack

Arcam's latest FMJ A19 is one affordable integrated amplifier that likes to party. **David Price** dusts down his glad rags...

One fateful moment back in 1984, when A&R Cambridge product planners were wondering where next to take their excellent and hugely popular A60 amplifier, someone had the bright idea to make the 'Arcam' Alpha. As well as the shortened name, it introduced a new design language, with a moulded gunmetal grey fascia and a taller case, plus a new price point of under £150. It seemed radical at the time, not least because the company had traditionally been very much a higher

end brand. But the Arcam Alpha set the template for a series of fine 'affordable' amplifiers, of which this FMJ A19 is the latest and (so Arcam reckons) greatest.

Selling for not too dissimilar a price – if you factor in the passing of time and the ravages of inflation – the A19 wears its 28 years of development well. The guys at Huntingdon have obviously done more than scratch their noses over the intervening decades, as here we have a beautifully styled, built and finished product that is to the Alpha what the

► DETAILS

PRODUCT: Arcam FMJ A19
ORIGIN: UK
TYPE: Integrated amplifier
DIMENSIONS: (WxHxD) 432 x 275 x 85mm
WEIGHT: 8.5kg
FEATURES:
• Alphanumeric display
• MM cartridge input
• Preamplifier output
• Headphone output
• 7 x RCA phono line inputs
• Quoted power output: 2 x 50RMS into 8ohms
DISTRIBUTOR: Arcam
TELEPHONE: 01223 203200
WEBSITE: arcam.co.uk

latest Apple Mac is to an Amstrad 2086. In every aspect from ergonomics and connectivity to power and performance, here we have proof that progress is a good thing. This new Arcam amplifier is an extremely slick customer.

Phono stage

Who'd have thought that nearly 30 years later Arcam's latest amplifier would have a phono stage? But there it is, a moving magnet one. For those that don't require such a thing pressing the phono and balance buttons together toggles between phono and line level settings.

There's a headphone output too – via the portable-oriented 3.5mm mini-jack, with what's said to be a completely new circuit designed to drive it. It automatically mutes the loudspeakers, but the alphanumeric front panel display duly informs you that it's now playing out through your cans, lest you wonder why the speakers have gone quiet.

In addition to no less than seven pairs of RCA phono inputs around the back, there's a front panel mounted 3.5mm socket for iPods and

some rivals. Good quality passive components are specified, and the chip-based Class AB power output section pushes out a claimed 50W into 8ohms. The amp comes in a charcoal grey finish, and an Arcam CR108 remote control is supplied.

Sound quality

Arcam has been making fine-sounding affordable solid-state amplifiers for many years and the FMJ A19 isn't a radical change of direction. It's a quintessential Waterbeach product, possessed of a big, generous – almost rich – bass, a nicely wide and musical midband and a sweet, smooth top end. Sometimes Arcam amps are a little smooth for their own good, tending to polish some of the music's rhythmic drive out of the recording, but happily the A19 isn't guilty of this. Indeed, I'm quite surprised by its overall enthusiasm for the job in hand.

Feed this little amplifier with a big, pulsating slice of reggae for example – in the shape of Linton Kwesi Johnson's *Bitch Dub* and even through Spondor D7 loudspeakers (which at £3,500 are more expensive than you'd typically partner this amplifier with), the Arcam gets stuck in. It shows itself to be able to project an unusually wide soundstage at the price, further augmented by that characteristically sumptuous low end that Creek and Cyrus rivals lack. At the same time, things don't submerge into a sea of low frequencies, as the amp keeps a grip on things happening further up the audio band. It is great with the song's percussion work, serving up some deliciously crisp rim shots and a brilliantly believably hi-hat sound.

Although it gives the impression of having far more power than its rated 50W output figures suggest – and will certainly out-drag the Cyrus 6a in the loudness stakes – it is, of course, mortal and won't knock the house down. But impressively, even pretty close to full tilt the FMJ A19 stays graceful yet dynamic, with little signs of it sitting on transient peaks and/or losing its wig. This is a natural boon with the classic reggae strains of LKJ, but you also feel the benefit

on atmospheric rock music such as Roxy Music's *More Than This*. Once again it throws out a cathedral-like expanse of sound, capturing the gliding backing synths and gently riffing electric guitars beautifully behind an almost ethereal vocal from Brian Ferry. At the same time, even at high volume levels, there is little sense of the drum or bass guitar tracks losing the fight – things staying tight, punchy and always in control.

Rhythmically, Kraftwerk's *Tour de France Soundtracks Etape 3* is a pretty stern test of any amplifier's grip of a loudspeaker, and the Arcam impresses in many ways. While it proves so generous low down that at high levels one was often on the verge of thinking this is going to end in tears – with the amp descending into a gloop of low-frequency chaos – actually it never

Arcam has put together an expertly packaged device offering the right amount of power and features

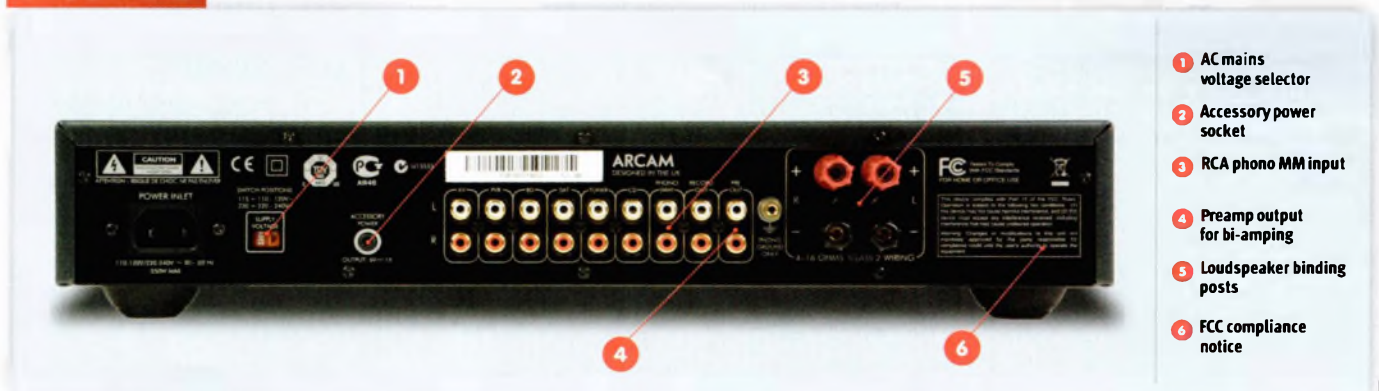
does. At the same time, it shows great spirit in the midband; it lacks the forensic insight of the Creek Evolution 50A here, making everything sound just a little more diffuse and out of focus, but still musically it is never less than totally coherent. While the Creek is definitely tighter, crisper and more detailed, I'm not sure it is quite as nice to cuddle up with the music to.

Cueing up some classic eighties rock in the shape of REM's *Near Wild Heaven*, the FMJ A19 again shows its mettle, providing a widescreen sound with a gutsy bottom end and plenty going on further up. Again, I find this to be a detailed amplifier well able to resolve the subtleties of this clean analogue recording, although it doesn't bristle with low-level information like the Creek Evolution 50A can. Nor is there the latter's dynamic prowess, the Arcam sitting on the very loudest crescendos just a tad more than it should. But funnily enough I still find myself beguiled by this product in a way that the Creek doesn't quite manage – it has

their ilk, plus a pre-out and record outs on the back panel. The latter is a relatively crowded affair as £650 integrated amplifiers go, and unusually sports a 3.5mm mono jack socket for the accessory power cable; this gives two 2.1mm DC jacks to power Arcam's rLink or rBlink accessories.

Under the hood, the FMJ A19 follows the company's best practice with the obligatory well-specified toroidal transformer, cleanly laid out boards and neat wiring, all set onto a resonance-damped chassis that certainly doesn't rattle with the carefree abandon of

CONNECTIONS



Q&A

Nick Clarke

Chief Engineer, Arcam



DP: What type of buyer is this amplifier aimed at?

NC: Anyone that wants a high-quality amplifier but wants to choose what new world features they want to add (if any) so they're not paying for things they don't want.

For example, if the end-user wants to have a USB input, but not SPDIF/optical digital input he can simply add an rPAC. If that situation is reversed the end-user simply adds the rLink to provide SPDIF/optical input – the rLink can even be powered from the integrated supply. The internal supply can also run the new rBlink BTDAC.

What extra functionality does the new FMJ A19 offer compared with its predecessor?

The FMJ A18 had a fixed phono input. This was made switchable in the FMJ A19 as, although many users still enjoy vinyl, this allows the non-vinyl user to make use of the input or a keen vinyl user to add an off-board phono pre-amp. There is an auto standby for prolonged periods of inactivity to conserve power, and when in standby it consumes less than 0.5W current.

The 6V rSeries output also allows convenient addition of rSeries products as mentioned above, which also provides a great PSU upgrade for the existing rDAC. The MM input can be switched to a line input (and defaults as line for safety to prevent accidental connection of a line-level source).

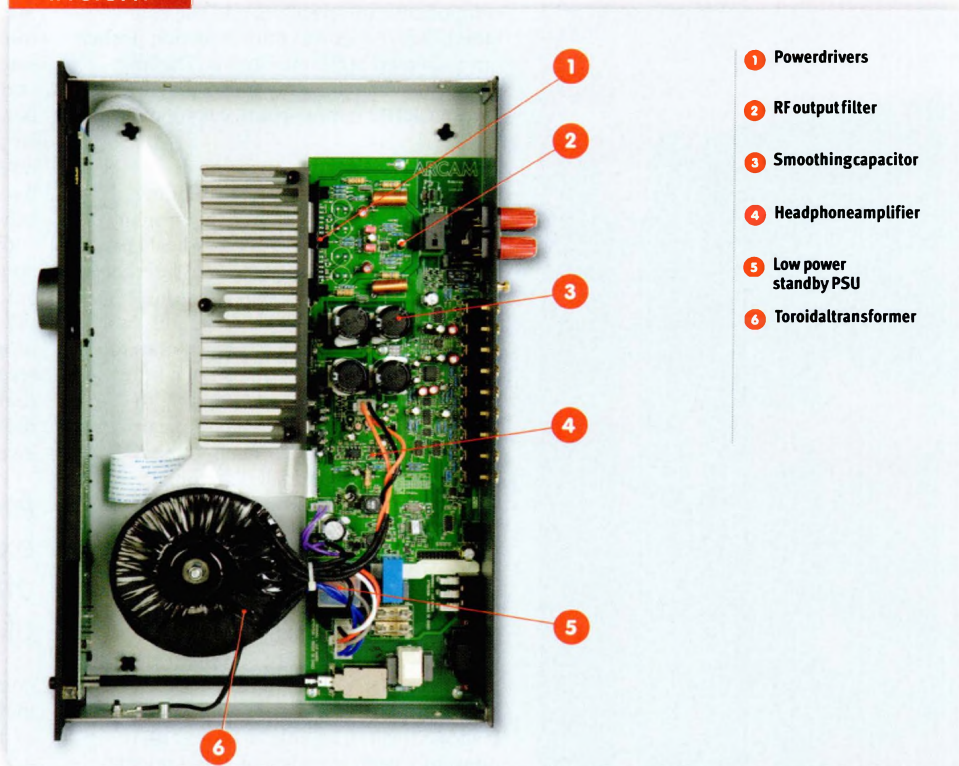
What are you most happy about, with the design of the FMJ A19?

The sound quality would be the thing we are most happy about and we strongly feel this is the result of good, careful engineering.

Is there anything you'd do differently to the FMJ A19 if you were designing it again from scratch?

What would we do differently if we started again now? We would add a higher power 12V output for the upcoming irDAC & airDAC products. The reason this isn't on the A19 is these products were not in development when the A19 was finalised.

IN SIGHT



- 1 Powerdrivers
- 2 RF output filter
- 3 Smoothing capacitor
- 4 Headphone amplifier
- 5 Low power standby PSU
- 6 Toroidal transformer

HOW IT COMPARES

THE ARCAM arrives in a very competitive arena. The Creek Evo 50A has an extremely mature, composed, detailed sound that gives away very little to many pricier products. Meanwhile, the Cyrus 6a isn't quite as polished or powerful sonically, but still makes music sound great. The Arcam is tonally richer and warmer than both; some might find it a little too fulsome in the bass, although most people run pretty lean sounding budget sources or speakers so it could prove a better match to 'real world' systems than either the Creek or Cyrus. The FMJ also has a lovely 'widescreen' soundstage which neither can match, although the Creek outdoes both in depth perspective – ultimately it's the more neutral of the two (and betters the Cyrus here too).

the fluidity and lyricism of a good valve amp, which is something I don't always write in an Arcam amplifier review! I'd go as far as saying it's a dramatic improvement over the company's earlier offerings at this price point, in this respect.

It is only with classical music that the Arcam sounds anything but fabulous. An Esoteric SACD of Mozart's *Piano Concerto No.20* (Curzon, English Chamber Orchestra) that I've tried with the Creek recently is beautifully rendered for sure, but noticeably less accurately all the same. Here, you can tell how the Arcam is a less transparent device, as it flattens the recording's depth perspective somewhat, giving a wide but slightly flat profile to the orchestra. Likewise, piano lacks a purity of tone you'd expect to hear from a more expensive amplifier, sounding opaque and processed. Nor is there that 'inky black' backdrop to the notes you get in some more expensive designs; there is a slight diffuseness to things and a lack of air up top. Still, that's not to say the FMJ sounds bad, for it does not. Quite the reverse in fact; it lends a velvety smoothness to strings which screech through the Pioneer A-70, gives the cellos even greater body than even they'd concede they need, and makes the general musical event highly

enjoyable. You can nit-pick all day, but still this amp's innate musicality will charm you.

Conclusion

This amp faces tough competition from several recently refreshed models, but still has little to worry about. In the FMJ A19, Arcam has put together an expertly packaged little device offering the right amount of power and features, and a wonderfully musically engaging sound with a rich tonality that will suit budget ancillaries. Of course, it's not without its faults but those are of omission – it's not quite as detailed or dimensional as the best of the rest – and its strengths are compelling. It's guaranteed to get the joint jumping! ●

Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Genuinely musical sound; sumptuous tonality; useful features; fine build and finish
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Big bass won't suit boomy speakers
- BUILD QUALITY** ★★★★★ **WE SAY:** Surprisingly capable, affordable integrated amp that's up with the best at the price
- FEATURES** ★★★★★

OVERALL



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by Pro-Ject



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designed by David Shaw

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Our LA5tx uses a very simple high quality valve circuit to drive the transformer. This way the source unit is always looking into an easy high impedance load. And the transformer has a low impedance output enabling it to drive any type of power amplifier load, balanced or unbalanced, regardless of load conditions. In other words completely buffered with all the advantages of a conventional pre-amplifier and pure transformer.

Needless to say a lot of effort has gone into the design of our audio transformer. Obviously it demands the finest copper and best type of iron laminations, but the method of winding and ratios used play a vital part in getting the correct sonic signature. Hundreds of hours were spent listening and many prototypes were made before we could say it has the "David Shaw" sonic signature.

The Result: A golden sound like no other, warmth and detail presented in a very focussed way that reveals the sound stage in uncanny detail. Totally without harshness or any mechanical quality. It has the ability for listening for long periods without fatigue or boredom. Guaranteed to work well with virtually any high quality power amplifier, Valve, transistor or hybrid.

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All of our amplifiers are designed and finished in Leicester they are commissioned and serviced by the people that designed them so you can be sure of our quality control and long term performance. All our amplifiers are hand made using "point to point" soldering without using printed circuit boards. We are convinced this sounds better. It also allows for easy servicing, upgrades and modifications. Remote controlled volume is useful for fine tuning your listening level to match your taste. High quality components are used throughout including an "ALPS" volume control, silver plated PTFE audio cable SBC capacitors and audiophile resistors. A valve rectifier with choke regulated power supply adds a richness to the sound quality that silicon devices alone are unable to do. Tape and other methods of recording and playback are catered for by the "Tape Monitor". Also useful for Home Cinema applications.

From £2,499.95 (inc 20%VAT) Upgradeable. See our other award winning amplifiers on our website



Turning the tables

ISOKinetik has recently launched a new turntable – the Modular 1.5. **Neville Roberts** is the lucky one taking it for a spin...

ISOKinetik is a name that has been around for a few years. The company first earned an excellent reputation for its enhancements and upgrades to existing audio products, in particular record decks. Its design philosophy is simple: “If it sounds better, it is better!”. Later, it went on to produce its own turntable, the Modular One. Now it has added a second turntable to its range – the Modular 1.5, which is also available as an upgrade to the Modular One.

The Modular 1.5 is designed to be fully customisable and upgradable so

that it can be built according to the user’s budget and personal taste. It can be purchased with a full range of enhancements and upgrades fitted, or it can be supplied as an entry-level unit, which can then be upgraded in stages, as funds permit. The Modular 1.5 can be supplied on its own or complete with a Jelco or an OEM Rega arm. The end result, it is claimed, will compete favourably with more expensive competitors.

The black plinth looks superb and is CNC machined from highly polished 20mm thick billet acrylic. This plinth is essentially the Modular One

turntable and it is upgraded to the Modular 1.5 by adding the M1.5 sub-plinth, which is also made from 20mm-thick acrylic, and supported by four dense absorbothane anti-vibration pads. The feet are machined from Delrin and also have absorbothane anti-vibration pads built into them. Absorbothane is great at absorbing vibrations and has superb anti-slip properties. In fact, it feels quite sticky to the touch (even though it isn’t) and tends to adhere firmly to any smooth surface, making the unit rather difficult to move.



DETAILS

PRODUCT:

ISOKinetik
Modular 1.5

ORIGIN: UK

TYPE: Turntable

FEATURES:

- Upgradable design

- Removable tonearm transfer plate

DISTRIBUTOR:

ISOKinetik

TELEPHONE:

0208 241 8890

WEBSITE:

isokinetik.co.uk

Spinning around

The turntable bearing assembly is made from phosphor-bronze and incorporates a ceramic ball. It is fitted to an aluminium and ground-steel sub-platter, which is engineered to exacting tolerances with 0.001mm concentricity between axle and hub.

A high-quality asynchronous motor spins the platter at either 33rpm or 45rpm. Like many other turntables in its class, this speed change is accomplished by moving the drive belt on the pulley. However, better results are achieved by using the ISOdrive quadrature-quartz speed

platter and the ISOdrive off-board turntable power supply. The ceramic ball in the bearing assembly has also been upgraded with the ISObear Ruby Sapphire bearing ball. For the purposes of the review, I fitted my own Kiseki Blue NOS moving coil cartridge into the arm.

Incidentally, the ISOdrive is an external power supply that takes your noisy 240V AC mains, converts it to a 24V DC, uses this to power a quartz oscillator to produce switchable 50Hz or 67.5Hz and then steps the result up to 115V AC to run the synchronous motor. The drive belt can then be left on the upper 33rpm pulley as depressing the button on the front of the ISOdrive changes the indicator LED from red to green and increases the oscillator frequency from 50Hz to 67.5Hz, thus increasing the turntable rotation to 45rpm. As with all the other upgrades, the ISOdrive can be fitted later to the base model turntable by swapping a little printed circuit board without having to change the motor.

As previously mentioned, the turntable is beautifully finished and it is very apparent that everything has been manufactured to an extremely high standard. The style is simple and uncomplicated and looks very modern and elegant with just the right use of black and transparent acrylic with splashes of silver aluminium around the motor pulley assembly. The turntable is no lightweight, weighing in at around 10.5kg, which rises to 13.5Kg when you add the ISOdek isolation platform.

Sound quality

As it is relatively easy to install the M1.5 sub-plinth upgrade onto the Modular One turntable, I was able to make direct comparisons between the two options.

First to be rotated is an excellent recording of Vivaldi's *12 Concerti, Op.7* with Salvatore Accardo, Heinz Holliger and I Musici (Philips 2 LP boxed set 6700 100). The only thing I can say is: "Wow"! The first thing to hit me is the imaging – the instruments' positions are crystal clear. There is also far more detail apparent in the quieter sections. The sheer, stunning realism of the

performance is superb and extremely captivating, making the music never less than completely compelling.

Because I have a feeling that the sub-plinth is doing a great job of absorbing and isolating vibrations from the main plinth, I decide to try out something with loads of bass – some J S Bach organ music! My recording of Michael Murray playing Bach's *Fantasia and Fugue in G minor* on Telarc DG-10049 fits the bill perfectly. The bass reveals itself to be super-tight but not overly restrained. The overall performance feels effortless and even when my woofers are blowing a gentle breeze in my direction during the crescendos, my system feels like it has a lot more to give.

Next up for a change of pace I decide to give the M1.5 a taste of jazz. I opt for a recent addition to my collection, which is one of the better recordings of Miles Davis' *Kind of Blue* on CBS 62066 – the 1960 stereo issue from Columbia Broadcasting Systems. Although this stereo release is guilty of playing 'sax on the left, trumpet

The top end shows a noticeable improvement with the M1.5 compared with the Modular One

in the middle and drums on the right', it nevertheless is a fantastic analogue recording that has huge presence and dynamics. Once again, the M1.5 reveals all of the innate beauty of the recording. In particular, the hi-hat on *All Blues* (or "*All Blue*" as it's printed on the disc label) is extremely clear and crisp – something that is very lacking on the CD and digital versions I have heard of this recording, I might add. In fact, the top end shows a noticeable improvement with the M1.5 compared with the Modular One and this is something I was not expecting. Also, the bass is tight and in perfect proportion.

Changing pace a touch, Laurent Garnier's *Tales of a Kleptomaniac* is similarly rendered in an effortless fashion. In particular, the

generator turntable motor drive system as an upgrade to bring greater pitch stability and speed accuracy, as well as a push button speed change facility.

One of the particular features of the design that I find especially useful when reviewing audio equipment is the tonearm transfer plate. This is a removable rectangular plate that's just 10mm thick and fitted neatly into the plinth and secured by four Allen bolts. This allows the user to fit almost any tonearm to the turntable. It also facilitates the comparison of various combinations of tonearm and cartridge which, once mounted on a transfer plate, are simply dropped into place. Changing a tonearm that has a completely different mounting arrangement simply involves obtaining an additional tonearm plate from ISOKinetik (which can be pre-drilled as required), meaning that no additional modification to your precious turntable is necessary.

The basic model is supplied with a 12mm diamond polished acrylic platter, which is said to have a neutral character. Upgrades include a 25mm-thick acrylic platter, or platters made from Delrin or ply materials, together with a number of colour options.

The model reviewed here has all the upgrades fitted, including the ISOdek S1 clear acrylic isolation platform, the ISOsub GT2 S sub-platter, the 25mm clear acrylic



The ISOdrive power supply has a button to change from 33 to 45rpm

Q&A

Karl Smith

ISOkinetik managing director



NR: What made you decide to develop your own turntable in this very competitive market?

TL: As sound engineers, we are constantly trying to get the best possible sound. ISOkinetik's initial goal was to develop a turntable that would have a real-world price tag and go some way towards sounding as great as the models we owned.

While developing our initial offering, the Modular One, we used our components to upgrade some of the turntables we had loved and then offered them for sale. The basic products, like the ISOsub GT 2S – available for a modest sum – can transform the already great Rega P3, bringing musical performance way above the combined price of the turntable and upgrades. The result is new life is breathed into the music lover's turntable, bringing more of the music without huge expenditure.

What do you think makes the Modular One and 1.5 unique?

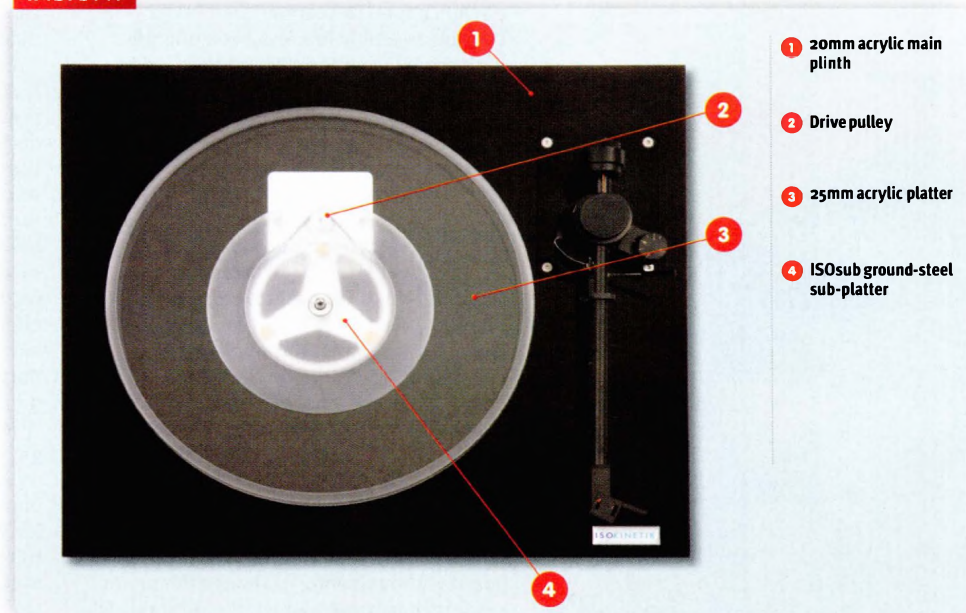
The Modular One base model starting at £550 and the 1.5 are the first of three Modular turntables designed to perform well at multiple price points. A user can buy the turntable in various specifications to suit their budget and even the base model can be improved through a clear upgrade path as funds permit. The turntables are unique as they are designed to be customised in terms of their performance and cosmetic appearance.

What else is on the horizon?

We are constantly developing products for improving turntables and have a number of products close to release, including isolation feet for the Technics 1200 family and for Rega and Linn Systemdek as well as some new precasts suitable for the Linn LP12. There will be a few new cables and isolation platforms, too.

The next turntable platform, the Modular Two, is testing now and we hope to release it soon. We are close to releasing the Modular Classic and in the meantime, work is continuing on our statement turntable.

INSIGHT



HOW IT COMPARES

COMPARED WITH A similarly priced Rega RP6, the Modular 1.5 is a sturdier unit and feels more solid. The RP6 includes an RB303 tonearm and benefits from a high-stability crystal, locked power supply for the motor. The M1.5 can support a wide range of tonearms that are available separately and a quartz-controlled speed generator turntable motor drive system is available as an upgrade.

The M1.5 has far better isolation and damping and benefits from the tonearm transfer plate feature. The RP6 is supplied with a glass platter while the M1.5 has a 12mm clear acrylic platter, with 25mm platters in either clear or black acrylic available as an upgrade. The argument over whether glass or acrylic platters sound best is down to personal taste.

In the end, it is the flexibility and upgradability of the Modular One range that, coupled with the superb engineering, makes it a winner for me.

massive techno bass achieves incredible control and tightness without any sense of being unnecessarily restrained. In fact, when I move from my listening room to my study to make a few notes, I can hear the metal filing cabinet in the study vibrating in sympathy with the heavy bass beats emanating from the other room.

As with any other recordings I throw the Modular 1.5's way, the top end is transparent, open and in perfect proportion with the rest of the music.

Switching to the Mobile Fidelity Sound Lab MFSL 1-107 half-cut master recording of *Money* from Pink Floyd's *The Dark Side of the Moon* (the term 'half-cut' refers to the master disc being cut at half speed and not, as far as I'm aware, the alcoholic state of the recording engineer) produces a very musical bass guitar, while the infamous cash registers in the opening section glitter with clarity. The vocals, meanwhile, are clear and their slight raspiness is perfectly reproduced.

Finishing off with a full orchestra – Rachmaninov's *Piano Concerto No. 2* played by Dmitri Alexeev and the RPO on EMI Eminence EMX 2042 – is rendered in all its splendour. Impressively, the piano is never swamped by the orchestra. Excellent front-to-back imaging is also very evident with this recording and the deck, tonearm and cartridge are clearly working together well in order to unpick the complexities of the music and reproduce the subtle nuances impeccably well.

Conclusion

All of my earlier reservations about the use of absorbothane as an absorbing and damping material because of its tacky feel, are completely dispelled after my listening trials (however, its stickiness can be a bit of a pain when attempting to move the unit). The Modular 1.5 builds on the Modular One (literally) and gives a performance that lives up to its elegant and refined appearance and styling. A series of excellent features, such as the tonearm transfer plate, make modification and upgrade a breeze. Attention to detail in the design and manufacturing processes ensures that all of the individual elements of the unit and its upgrades blend together perfectly.

The Modular 1.5 is a top-class performer that is good value for money. Now the company is promising a Modular Two turntable will follow – watch this space! ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY



VALUE FOR MONEY



BUILD QUALITY



FEATURES



OVERALL



LIKE: Build quality; tonearm transfer plate; well-controlled bass; superb imaging

DISLIKE: Inherent 'stickiness' offset makes it difficult to move

WE SAY: Top quality turntable that delivers looks and sound quality

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Space oddity

Heed Audio's new Canalot is either a nod to the future or a one-off oddity – **Ed Selley** takes a look at the DAC that does things differently

Not content with bouncing back from extinction, DAC's have been assuming the functions of other products of late. First, they started sprouting headphone sockets, and thus a volume control. Then the volume control began to control the line output as well as the headphone socket, creating a digital preamp. Now, Heed Audio has launched a product that approaches this from the other direction. The Canalot headphone amplifier can now be specified with a DAC board creating a small, but impressively multi-functional device. This is the full-spec version with USB and is yours for £1,250. A cheaper model with only the analogue input is also available.

Due to the limited number of inputs, the Heed is multifunctional but also rather minimalist. You have a choice of coaxial and USB digital inputs but as these select by detecting

voltage, you cannot have both at the same time. You also have a single analogue input. Unless you start adding boxes with input switching elsewhere, the Heed is effectively a two input device. This need not be the end of the world – I generally only have one digital and one analogue source but there are models available at similar price points that offer more connection options.

One area where the Canalot is well specified is in headphone outputs. The front panel features a pair of 1/4in jack connections rather than just the one, which presumably allows audiophiles to involve their partner in some silent mutual appreciation. Quite how often this happens is open to debate but it might make somebody happy. The jacks both share the same volume control, so if you are going to use them at the same time headphones of similar sensitivity are advised.

▣ DETAILS

PRODUCT:
Heed Canalot
Origin:
UK/Hungary
Type:
FM/DLNA/
Headphone amp/
preamp/DAC
Weight:
1.4kg
Dimensions:
(WxHxD)
72 x 95 x 25mm
FEATURES:
• Two 1/4in
headphone
outputs
• RCA Output
• Optional DAC
board with
24/192kHz
USB input
• Single analogue
line input
• AIFF, WAV, OGG,
FLAC and ALAC
support
DISTRIBUTOR:
RPD Distribution
TELEPHONE:
01242 547663
WEBSITE:
heedaudio.co.uk

The build of the Canalot is a slightly mixed bag. The 'Modular' range of components that the Canalot belongs to don't feel as solid as the more expensive Obelisk models, which are rather nice. Input selection is by a single button that moves between analogue and digital (digital selection as previously mentioned is automatic). The casework of the main unit and matching power supply feels reasonably substantial, but nothing to get excited about. This is further undermined by the volume control that has a fairly significant amount of slack in it and some curious clicking noises that the unit makes when USB is selected. The overall effect is tidy enough, but there are certainly better finished devices out there for the price.

The volume control – slack aside – is a conventional pot rather than a digital encoder so it feels normal enough in use and doesn't have any of the unwelcome side effects that bit reduction can have. The USB input is also a 24-bit/192kHz-capable asynchronous type, controlled by a driver downloaded off the Heed website, so for computer audio fans the Canalot could be an interesting interface to a pair of active speakers or similar. Installation proved to be hassle-free and didn't result in any gremlins cropping up on the computers it was installed on.

HOW IT COMPARES

THE HEED ISN'T an easy product to draw direct comparisons to as the feature set is unusual. If you don't need the analogue input, Audiolab's fantastic M-DAC offers more digital inputs and a well-implemented volume for half the price. Alternatively, the Musical Fidelity M1 HPA is a very well implemented single input headphone preamp that could be connected to the matching M1 DAC for less than the Canalot (although this would use up the single analogue input of the HPA). Alternatively, if you are looking for a preamp with digital and analogue inputs rather than a headphone output the Musical Fidelity CLiC is only £150 more (and has 24/192kHz UPnP streaming thrown into the package).

Sound quality

As such, I started using the Canalot as an interface between a Lenovo ThinkPad running Songbird and a Cambridge Audio 851A used first as an integrated and then a power amplifier. This in turn powered a pair of Neat Momentum 4i loudspeakers. The first impression the Heed provides is a rather unusual one. The performance improves noticeably in the first 30 minutes or so after turning the Canalot on. Initially the performance is a little flat and lifeless, but it livens up considerably in the opening listening period.

Many of the attributes of the Canalot are similar to the Dactilus 3 that appeared in a recent group test. The presentation has a pleasing sense of life and vitality to it, but at the same time avoids sounding overblown or forced. With the lovely high resolution FLAC of Mark Knopfler's *Privateering*, the Heed manages to reproduce the detail and depth of the recording without losing sight of the musicality of the whole piece. The timing is good too and it manages to sound controlled and cohesive without forcing slower, more relaxed material.

Detail retrieval is good, too. The Canalot manages to find information in the bass especially that is deeply impressive. The bass response as a whole is deep and controlled and this helps give the Heed a sense of energy that is very welcome. Like the Dactilus 3, the Canalot has a slightly

limited soundstage. The positioning of instruments and musicians between the speakers is convincing enough but the soundstage doesn't extend much beyond them. This gives smaller pieces a sense of intimacy, although larger works can sound a little restrained.

Putting the Canalot's volume control into the circuit doesn't significantly change the performance. The volume control is linear enough and gives perfectly satisfactory control over volume levels. The analogue input is impressively transparent in use and it is hard to

It manages to sound controlled and cohesive without forcing slower, more relaxed material

determine between a Naim ND5XS running through the Canalot and connected directly to the 851A. Most of the sonic character that the Canalot possesses seems to be present in the digital inputs and used via the tape loops of the 851A, the Heed puts very little of itself into the presentation.

As a headphone amplifier, the Canalot keeps most of the same traits that it does via the RCA output. Using a pair of Grado SR60is and Harmon Kardon BTs, the Canalot shows itself to have plenty of headroom with both models and presents the same

detailed and natural presentation over headphones as it does as a line-level component. The noise floor seems usefully low and this allows the Heed's impressive detail retrieval to come to the fore. Used exclusively as a headphone amp, the Canalot is somewhat expensive but the quality of the performance goes some way to justifying the outlay.

Conclusion

The Canalot is a curious device – not quite one thing or the other – and whether it is an ideal product for you will rather depend on the rest of the system that you want to integrate it into. The performance over digital is impressive with a sense of life and naturalness that is enjoyable and easy to listen to for long periods of time. There seems to be plenty of headroom to drive most headphones to more than acceptable levels and it is commendably transparent when used via the analogue input.

The problem is that there are single or combinations of products from rival manufacturers at similar price points that can mimic the functions of the Canalot and often possess rather greater flexibility in terms of input and output options.

Many of these other products are rather more lavishly assembled as well. The Heed can be ordered as a straight, single input headphone amp for less money, but there are still rival products available for less that also offer this feature.

Whether the Canalot justifies this price point will come down to whether you like the distinctive and capable music performance and don't have more sources than the Canalot can handle. In a suitably stripped back system though – especially one with a computer as a source, this is a product that has a considerable appeal and one that at the very least warrants a demonstration ●

IN SIGHT



- 1 Input from matching PSU
- 2 Line/variable output
- 3 Mains input
- 4 Analogue input
- 5 Digital inputs

Ni-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★	LIKE: Lively and involving sound from all outputs, excellent USB interface
VALUE FOR MONEY ★★★★★	DISLIKE: Slightly underwhelming build; limited inputs; not cheap
BUILD QUALITY ★★★★★	WE SAY: Does what it is designed to do well, but faces competition from less specialised rivals
FEATURES ★★★★★	

OVERALL





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Standard deviation

Just another mid-price standmounting speaker? Not likely! **Tim Jarman** finds Elac's BS 142 JET to be something out of the ordinary...

Defining new boundaries, Elac's BS 142 compact standmount speaker is a two-way design that unusually offers a ribbon tweeter, instead of the standard-issue fabric dome normally found at this price. This type of tweeter should give smoother, cleaner treble than is available from some of the other methods of construction, as well as extended frequency response which carries on well beyond the bounds of what is normally considered to be audible. This is because the ribbon diaphragm is much thinner (hence lighter) than stock cloth or metal domes, meaning faster transient response, greater linearity and less distortion. Elac's own ribbon design is called JET, more of which is revealed on the company's website (www.elac.de).

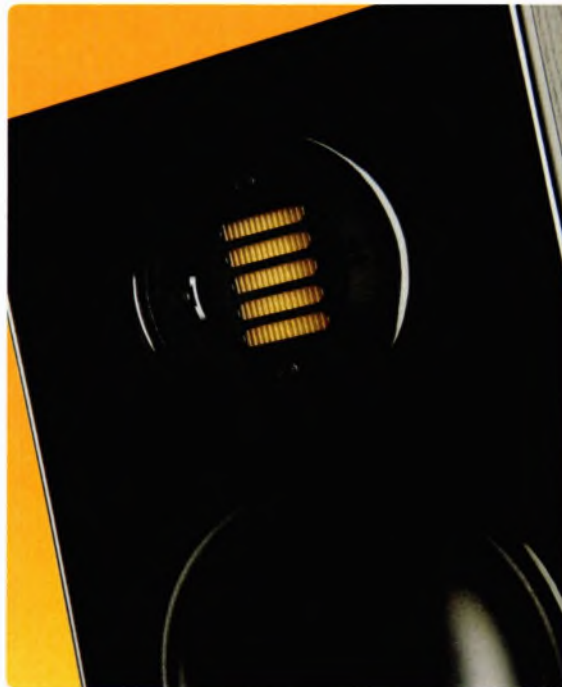
Ribbon tweeter aside, the BS 142 appears essentially conventional, being housed in a simple rectangular box with a large bass port at the rear. A pair of simple screw-type terminals permit cables with both forked terminals and standard 4mm plugs to be used, but there are no facilities for bi-wiring or bi-amping.

The woofer is interesting inasmuch as it uses a sandwich-type cone where the outer layer obscures the end of the voice coil, so that the familiar centre dust cap isn't visible. Even though you can't see them both the voice coil and its surrounding magnet are large, the former has a diameter of 31mm, which allows for good heat dissipation when the loudspeakers are being worked hard.

The main cabinet finish is a black ash effect vinyl wrap, which is not particularly luxurious, but reasonably discrete in the right surroundings and easy to keep looking presentable. The baffles are made from high-gloss moulded plastic and again have a clean, non-nonsense look about them. Grilles are included and these fit into place on invisible magnetic

catches so there are no ugly holes in the baffles when they are not fitted.

A common misconception on the subject of loudspeakers is that larger ones require more amplifier power than smaller ones do. Often the precise opposite is true; attempts by manufacturers to obtain a broad frequency spread from small cabinets result in poor sensitivity, meaning that it takes a lot of watts to make a decent amount of noise. There are rare exceptions and the Elac BS 142 is one – since it has a claimed sensitivity of 88 dB/1W/1m. When I see figures like this, partnering with a 30W (or thereabouts) amplifier springs to mind, given the scale of sound that one would expect and the size of listening room in which loudspeakers like this are likely to be installed in. This is excellent 'starter system' territory and I can see the BS 142 working well with high quality 'style systems', for example.



▶ DETAILS

PRODUCT:
Elac BS 142

Origin:
Germany/China

Type:
2-way standmount
loudspeaker

Weight:
4.5kg (each,
without stand)

Dimensions:
(WxHxD)
260x160x262mm

FEATURES:
• 5" woofer

• ribbon tweeter
• bass reflex cabinet

IMPORTED BY:
Hi-Fi Network Ltd

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WEBSITE:
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Sensitive loudspeakers are also often chosen for use with valve amplifiers, where the pounds-per-watt ratio is often considerably worse than it is with transistor models. While the basic figures certainly stack up, I would advise some caution here since the BS 142 is very generously ported and there appears to be little in the way of internal damping, evidenced by the fact that you can see the back of the tweeter if you look down the reflex port.

This type of construction tends to give strong bass for a given cabinet size, but does require an amplification setup that offers a good damping factor to compensate for the mechanical freedoms which the cabinet offers. High damping factors are typically achieved by using powerful directly-coupled transistor amplifiers and high quality loud-speaker cables, by these means the signal is better able to place the woofer cone and so it is less likely to flap about.

This box is all about giving a big, punchy sound, something in which it excels

Small valve amplifiers tend to do poorly in terms of damping factor, so I would hesitate to recommend a ported design for use with them, unless you like a lot of bass and are not too troubled about retrieving the rhythmic information that exists in the lower frequency ranges. Elac do supply a foam bung which you can use to tune the bass ports to work best in your surroundings, and comes in two sections. The middle part is removable so that you can use the bung to just cause a restriction, rather than blocking the entire port with it completely.

When auditioning loudspeakers like this I prefer to place them well out into the room (about 1m from the back wall) and with the ports open, this being one way to reduce colouration effects which have more to do with the building than the loudspeakers. The source for the tests was a Cyrus CD 8 SE CD player and an Arcam FMJ A38 amplifier, which is, perhaps, a little large for the task at hand, but has more than enough power to keep almost any loudspeaker under tight control. The cables used were from the Chord Company, Odyssey II for the loudspeakers and Calypso for the interconnects between the Cyrus CD player and Arcam amplifier. ▶

Q&A

Max Lowe

Elac UK sales manager



TJ: These loudspeakers have an interesting background don't they?

ML: The BS 142 started life as an exclusive model for one of ELAC's business customers, but it has been so popular that it has now become part of the normal range.

Where does the BS 142 fit into the Elac range?

It is the most affordable speaker in the range featuring the JET tweeter, a distinctive feature of all the top range ELAC loudspeakers.

What advantages does the Elac ribbon tweeter offer?

The JET tweeter is a concertinaed foil membrane driven by a strong magnet system of neodymium rods. This motor drives the air considerably faster than the conventional piston technique. High sensitivity and extraordinary dynamics are the result.

Are there other finishes available?

Due to their origin as a limited edition speaker, the black ash cabinets with the gloss black front is the only available finish.

Finally, can you recommend some suitable stands for the BS 142?

Most high mass speaker stands, such as the Atacama HMS 1.1 will be ideal.

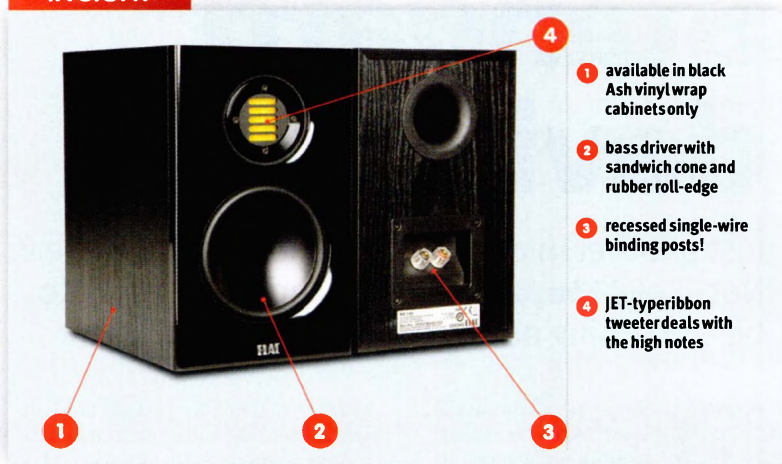


THERE ARE PLENTY of fine small standmount loudspeakers for around £600, but the most interesting are surely the Boston Acoustics M25 (£570) and the Monitor Audio Silver RX2 (£525).

The former is a new design from the dynamic duo that is Ken Ishiwata and Karl-Heinz Fink, fellow analogue addicts who love a nice smooth sound. Frankly it shows in the voicing of the M25, which is wonderfully deep and even, without the usual small box shriek. It's a consummate music maker and images beautifully too - with the right amount of toe-in.

Still, the Boston isn't the most forensically detailed, and in some systems with some sources will sound just a little dull. That's why Monitor Audio's RX2 is a good alternative, with an altogether tighter and more 'spry' sound. There's a lot more treble detail, and what there is, is beautifully crisp and open - this gives the speaker a very spacious feel. Still, if you use this with shouty sources, you'll wish you kept to the M25s - or these Elacs which have much of the smoothness of the Bostons with the incision and detail of the Monitor Audios. As such the Elac is a great working compromise, giving you in many respects the best of both worlds.

IN SIGHT



Sound quality

Black Ash cabinets and the promise of bass made me think of *Violator* by Depeche Mode, and I was not disappointed. The BS 142s sound larger than they actually are, and in a blind test you'd scarcely believe that pounding beats that run right through tracks like *Police of Truth* were coming from a pair of five inch woofers. The track came across as lively and full of energy. For this type of music the overall tonal balance was good, with no undue emphasis to any one band of frequencies and no particular problems with bass overhang or boom.

Of course, you can't expect absolute low-end precision with small ported cabinets and there was some blurring of the bottom end detail which larger pressure-chamber loudspeakers can reveal, but overall the results were very enjoyable. The treble around percussion did seem to lack bite, while some instruments had a slightly lippy quality, even with a bright sounding source like CD. This is not a unique quality of the Elacs, as I have encountered other two-way loudspeakers with ribbon tweeters with this character. It's a lot to ask of one drive unit to work from 2.6kHz right up to 50kHz as Elac claims, and in this case the trade-off seems to be a slight loss of treble sparkle. In their favour, the tweeters don't beam as much as some do, so the listening sweet spot is reasonably large.

Listening to *A Sorta Fairytale* by Tori Amos, once more revealed the surprisingly warm and embracing sound which the Elac BS 142 can produce considering its diminutive dimensions. I heard heavily struck piano chords coming across in a way that gave a solid sense of realism. In absolute terms, vocal texture could sound slightly opaque, while Tori's

beautiful voice sometimes gave the impression of detachment. Imaging was vivid, as it so often is with small two ways, and broad - it was amazing how these little boxes were so easily capable of filling my listening room with music. Within the broad soundscape, the focus could have been a little sharper; but this is a minor observation. Overall, as an introduction to stereo these loudspeakers do a very good job.

Conclusion

Priced at £599, Elac's new BS 142 isn't a cheap speaker, but nor is it prohibitively expensive either. Its all-black finish and the preference for rock and other beat-driven musical styles means that a certain type of listener will love it. It's very zesty, but conversely those seeking subtlety should look elsewhere. This box is all about giving a big, punchy sound in a smallish space, something in which it excels. Highly recommended then, if you enjoy a bit of weight behind your music but want or need it to come from a small speaker - but as ever with this sort of product, do try and audition it with your own amplifier first ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★	LIKE: Big sound from small boxes; lively and dynamic with beat-driven musical styles
VALUE FOR MONEY ★★★★★	DISLIKE: Soft treble not for all; lack of spatial focus
BUILD QUALITY ★★★★★	WE SAY: Decent sensitivity and fine sound make these an essential audition
EASE OF DRIVE ★★★★★	

OVERALL



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Time machine

It's not every day that a serious sounding new phono stage is launched, but Timestep's new T-01 MC is just this reckons **David Price**

An unashamedly hobbyist company, Timestep is run by the affable Dave Cawley, who designed his first phono stage in 1981, and more recently has been involved in the manufacture and distribution of the ANT Audio Kora phono stage. This prompted him to produce the T-01 MC, and it's fair to say the two aren't philosophically that different.

It's an unashamedly minimalist, discrete-transistor affair using just a sprinkling of FETs (field effect transistors) in a fully discrete dual-mono zero negative feedback design. Great attention to detail has been shown in the design and its execution, and the T-01 MC features high-quality gold-plated, PTFE insulated input sockets, Dale input loading resistor and WIMA polypropylene RIAA capacitors. There's a ground lift switch that allows the audio circuitry to be connected or disconnected from the mains earth while still ensuring the chassis is completely earthed.

Unlike some rivals, the T-01 MC has fixed gain and input loading settings, but bespoke input loading can be specified and altered by Timestep any time subsequently. Although some might think this a pain, it does make for short signal paths – any switching will ultimately degrade sound, and more so over time. Specified input sensitivity is 0.35mV (for 0dBV output), making it fine for most modern moving coils such as the Lyra Delos I used. Though it's not particularly stylish, overall build quality is very good.

Sound quality

In a nutshell, the T-01 MC has a simple, direct, honest sound that doesn't gild the lily like some tube designs (the Icon Audio PS2 springs to mind), nor does it make things sound more mechanical and regimented than they should – such as the Trichord Dino NC. Rather, the Timestep treads a careful balance between neutrality and euphony, never quite getting to the latter, but somehow always giving just a little bit more than the former.

For example, The Cure's *A Forest* comes over with disarming clarity, almost as though we are plugged directly into the output of the mixing desk. Bass has real power and grip, yet is possessed of an urgency that propels the song along with gusto. Further up the scale, the midband is wide and tightly defined, with an excellent front to back soundstage. It's not quite as wide as the PS2, but it is certainly more precise in the location of instruments in the mix. Up top, treble is crisp and clear, with a good deal of atmosphere. The clever thing is the way the Timestep weaves all this together on-the-fly, providing a wonderfully rhythmic and 'direct' feel to the music.

The same goes for Scritti Politti's *Boom! There She Was* – an altogether busier and more fastidious recording. The T-01 MC proves itself to be a wonderfully fast and fluid performer following the powerful synthesiser bass runs with alacrity, and ramming home the track's dynamics to full effect. It proves very neutral in tonal terms, capturing the excellence of



DETAILS

PRODUCT: Timestep T-01 MC

ORIGIN: UK

TYPE: Moving coil phono stage

WEIGHT: 2.2kg

DIMENSIONS: (WxHxD) 445 x 48 x 310mm

- FEATURES:**
- Moving coil input
 - Switchable ground lift
 - Quoted input sensitivity: 0.35mV (for 0dBV output)
 - Quoted input impedance: 100ohm, 1nF (customer-specifiable)

DISTRIBUTOR: Timestep

TELEPHONE: 01803 833366

WEBSITE: time-step.com

this analogue recording to best effect, letting those digital synth parts chime like bells. However, there is a slight lack of sweetness in the upper mid and treble; it's only very subtle but compared with the Icon Audio, for example, you can hear the hi-hats sound just a little too crisp, and there's a fraction less space around the elements in the mix. This is more proof that – at this price – you can't have it all!

The shuffling soul of Donald Byrd's *Streetlady* shows the Timestep to best effect – it's a very warm seventies analogue recording and the T-01 MC digs very deep inside, pulling out masses of detail and presenting it in an unrelentingly rhythmic and dynamic way. This phono stage has a good deal of smoothness and grace, yet it's as punk rock as they come when tasked to get the joint jumping. Once again, its super-taut, tuneful bass drives the song along, laying the foundations for the wide and deep soundstage to work its magic. Dynamically excellent, this is one of the most expressive phono stages you'll see before you start spending silly money.

Conclusion

An excellent product, this is one of the very best designs at or near its price and will make most people wonder if they could possibly want more. Its powerful, gripping yet melodious and musical sound is a joy across a vast range of programme material, and the unit soon 'dissolves' into your system, letting you concentrate on (and enjoy) the records you're playing. Its closest competition is ANT Audio's Kora 3T Ltd, with which it shares many sonic traits; ultimately the latter is just a touch sweeter and more silky, if a little less punchy. As such, the new Timestep T-01 MC is a very strong contender indeed, and deserves to be at the top of your audition list ●



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★ **LIKE:** Wide, deep soundstage; taut, deep bass; fine build and finish

VALUE FOR MONEY ★★★★★ **DISLIKE:** Lacks the romance and space of some rival tube designs

BUILD QUALITY ★★★★★ **WE SAY:** Wonderfully powerful, grippy, detailed, musical sound; impressive build quality and finish

FEATURES ★★★★★

OVERALL ★★★★★







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Vanishing point

Raidho's small but perfectly formed C1.1 loudspeaker makes itself scarce when there's music to be reproduced, says **David Price**...

There is, as we all know, no such thing as a perfect loudspeaker. It all comes down to physics, whose laws are immutable and not even the design team of a high-end speaker company with a vast development budget can change them. The problem is that with only a small cabinet, small speakers can't produce realistic bass. But when you go up to a large cabinet which can get bogged down with all sorts of other problems – not least controlling the cabinet you've designed to solve the first problem. As such, in upsizing their speakers, many designers spawn a monster that comes back to eat them! For this reason, there's a school of thought that says small speakers do more right than wrong.

Listen to a well-engineered compact box like Raidho's C1.1, and you'll hear why. It sports a painted, 25mm thick high-density fibreboard cabinet, with the drive units fixed directly to the rear face of the 20mm-thick aluminium two-piece baffle. This gives a very stable mounting for the drivers, the first of which is a bespoke, in-house planar-magnetic tweeter using a thin aluminium trace etched onto a diaphragm of mylar sheet. Magnets either side move it in time to the music to produce the sound. And the sound it produces is blisteringly fast, as the overall mass of the thing moving the air is far less than a metal or doped paper dome.

This arrangement has a host of benefits, from lightning attack transients to low distortion, but is hard to integrate with a conventional moving coil mid/bass unit, not least because the latter is a good deal heavier. As such, many speakers using this combination of transducers give a sort of 'buy one get one free' sound, where it feels like you're listening to two speakers in one. Raidho's answer is to develop a special 115mm ceramic-coated cone for the mid/bass unit. Just

100-microns thick, with an aluminium base sandwiched between the coating, it is designed to offer up a light, stiff and well-damped structure to move the air. Behind this, the driver motor is an array of neodymium magnets in a push-pull arrangement, vented to further aid dynamics and reflex loaded by a rear-facing port.

These two drive units are divided at 3kHz by a simple second order crossover using bespoke inductors and capacitors built to high tolerances, set into the narrow (200 x 370 x 360mm), but sturdy (12.5kg) cabinet which is lined with natural sheep's wool to damp standing waves. The finish is – as you'd expect from a high-end Danish design – superlative. Raidho customers can

They have a light, bright, spacious personality with an open top end

choose between a standard gloss lacquered paint finish – in literally any available paint colour – or Walnut Burl (£1,300 extra). There's also the option of a matching stand costing a whopping £1,595.

The C1.0 put Raidho on the world map for small, high-quality loudspeakers, but this new C1.1 boasts an improved tweeter with a differently patterned high-frequency membrane for greater rigidity under load. The mid/bass unit gets an uprated former and double layered winding with new titanium voice coil, and the cabinet enjoys extra internal bracing.

Outside, the bespoke speaker terminals replace the WBTs of the C1.0, and these lead to improved Nordost Odin wiring within. External differences are very subtle then, but the new 1.1 proves quite a performance leap...



▶ DETAILS

PRODUCT:
Raidho C1.1
ORIGIN: Denmark
TYPE: Standmount loudspeaker
WEIGHT:
12.5kg
DIMENSIONS:
(WxHxD)
200 x 370 x 360mm
FEATURES:
• Sealed ribbon high frequency driver
• 115mm ceramic mid/bass driver
• Recommended amplifier power: 750W
DISTRIBUTOR:
Raidho
TELEPHONE:
+45 98247677
WEBSITE:
raidho.dk

Sound quality

From the first bar of the first phrase of the first piece of music you play, it is clear that the Raidho C1.1 is a special loudspeaker, making a very good job of dissolving into the middle distance, letting the music's flavour flood out. Because it's so small, it has no issues of bass overhang. The ported cabinet is obviously super-stiff, because there's not the faintest whiff of low frequencies being given undue licence to impose themselves on the overall performance. Rather, the Raidho reigns the bass in – as the chugging sequenced electronic low notes of The Beloved's *Time After Time* show. While many larger boxes get bogged down in communicating how the bassline modulates up and down the scale, the C1.1 gives a crisp, clear rendition of the tune the bass synth is playing, but doesn't fall over its own shadow attempting to convey the full power of the thing.

The midband is this speaker's real *tour-de-force*. It is wonderfully open – no small thanks to that treble unit, which reaches down lower than many. There's little sense of listening to two drivers at the same time, as they cross over so well to provide a searching and insightful window into the mix. The speed of it all is dazzling, and the C1.1's dynamics are excellent, too. The result is that



Q&A

Michael Børresen

Raidho, chief engineer



DP: Why did you choose to design such a small loudspeaker?

MB: I think that a small two-way speaker is in a way a thoroughbred. It's the simplest system one can make without too many big compromises. And well executed it can really release the magic in music.

How does the C1.1 get around the limitations of small speakers?

Every design delivers sonic information and mis-information. My take is always to minimise the misinformation, never force the system to do something it really can't. The absence of misinformation relieves your brain and sets it free to go on an adventure and then it recreates the missing fundamental.

Why did you choose to use a planar-magnetic tweeter?

This tweeter is the very foundation of Raidho. It's the best driver we have and with the extremely low – up to 50 times lower than any dome – mass and large surface area it has tremendous resolution and is free from any sonic impact.

Why did you choose to use a ceramic-coated alloy cone?

Ever since Raidho started it has been on a quest to make a bass/mid driver that can match the Raidho tweeter. Our ceramic driver has a first fundamental of around 12.5kHz, this makes the driver virtually free from the typical cone material colourations. Paired with an acoustically transparent magnet structure and low inductance voice-coil, makes the driver capable of very high resolution and low compression.

How does the C1.1 sit in your range, now and in the future?

Compared with the previous model, the latest C1.1 brings greater transparency, speed and a lower noise floor, and has simply less misinformation. As such it sounds bigger, bolder and more live. There's certainly no planned successor to the C1.1 currently, but we have just released the D-1 with a diamond cone.



THERE'S NO DIRECT rival to the Raidho C1.1 in terms of cabinet dimensions or price, but one of the closest speakers in intent is the Vivid V1.5. This £6,250 standmounter is from the mind of a gifted ex-B&W designer involved in the Nautilus project. However, the Vivid is an altogether more real-world, user-friendly design. It shares the Raidho's interesting approach to drive units; although there's no ribbon tweeter both mid/bass and treble units are magnesium alloy, and blend beautifully to give a seamless wide-range sound with super-fast attack transients (although the Raidho is faster still). It's cabinet is more innovative, being a rounded oval profile made from carbon fibre-reinforced polyester moulding, and given an integral stand. Like the Raidho it's searchingly detailed and wonderfully open with a lovely rhythmic gait to it, too. But the (more expensive) C1.1 is even more detailed and incisive, and just a little more polished, too. Both need a reasonably powerful solid-state amplifier, although the slightly more sensitive Vivid will let you get away with a little less muscular tube design should you wish. The Raidho will make a nice noise with a valve amplifier, but it will have to be a powerful one.

IN SIGHT



you can cue up a slice of jazz funk like Deodato's *Uncle Funk* and get an incredibly resolved performance, these speakers digging unexpectedly deep into the recording to reveal its every nuance. Soundstaging is excellent, images hovering in space in an almost ethereal way and locked in position with great precision.

The C1.1 can dazzle with its technical virtuosity, but how does it fare with far less 'hi-fi' programme material. In a word, superbly. Playing an old Sniff 'n' the Tears track, *Driver's Seat*, I'm really surprised by the musical fluency that greets me. This isn't a great recording, but the Raidhos don't mind, locking on to the rhythms instead, working on the emotional impact of the track. They're fast but subtle, refusing to shout at you and push everything into your face – dynamically they're really very good at those 'grey scales', signposting precisely the energy with which the drum skin is hit or the bass guitar string is plucked. This is the sort of sound you can only get when a loudspeaker is truly self-effacing, imposing relatively small amounts of its physical presence on the sound.

Subtle as the C1.1s may be, they are not invisible. There is a slight tonal fingerprint they stamp on the proceedings. Essentially they have a light, bright, spacious personality with an open top end – cymbals sparkle out of the darkness, female vocals shimmer and electric guitars ring. You'd never call it 'bright', but it's certainly not dull – you don't get a sense of a cloth dome tweeter damping off the higher harmonics of the music, like a great big acoustic

curtain. This makes it a joy with classical music. On a DG recording of Beethoven's *Pastoral Symphony*, massed violins have a lovely wiry feel that leaps right out of the recording, instead of being dull and damped.

Conclusion

A marvellously entertaining speaker to listen to, the Raidho C1.1 is largely devoid of character. It doesn't do much to the music it is asked to make, preferring instead to present the whole, unvarnished truth. Of course, it's a small standmounting design with limited low bass, but somehow this doesn't intrude on the overall listening experience, as the speaker itself is so lyrical and lucid. It fizzes with energy, making the music sound as vivid as it has a right to. At around £10,900 including bespoke stands, it ought to sound good – but even at this price it seems a fine buy. Well worth an audition then, if you're in the happy position to be able to contemplate owning a pair! ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY



VALUE FOR MONEY



BUILD QUALITY



EASE OF DRIVE



OVERALL



LIKE: Translucent sound; blistering transients; fine dynamics; superlative build

DISLIKE: Price; limited bass extension; needs powerful amplifier for serious levels

WE SAY: Expensive yes, but one of the very best small standmount loudspeakers on sale today

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THIS MONTH:



ED SELLEY
EXPERTISE: REVIEWER

FOR THE BEST part of 10 years, Ed was developing and supporting products from some of the biggest names in audio. He enjoys blogging about his favourite tunes too.



PATRICK CLEASBY
EXPERTISE: TECH GEEK

PATRICK WORKS IN a high level technical support role in the broadcast industry, when not fiddling with his networked music collection and a rapidly expanding shelf of vinyl LPs.



TIM JARMAN
EXPERTISE: ENGINEER

ELECTRONICS BOFFIN TIM drives a 1959 Beetle and maintains the best B&O resource on the internet. When he's not rebuilding faulty review kit, he enjoys scouring audiojumbles.



DAVID PRICE
EXPERTISE: REVIEWER

DP HAS SPENT much longer than he'd care to admit buying and upgrading his own hi-fi system, not to mention reviewing thousands of separates over the years.

➤ Single life

My system consists of Copland CDA288 CD player, Copland CSA14 amplifier and Townshend Glastonbury 2 loudspeakers to which I've added the Townshend Maximum supertweeters and Stella stands. Speaker cables and interconnect are also Townshend, and I also use the MJA Pro 100 subwoofer.

Generally I like the sound, but I've a feeling that the amp may not be doing full justice to the CD player and speakers and maybe not entirely giving me the kind of sound that I want.

Having read quite a bit about valve amplifiers, I think I would like to try one. The sound profile of single-ended triodes appeals to me. I know the Copland is a hybrid and I think I would like more of the 'smooth, warm, silky, organic' quality that valves might provide. My listening tastes are orchestral and opera/choral and I would not be concerned about a relatively poorer performance on, say heavy rock. Something that could convey the feathery timbre of violins and a soundstage that does not 'bunch' the string sections left and right would really appeal. The listening room is an odd shape, but roughly equivalent to a floor plan of about 4.5m x 4m. I listen at realistic, but not earth-shattering levels.

I have read good things about many of the valve amplifiers. One that has really caught my eye is the Consonance Cyber10.

Checking out all the parameters with respect to power output, it looks like I might just get away with it (the Glastonbury's are 88dB/W). Being a pure triode, the Icon Audio ST 40 MK3 2A3 also looks interesting. I know that

Having read quite a bit about valve amplifiers, I think I would like to try one

there are loads more and would be grateful for any suggestions.

I was thinking of spending about £2,000, perhaps more for something special. I would value your opinion as to what I should be spending given that the CD player and speakers will remain.

Edward Read

DP: I'm not familiar with Consonance so can't comment, but the Icon Audio ST40 is a good bet. With just 17W per channel you're not going to lift the roof during the *William Tell Overture*, but it should just about produce decent volumes with your 88dB/1W speakers.

Personally, I'd go for Icon Audio's Stereo 300, which isn't a SET design but still has many of its characteristics, thanks to its use of the glorious 300B power triode, which is one of my all time favourite hot bottles. It has much of the sweetness of a SET design but wears bigger boots, and will be able to take your Townshend speakers by the scruff of the neck, rather than asking them politely to make a nice noise. I suggest you find a good dealer and audition both



Have cash, want a Single-Ended Triode amp? DP reckons the Icon Audio ST40 is a very solid bet for the money, with a reasonable power output and that lovely, sweet SET sound!

with your speakers, this will point you in the right direction.

ES: If you are handy with a soldering iron and feel brave, you might want to look at the Audio Note amp kits that will give you quite a few single ended options at sensible money. The other possibility worth checking out is the Audion Sterling EL34 which gives you 12W in a usefully compact form and comes in under budget.

➤ Test match special

I would like to add positive comments regarding two items in the April issue. Firstly: the Avid Arm Alignment Protractor. I have a Linn LP12 with Ekos arm and Klyde cartridge. I have found that the Klyde is not the best tracker in the world, although in other respects it is lovely. I recently bought the Avid Protractor and adjusted the Klyde to suit. This made a clearly audible improvement and I consider it one of the best £30 I have spent!

Secondly: the Deflex Audio Foculpods. I have used these for years and can confirm your findings. They are one of the most cost-effective upgrades I have ever tried, being particularly useful under my Linn Genki CD player with improved imaging and smoothed top end.

This isn't the only part of the hi-fi chain where sorbothane can reap benefits. Many years ago I also added Deflex panels inside my Tannoy M20 Gold MkII speakers and was amazed at the reduction in 'box boom' and extra clarity in the midrange. I would encourage readers to check out the Avid Protractor and the Foculpods – and even give the Deflex panels a go!

David Deeks

DP: Hi David, couldn't agree more. All too often, we spend vast amounts of money on expensive hardware and never quite get it to give its best. Cartridge alignment is an art as much as a science, so it's always worth experimenting and finding an effective set-up

system. Likewise, sorbothane is God's gift to hi-fi, and Deflex Foculpods package it in a very user-friendly way. These little semi-circles work magic in any system. Get some, stick them under your separates and prepare to be amazed!

➤ **Everyone's a winner**

I really enjoy your magazine, but one thing that confuses me is the number of recommended products in each issue. In February's edition there were 10 recommendations, one group test winner and one editor's choice, so 86% of reviewed products received a commendation. In March it was 77%. Does this imply that the vast majority of hi-fi products on the market are excellent (and I could buy anything with confidence) or do you only review products that you expect to be good in the first case?

Bill Sturman

DP: Hi Bill – good question. There is no point in habitually reviewing products which are obviously poor, or worse. Otherwise, we'd end up with a magazine full of so-so products, almost all of which nobody really wanted to buy. As many people buy hi-fi magazines as buying guides, it's obviously important to fill them with interesting and/or capable products, which people can then audition with a view to possible purchase. From that you can deduce that most products in the magazine are at least good and some very good, and that we've filtered the rubbish out for you!

Sometimes we do run a review of a mediocre product, but normally this happens when we expected the thing to be good and it turns out the reviewer doesn't like it. Sometimes we then come back to this in a group test and it occasionally fares better – which goes to show that tastes vary among listeners and the dreaded question of system synergy rears its ugly head. This only serves to underline the point that magazines should be used as a guide and a starting point. Ultimately, you should let your ears decide.

ES: The finite space available in each issue tends to mean we select product we suspect is going to be interesting, exciting and capable. By and large, most of these deliver

➤ **Real speakers have curves**

Is it my imagination or are we going backwards with cabinet construction in the more affordable end of the loudspeaker market? I refer specifically to the use of curved cabinets, which (we have always been led to believe) reduce standing waves and colouration and are usually a feature of the flagship designs.

Recently we have seen B&W replace the 700 series with the boxy CMs, KEF has replaced the old Qs and XQs with rectangular Qs and Rs, and now the Wharfedale Diamonds have suffered the same fate. Are curved boxes suddenly not worth the money, or have manufacturers found themselves needing to reset the bar at a lower level to distinguish their mid-priced models from their more costly ones?

John Burke, Australia

DP: I am not a loudspeaker designer so can only report what I hear from others, but when I've asked a number of designers about whether curved cabinets are all that they're cracked up to be, the answer is generally no.



The gist is that standing waves have to be broken up inside cabinets, and curved enclosures can do this well, but the same job can be done in other ways, and just because a cabinet is curved doesn't automatically make it better than one that is not.

I'd also point out that I've seen a number of speakers that are curved on the outside, and boxed inside – so there's a big fashion thing going on here! I think that as always with hi-fi design – as Touraj Moghaddam said very eloquently in last month's interview: "it's all about the weakest link". If you have fancy curved cabinets and rubbishy drivers or awful crossover components – well, there's no point in having fancy curved cabinets! And if you have fancy-looking curved cabinets, which are much less

As Touraj Moghaddam said very eloquently in last month's interview: "it's all about the weakest link"

rigid than boxy ones, then you might as well have boxy ones. The list goes on and on...

TJ: The small volumes which *proper* hi-fi products now sell in make the tooling for complex cabinet shapes prohibitively expensive. It is easy enough to CNC-machine a nice swooping front panel out of a block of alloy for an amplifier, but to do something large like a loudspeaker cabinet requires techniques like casting or moulding, both of which require large runs to be economically viable. My own loudspeakers (Beovox RL140) have cabinets composed of two large precision resin mouldings, which use complex internal and external forms to make the cabinets visually appealing as well as incredibly stiff and well damped. They were a mid-priced model when new but such designs would probably not be practical at any price point today.

ES: As an industry, we shouldn't flatter ourselves that we are immune to external fashions. Curved cabinets were at their most popular at a point where soft curves were appearing on a number of other products. At the moment, our cars, furniture and even some clothes are straight edged, chiselled and chock full of 90° corners. There is more than one way to skin a cat and standing waves can be dealt with in a flat-sided cabinet that ensures your product remains achingly fashionable.

Curvy speakers have been all the rage of late, but does a radiused shape guarantee superior sonics?

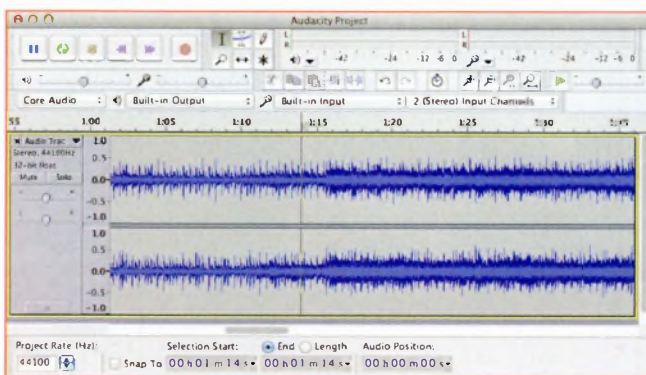
on their promise. I daresay that if we're covering the vast swathes of product that the magazine used to in the seventies and early eighties, we might be uncovering a few bad eggs, but we are unlikely to return to that model. Ultimately, the *Group Test* remains the most significant comparative process sorting the wheat from the chaff.

➤ Ripping yarns

Can you give me some advice on the best way to convert vinyl to digital (WAV or FLAC), so I can store it on my Synology NAS drive?
Philip Davies

PC: The best way is always to use your highly tuned turntable of preference and simply feed the analogue signal at line-level into the best USB analogue-to-digital converter you can afford at the digital resolution of your choice. The acme of such devices is the Benchmark ADC1 USB. If you like the sound, just record it flat – no processing necessary.

It has become prevalent for 'needle droppers' to record at 24/96 or even 24/192 resolution (or at least output at that). After the conversion stage you obviously need a record chain. Unless you want to get into pro hard-disk recorders, most users record into PCs or Macs via USB. This has got so reliable and convenient that the old PCI interfaces – like M-Audio's fine Delta 1010 – now seem old hat and require desktops and the pro Firewire interfaces that followed are dying out. The software used is key, but the free program Audacity is hard to beat. Sticklers might go for Soundtrack Pro (RIP) and Audition respectively, before switching up to ProTools, Logic and Cubase or Nuendo at the overkill end of the spectrum.



SoundForge's Audacity is a great, free of charge recording application

➤ Moving forward

I have been a bit of a hi-fi nut for more years than I would wish to admit. I remember getting terribly excited at the prospect of listening to Philips' first silver disc player!

Technology has moved on since then, but I wonder if we are too seduced by bright new 'must have' kit to forget that this high fidelity stuff is about the music? If you have a wee look at the word 'fidelity' you'll see it defined as "faithfulness, accuracy in detail; quality of sound reproduction", so that's what we're all looking for.

I think it was Linn Products that coined the phrase "garbage in, garbage out". To me that spoke volumes, only problem being I could never quite afford a LP12 then or now, so it's been Regas for me ever since. Another popular phrase often used years ago, and just as relevant today, is "diminishing returns". In other words, spend a lot to expect a small improvement. I believe that you get to a point in this expensive hobby where you'd be better to put your feet up, pour yourself a drink and enjoy the music – that's what's it's all about.

Mike Beattie

DP: Spot on Mike, it's easy to not see the wood for the trees. We can get too obsessed about the kit, forgetting it's there to play music in the first place. It was indeed Linn that brought that famous phrase to the audiophile world, although I'm sure Ivor Tiefenbrun would point out that it was a popular aphorism in computer circles

The lesson here is to ensure that your recorded signal is not clipping – zoom into the waveforms and look for 'flat-tops'. It's just like the old days of getting the levels right on tape; not enough is disappointing and too much is a disaster! You may be able to trim on the device, on the input system preferences or in the software, or a combination of all three.

Once your WAV is recorded you have the option to transcode to FLAC at your chosen compression



Though technology is supposed to evolve, the original Philips CD100 still sounds mighty impressive

before he purloined it for hi-fi use! As for the law of diminishing returns, this does apply – which is why I am always impressed when just occasionally you find a product that gives high-end sound at an affordable price.

1J: When you listen to the Philips CD100 now you have to wonder if "technology has moved on". It is not only smaller than the typical high-quality model of today, but is also possessed of a lovely silky and fluid sound that current digital playback formats struggle to match. The resources behind it were immeasurably larger than those in the industry today, but 30 years on you'd have thought they'd have got further than they have.

ES: As David alludes technological developments have been at their most useful in reducing the price of truly excellent digital products and the development of certain materials; carbon fibre springs to mind, have benefitted turntables and offered higher performance and different ways of doing things. Your last statement however is beyond refute – mine's a pint!

Can you give me some advice on the best way to convert vinyl to digital?

level. Personally, rather than use Audacity's options, I prefer to do this via solo apps like xAct on the Mac or dBpoweramp on the PC. Both can be used to apply metadata, or specialist apps like Tag and Jaikoz can be used for real finesse. These two can now scour the internet for the cherry on the top: cover artwork!

1J: Before you embark on this, consider whether it would not be wiser to buy on CD. This route is very economical at present, given that they are fairly cheap and that there are internet sites that will buy the discs from you when you have uploaded them to your PC. This way you get a nice quiet background and proper track dividing and numbering, something that you will have to do yourself otherwise. Also, commercial digital recordings

will have been encoded on professional gear, which something at the domestic level isn't going to be able to match – an often ignored point. For the more unusual stuff, one of the portable digital recorders by Olympus or Tascam is probably the best option, most have line level input/USB output and for WAV they do a pretty good job.

➤ Battery boost

You recently reviewed the Cambridge Audio DAC Magic Plus (Issue 368), which you accepted as having considerable merits, but not up with some of the other DACs you reviewed at the same time. I recently bought the DAC Magic Plus and after briefly operating it from the supplied 12V DC "wall wart", I switched to a 12V rechargeable battery supply I built about five years ago.

This transforms the sound of the DAC, becoming far more detailed, open and dynamic, with a greater sense of space and depth, losing a grey, flat quality when powered from the supplied power supply. Previous experience of battery

What do you listen to on your music system?

Why do show visitors consistently say, "One of the best sounds at the show"?

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- just, well, more musical!

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For once, this is not hifi hype.

"Best sound at the show" we hear consistently from show visitors but do they think it's down to the quality of the source/amplifier/speakers?

Of course those boxes are crucial in *revealing* the sound but the under-pinning clarity, dynamics and musicality stems from the system-wide treatment by Vertex and sister-company LeadingEdge components.

The main boxes are different every time, from modest to exotic, but the sound remains 'one of the best'.

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Just listen and you'll know

CD: Accustic Arts, Bel Canto, dCS, Gamut, Resolution Audio, Vertex AQ dac-1. Vinyl: Aesthetix, Clearaudio, Graham, Spiral Groove, Transfiguration. Tuners: Magnum Dynalab. Amplifiers: Accustic Arts, Aesthetix, Bel Canto, CAT, Gamut, Sonneteer, Storm Audio, VTL. Loudspeakers: Avalon, Gamut, Kawero!, NEAT, Totem. Cables: Chord Co., DNM, Nordost, Siltech, Tellurium, Vertex AQ. Mains: Vertex AQ. Supports: Arcici, Black Ravioli, Hi-Fi Racks, LeadingEdge, Stands Unique, Vertex AQ

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Taga distribution block and Silver Jaya mains filter that plugs into a spare socket



power supplies suggested this would be the case.

This raises the question that, in reviewing equipment, are you reviewing the quality of the power supply (many DACs are supplied with "wall warts") rather than the inherent quality of the equipment itself?

As a magazine concerned with reviewing equipment, your only approach can be to review equipment as supplied, but it does beg further indepth investigation of the ultimate capabilities of sometimes very inexpensive items. Unfortunately for digital, this is beaten by an Orbe SE/SME V/2M Black, which is even more dynamic, spacious and detailed.

The battery power supply was built using a Velleman lead acid battery recharging circuit, available as a kit with slight modifications. The unit contains two 12V 7.2Ah batteries, which are needed as the current requirements of the DAC Magic Plus is high. The other battery supplies a surround sound decoder from Teufel Audio, which also runs from a 12V supply. The unit could be changed to a 6V supply to power things like the Arcam rDac, which is also supposed to respond extremely well to a battery supply. The unit could be adapted to provide a 12V split rail supply (+12v/0v/-12v) or the same again in 6V, though this type of supply is now rather rare.

Peter Graves

DP: You're absolutely right, battery operation can make a dramatic improvement to the sound, Peter. I had precisely this experience myself many years ago, when I built my own solid-state phono stage from a kit.

I was appalled by the sound and in desperation decided to run it off some old radio batteries. It made a profound improvement, wiping out loads of mush and harshness and making the soundstage far more three-dimensional. The trouble is, it wouldn't be ethically right to start saying "this is much better if you change this and do that".



LETTER OF THE MONTH

PRIZE
WINNER!

THERE'S LIFE IN THE OLD DOG YET

I regularly read that downloaded music, stored on a hard drive or memory chip, will rapidly replace the CD. The reasons given include reduced storage space and instant album/track access, but notably don't include improved sound quality or indestructibility. Interestingly, the very same reasons cited for the survival of the LP in the face of a more modern format (CD) could just as well apply to the CD, allowing it to survive despite the rapid increase in downloading. As a further aid to its survival, CD has a significantly superior sound to compressed downloads and a virtually unlimited lifespan compared with hard drives, given sensible handling and storage.

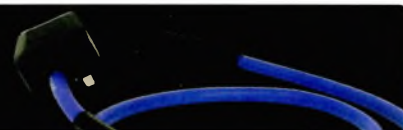
I accept that there are areas such as space saving and portability where CD simply cannot compete with digital music files, and that the advent of 'cloud storage' and the increased availability of high-resolution downloads (should this ever happen) will address some of the shortcomings of the new format. But there are also areas where downloads cannot compete with the simple CD, which can be given as a gift, purchased without the need to go online and stored on a shelf without the need for a computer or NAS drive. As the saying goes "there's life in the old dog yet", and I for one have enough confidence in the future of Compact Discs to have recently invested in an upgraded player!

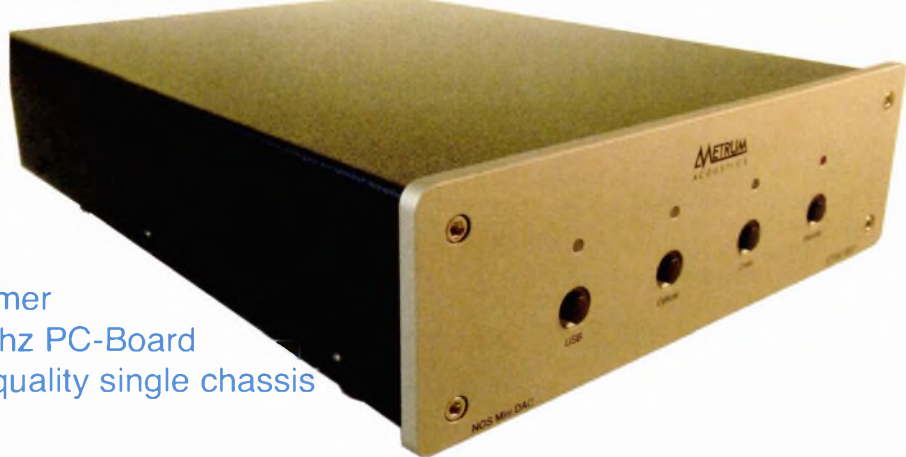
Dave Houghton,

DP: A well-reasoned and erudite point, Dave. You're right that there is a vast number of Compact Discs and that just because downloads account for around 75% of all new music sold, it doesn't mean CDs are going to go away. I also agree with you that not everyone wants to spend the rest of this year digitising their music, on to something that could possibly go bang and lose everything! However, going forward the trend is clear and it doesn't look good for CD. That's not my opinion, it's fact and I am just as uncomfortable with it as you are. I think we'll get to the point where most music is served from a solid-state hard drive or streamed, and all the rest will come from black plastic. People wanting a physical product will choose vinyl because of its great sound and lovely packaging.

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WHAT'S NEW!!

- 24/192 USB
- Large Toroidal transformer
- Hex's 6-Layer 24/192Khz PC-Board
- 'Family - Identity' high quality single chassis

The Best in class has got Better.

Since being discovered a little more than a year ago by music enthusiasts, Metrum Acoustics has sold thousands of dacs, mostly via word of mouth. Customers comments have been overwhelming besides for 2 points: the casework and USB, or lack of it.

During this time Octave's big brother, the Hex, was launched to push the sound envelope further. To do this a new 6-layer PC board was developed with NOS 24/192Khz capability including improved data buffering, USB and AES optional inputs.

NOS (Non Over-Sampling) ULTRA High-Speed DAC's

Rather than develop an inferior DAC, we decided to use Hex's outstanding DAC board in the Octave Mk2 in a 4 dac per channel configuration (Hex uses 8 dac/channel). This also allowed us to include a 3rd input - USB

USB was the most requested option. There are many excellent USB to co-ax convertors so when it was decided to offer USB, we had to make it better than what was/is available. With the Hex we use the excellent MTech2 module but instead of using its standard usb PSU, we feed it power from Hex's 15V PSU.

This improves performance considerably. 6Moons, the on-line magazine, thought the Hex so good, it subjected it to an *unheard of 3 reviewer test*. All reviewers were unanimous and gave the Hex the highest accolade they could, the very rare Blue moon award.

Hex £163 USB option compares with \$600 Audiophileo, etal

They thought the USB was at least equal to units costing \$600, including Audiophileo, which when you add cables is considerable, compared to its £163 price option.

With Octave MK2 we could not take the power from USB for cost reasons. To improve upon the std PSU a huge reservoir was designed to store clean filtered power from USB. In addition further electronics galvanically isolate data to bring the sound as close to the Hex as possible. Like the Hex the USB will be an option, including a retrofit option

Other than the lack of USB the other criticism of Octave Mk1 was its casing. Its 2 box aluminum case did not have the best fit and two boxes were not always welcomed. A large single toroidal transformer is now employed in a single high quality case, resembling its bigger sibling, the Hex.

These changes will not affect costs greatly and in some

cases its better. Eg.Octave MK1 with a decent 24/96 USB to Co-Ax convertor cost £969. The new improved Octave MK2 with 24/192 USB option is less: £919.

Designed to annihilate £2000+ DACs and then we decided to sell it for under 1000€

We deliberately designed the Octave to annihilate £2000+ DACs and then decided to sell it for under a 1000€. We had to reduce the distribution chain in order to achieve this so more music lovers can have access to this kind of quality. All Metrum dacs use NOS Ultra high speed chipsets exclusive to Metrum (not Ti, Wolfson, Burr Brown, etc.). Its the only way to achieve an analogue-like sound similar to a high quality LP player *which is unique indeed.*

Absolutely No Risk

Try the Octave2 at your leisure in your own system **for 30 days**, If you don't like it return it for a **full refund - no quibble**

6 MOONS: HEX: THE DAC WHICH THUS FAR CAME CLOSEST TO THE FULL IMMERSION I FEEL WHEN LISTENING TO VINYL AND ACTUALLY MANY TIMES EXCEEDED IT. FREDERIC BEUDOT

HIFI CRITIC A VERY TRUTHFUL AND ARTICULATE SOUND, WHICH IS PARTICULARLY EVIDENT ON PIANO. MARTIN COLLUMS.

HIFI CHOICE:IF IT WERE 10 TIMES ITS PRICE, IT'LL STILL BE GOOD VALUE. JASON KENNEDY

THE OCTAVE HAS SUPERB RHYTHM AND PACE. TNT MAGAZINE

A TRULY OUTSTANDING DAC. BOUGHT ONE JUST TO SEE WHAT THE FUSS IS ALL ABOUT. IT IS ONE OF THE BEST... FORUM DCS AND WILSON SOPHIA

THE OCTAVE IS FAST, EXCEPTIONALLY TRANSPARENT AND THOROUGHLY ENGAGING. JOHN DARKO



Metrum Acoustics Hex: Designed to compete at £5000+ level *from* £2499

Metrum Acoustics Octave Mk2: Designed to compete at £2000+ level *from* £799

Metrum Acoustics Octave MK1 Ltd stocks: Forerunner to the MK2 *from* £599

Metrum Acoustic DACs substantially improve sound from PC, Macs, CD, DAB, TV ,etc

First time, first love...

It's hard to let beloved pieces of hi-fi go, which is why **Lee Dunkley** went on a hunt to repair his parted-out Ruark Equinox speakers

One of my first reviews as a staff writer on *Hi-Fi Choice* way back in 1999 was of a pre and power amplifier combo from Densen. With a penchant for highly polished large volume controls and four tiny buttons on the front panel, their Beat B-200 was quite possibly the most alluring stereo preamplifier I had ever seen. As I recall the focus of the review was on the new B-200 preamplifier itself, but for the purpose of the test it was partnered with two B-300 power amplifiers to enable bi-amping. Several CD players were auditioned as sources, including the Densen-recommended Naim Audio CD3.5 and the NAD S500. I selected the NAD as the optimum source. After some discussion and auditioning I settled on a pair of Ruark Equinox loudspeakers with their plentiful bass extension and smooth, yet detailed, treble. These are also known for their great build, robust internal bracing and the integral stands housing the speaker crossover.

The system scored highly, but little did I know that after completing this review, these components would remain part of my hi-fi setup and that I'd continue to enjoy them even more in the years to come.

There have been a few hiccups along the way though. The Densens are still going strong, but the life of the Ruarks looked like they had reached rather an abrupt end in 2007 when one of the mid/bass drivers went open circuit after an evening of celebrations to mark a particular birthday. Some of us never really grow up, and the volume level crept higher and higher as the night wore on. I actually have a letter from the local authority concerning the excessive noise as evidence of the considerable volume levels the combo achieved that evening. I've been a model citizen ever since...

Death in the family

The sudden death of one of the drivers brought rather a premature end to the celebrations and it seemed to the life of what had become my favourite pair of speakers for seven or so years. What was I going to do without them?

After removing the unit from the cabinet to check the model number I got in contact with Ruark to see if the company had any spare Vifa drivers or advice about where I would be able to source a replacement for my damaged Equinox. I was disappointed to learn that the drivers were no longer in production. What's more the drivers were 60hm units, a special order from Ruark, and the closest unit with a similar model number available on the Vifa

website was an 80hm unit. Although I was advised that this would be a satisfactory replacement, I decided against purchasing the 80hm variant.

It was beginning to look as if the Ruarks were destined for the attic (I'm not very good at parting with stuff) but they actually stood gathering dust in the corner of my listening room in a state of limbo as a reminder that I hadn't thrown in the towel yet and that I just needed to put in some research to track down a replacement driver. They stood there for a further two and a half years!

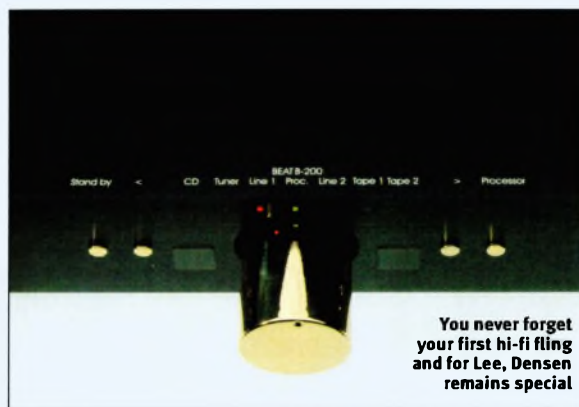
Light at the end of the tunnel

It looked as though my cries for help on the hi-fi forums had fallen on deaf ears, until I was contacted by a fellow Ruark fan offering a genuine replacement drive unit from a pair of Equinox speakers that had experienced a similar mishap. I couldn't believe my luck.

One of the pair had been damaged during transit, although there was no visible damage to the cabinet or drive unit itself. The second speaker was in good working order, but the owner had been a great deal more adventurous in their quest to get the speakers working again and had sought alternative drive units as an upgrade and replaced them with SEAS drives that matched exactly the specification and cabinet housing of the Equinox speakers. This was indeed encouraging news, but not quite the route I was looking to take. I didn't want to upgrade my Equinoxes – I wanted to relive the familiar sound that I had spent so much time with before I considered moving on – to enjoy them in their original form for just a little while longer. In the end, I purchased the spare driver and fitted it into my own cabinet.

My quest may have taken me on rather a convoluted and somewhat lengthy journey, but it was very worthwhile as the big smile on my face when I finally got them up and running again after a two and a half year hiatus proved. Driven by the Densen Beat combo, their familiar sound is like catching up with a long-lost friend, and it's one that continues to endure and make me smile when I hear them today.

I actually have a letter from the local authority concerning the excessive noise



LEE DUNKLEY
Hi-Fi Choice editor





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The times are a-changing

The ascent of digital music downloads means that how we consume music is evolving but, **David Price** wonders, has anyone in hi-fi land really noticed?

The trouble with history is that you can only see it when it's already happened. Right now we may be buying our Compact Discs online, congratulating ourselves that we've saved £3.27 on the shop price of the latest Bowie album, but around us the whole music retail infrastructure is crumbling. Trouble is, it's so glacially slow that we won't notice until it's too late and the market reaches a stage when it's not economic to sell CDs in shops anymore at all. Then there's the inevitable hysterical outburst of sadness for the demise of shops that people haven't actually gone to in years!

That's why it's helpful to think of things in terms of competing interests and needs, like a big sea with waves, undercurrents and riptides. While that little boat may not be moving fast, it could well be being pulled in a number of directions at the same time, attempting full speed ahead against the tide. That probably best describes poor old CD's plight right now – over its 30 years on the planet it has built-up tremendous momentum and a natural buoyancy, but now the tide has turned and the storm has broken, and not even its past glories are going to be enough to save it...

The rise of digital downloads

CD is currently being assaulted by digital downloads, and it's not going to get any easier for it in future. According to the clever people who crunch the numbers about such things (the British Phonographic Industry), 2012 wasn't a good year for music sales. Total UK album sales fell by 11.2%, with those sold on CD dropping more than that trend – nearly 20% to 69.4m copies. By contrast, digital album sales rose by 14.8% to 30.5m, meaning downloads accounted for nearly half of all album sales. That's a surprising figure considering that just a couple of years ago it was closer to 10%. Over in the singles market, which had its fifth successive record year (up 6% to 188.6million), a staggering 99.6% came via digital download. And according to the Official Charts Company, music fans streamed audio tracks more than 3.7bn times.

So when there's no need to buy a silver disc, there's no need to buy a player either – with discs plummeting and downloads jumping, CD player sales are tanking and streamers are buoyant. Yet despite some very choppy water for silver disc sellers and heavy turbulence for CD player manufacturers, much of the music collecting public hasn't quite noticed the undercurrent yet...



My generation of 40-something music fans still remembers the pleasure of buying a new album, of making the trek to the record shop, the pleasure of buying it, the likely trip to a coffeshop or pub afterwards to look at it before you'd even played it. We remember the tactility of the sleeve or digipack, the great artwork, the smell of the freshly printed paper and indeed the disc itself (if it was on vinyl).

All of this is a lovely 'rite' that imbues the music with extra specialness, and why not? Now though we – and the generations that came before me – are beginning to be in the minority. Young people buying music simply don't have any allegiance to physical things anymore.

At first, this phenomenon only really affected the singles market but now it is creeping up on the 'serious' album market too, and will encroach on it even more profoundly in future. My *Hi-Fi Choice* hi-res demonstration at February's Bristol Sound and Vision show underlined this, showing that the move away from physical media is now affecting hi-fi land. Over the space of several days I met over 150 people, the vast majority of whom did not own a streamer (only approximately 15 percent admitted to this). But when questioned as to whether they were considering purchasing some sort of network music player, however, that figure went up to a staggering 75 percent. Most potential purchasers were still sceptical, but their minds were now open to the possibility. This is a noticeably higher figure than when I asked the same questions just a year ago.

The purpose of the hi-res demo was to demonstrate computer audio in action, and see if it had convinced people one way or the other. As it transpires, it certainly did sway a good many folk, but also underlined to me quite what a huge trauma some see 'going networked' to be – easily on the same level as selling off your entire vinyl collection and investing in the new CD technology back in the eighties. Make no mistake then, we're currently living through one of the greatest changes in the way we buy, listen to and even think of music – if we could but see it...

Young people buying music don't have any allegiance to physical things anymore

DAVID PRICE
Reviewer and vinyl fan



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Are you being server-ed?

After last month when **Malcolm Steward** wrote about the joys of running his music from his networked PC server, things have taken a turn for the worse...

Literally one day after filing my last column about how to enjoy an unflustered lifestyle with networked media, the accuracy of what I had written was hammered home graphically to me: my primary UPnP server decided it was going to go partially belly-up...

I was sat in my music room with my iPod building a playlist of tunes to enjoy a few days later when a friend was coming to visit. As I flicked through the tracks available I realised that several albums were missing. Blaming the iPod, – as I always do because a) it is made by Apple and b) it relies on a wi-fi connection – I went through to the NAS in the office where I discovered that the infernal iPod was telling me the truth: all the metadata for those 38 or more albums was not visible to the UPnP streamer, for some reason – those albums had all suddenly become 'unknown'.

In fact, some minor rearrangement of share allocations in the HDX store had reflected back to the UPnP server set-up leaving some out-of-date metadata in some albums to confound the issue further. As a result, those rips did not surface on the app I was using in my music room. Sorting that muddle out was a few minutes' work and involved a little editing of metadata and then rebooting both the HDX and the UPnP server. All seemed to be fixed but as those rips were protected, read-only files I remained concerned that all was not entirely well... something, somewhere was amiss and I worried that my music had somehow become vulnerable on that server.

Thank God for back-ups!

Then I recalled CHKDSK displaying errors the last time the NAS booted and flagging corrupted files on the solitary hard disk. Investigation revealed that it had 'repaired' these files by truncating several of them to OKB. Those that it did not reduce so savagely lost their metadata then somehow recovered their read-only status. This is my first gripe with CHKDSK in 30 or more years of owning PCs, so I think it's probably fair to direct my anger towards the hard disk, which, although making nary a sound, definitely seemed to be on the way out. Thank God for my back-ups!

It was time to dust-off my credit card and invest some cash in a new – ground-up – build of a UPnP server. A phone call to a supplier saw an order placed for the parts required for me to construct the new NAS. This, unlike its predecessor, would have a discrete little 500GB drive just to hold Windows 7, Asset UPnP server,

and a couple of required programs, and a separate 3TB disk to hold the music... and nothing else. (I know that Windows does not require 500GB of disk space but it does run better if you give it space to stretch its legs: for example, using another separate 500GB disk devoted to providing a discrete page file that Windows can exploit whenever it feels the need. (One needs a separate disk for this and not just a partition on the Windows drive.)

(NAS) Driving me to distraction

This time I still decided to build on a Micro-ATX motherboard, but with a multiple-core processor, and space and connectivity for multiple SATA 3 hard disks. I should then be able to transfer material rapidly from one disk to a replacement if I ever sniff trouble brewing. My old primary NAS could only accommodate one 3.5in disk, and could only communicate through its USB 2 bus and Ethernet. Neither of these paths was anywhere near fast enough for the efficient transfer of the Terabytes of data it stores. The old NAS was accordingly and unceremoniously binned. The new motherboard boasts USB 3, which promises a theoretical transfer rate of 6GB/s. This should mean that its communication ought not to be as glacial as I have come to expect from USB 1 and 2. Having capacity for multiple disks also affords me the luxury of devoting one disk to holding just the operating system and programs, and another 500GB (it was all I had...) for the Windows swap-file, which should alleviate the woes if the same sort of problem decides to strike again.

What I failed to contemplate was that the first motherboard would be dead on arrival and that, when that was replaced, the new power supply would also give up the ghost. The replacement new power supply also failed subsequently (it would power up and down repeatedly during the POST period) so the build of the new server extended from a single relaxing weekend to a fraught, trouble-finding eight days filled with many journeys over snow-bound country lanes to locate spare components.

However, the server, at long last, is now functioning and has its identity: the old one was called "NASrip" while the new one has been christened "Frustration"!

I discovered that the infernal iPod was telling me the truth: all the metadata for those 38 or more albums was not visible



MALCOLM STEWARD
Reviewer and music fan

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I predict a riot

Can it possibly be true that Neil Young is preparing to take over Steve Jobs' mantle as innovator supreme? Surely not says **Patrick Cleasby** and not with Pono at any rate

It's always interesting to look back at what one was predicting a year ago and see how on the money one was. Pointing to the imminent demise of HMV was like shooting fish in a barrel – no-one will convince me that it is going to be revived as a going concern. The death throes of 25 percent markdowns are just uncomfortable to be around, I can't even bring myself to spend there...

More troublesome was the belief that Neil Young might actually hit a publicly declared deadline – that of last summer – for the universal adoption of a fabled and reputedly marvellous new hi-res format, at the time unnamed. Somewhat inevitably he missed by a country mile, although a couple of elusive media appearances must be researched by interested parties, if only for amusement value. YouTube will meet that need...

Is Crazy Horse off his rocker?

The general tenor of Neil's performances when faced by first David Letterman and then Jon Stewart can be easily guessed by those who have bothered to read the crazy canuck's fascinating autobiography – in summary, he's endearing, he's impassioned, but he's all over the place. Maybe it's coming off of substances, maybe it's the model train collecting autistic tendencies, but blimey, how did this guy persuade any serious business heads to get behind his concept when it's so woolly, so diffuse?

His format/service/player 'Pono' has a Facebook page and a Twitter account, but we still don't know what it actually is in detail. Worrying rumours intimate that it is a 1-bit format à la DSD, the visible evidence from the Letterman session is that it looks like a laughably large and most unergonomic yellow Toblerone, and the feeling has to be that when we already have glorious hi-res digital from HDTracks with Neil's (almost) lifelong home Warners well behind it, why the (expletive deleted) do we need a competing format (again)?

HDTracks continues to roll out legacy titles with some abandon – and new ones too. This Jackson Browne lover wonders why it has recently gone beyond previously existing DVD-Audio territory with one of his artistic nadirs *World In Motion*, but as an indicator of an original deep catalogue in high resolution audio its appearance still has to be applauded.

The best news of the past 12 months is that palpable awareness of and retreat from the Loudness Wars is very much evident. Run the stats or run an ear over the latest offerings from a variety of artists and you will see that the

message of the evils of over-compression is finally getting through, as I had previously pointed out with notable reissues from ELP and Roxy Music. That message may not have reached everybody yet (yes I mean you, The Mars Volta), but at least highly influential figures like Jack White and even more relative newcomers like Metronomy have notched their compression settings down a step or two, or at least their mastering engineers have.

Masters of the universe

The consequence of the delay in industry-wide realisation concerning the mastering disasters of the last two decades means that Neil Young is right about one thing, which is that we have just been blighted by a 20 year or so history of albums that almost certainly can never be restored to audiophile quality without recourse to the pre-mastering versions, if those are at all traceable. Where he is wrong is to ascribe this to PCM digital itself as a format (other than the early nineties when masters were still 16-bit), and to continue to blather on about the paucity of 'MP3' in an age when for nearly a decade now the masses have been purchasing their music in a noticeably superior AAC format. His in-car demonstrations to the stars (and Gilad Tiefenbrun) and his confusing interviews still fail to delineate the difference between the damage caused by dynamic range compression and that caused by data rate compression, in common with the other commentators we lampooned last year (thank you Radio 4's *PM* programme and Bob Stanley).

Young could have been the public mouthpiece we very much needed, but unfortunately his biography and his media appearances only serve to give notice that for mass consumption coherence he may be more of a liability than an asset. However it is unfair to condemn him for his evident passion – more than anyone else he has striven to technically optimise his analogue to digital signal path, to make his work available in the best resolution that digital currently has to offer, and to continue to produce sonically interesting work, from *Le Noise* at the extreme to *Psychedelic Pill* at the more mundane level. But should we give him the keys to the means of (re) production, public confusion will ensue.



How did this guy persuade any serious business heads to get behind his concept when it's so woolly, so diffuse?



PATRICK CLEASBY
Technology specialist

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What's in a word?

Language is constantly evolving and the hi-fi world is no exception. However, says **Tim Jarman**, it's when words are devalued that it becomes annoying...

Hi-fi, like many specialist activities, evolves its own language so that some quite complex ideas can be communicated quickly and easily to users at all levels of understanding. When coined, the various words and phrases carry real meaning, however, sadly many are then de-valued by inappropriate or excessive use. Take the late sixties term: transcription, which used to describe a turntable of the most superior type, good enough that it would seem to transcribe the contents of records onto another medium in the form of a master recording. This phrase conjures up mental images of console-mounted EMTs and rumbling great Garrard 301s, but before too long it came to be attached to all kinds of mediocre tat and became worthless. Anything that you couldn't stack 10 records on became a transcription unit and the term fell from favour.

Fast forward to the nineties and the word of the moment was reference. This is also a highly evocative term, making one think that a reference amplifier or loudspeaker was something that you would find in the development labs and research facilities of electronics manufacturers, record companies and universities, carefully used as an index of performance against which all lesser equipment is judged. If you have the reference you have the equipment whose performance is beyond doubt and absolutely correct, you can't get any better than that. Of course, this was far from being true. Reference audio components do exist, but they are a far cry from many of the run of the mill items that once had this golden word screen printed onto their fascias.

High end's fall from grace

It is sometimes hard to see when a particular phrase or term is being over used until it falls from favour, but for the hi-fi buyer of today here's one to look out for: high end. Years ago one used to hear about high-end gear, but it was seldom actually encountered. High end was what people with limitless space and budgets would have had, a mixture of professional and broadcast gear and custom-built items whose performance supposedly transcended what us mere mortals could achieve with our high-street systems but whose bulk, intricacy and price made them irrelevant to all but the dedicated few. Even statement pieces such as the Sony Esprit (pictured), the B&O 8000 and the Revox Evolution weren't high end back then, despite the painful obsession with perfection that their designers



had obviously endured. Fast forward to 2013 and you don't get very far through the audio scene before you meet a "high end" claim. This time though the components to which it is attached are often quite meek and ordinary, the sorts of things that a sensible audiophile may well choose to buy. Small, inoffensive and neat, they may well be good products, but they are most definitely not high end if we are to use the term in its original context. True high end is big, ugly, demanding, expensive and frankly a bit silly; the sorts of setup that one sometimes sees at the larger hi-fi shows that makes one stop, gawp and then wonder if anyone ever actually buys this stuff. The high end exists to set a limit value as to what is possible, to set an end point for the law of diminishing returns. It is not simply the amplifier with bigger valves or a few extra knobs, the loudspeaker with an unusual driver configuration or the turntable that can take a slightly longer arm.

So what's next?

If even I've spotted it, it is probably the case that the days of high end as useable advertising hyperbole are probably numbered. Assuming that this is the case, it leaves us free to speculate about what the next term will be that is attached to everything with aspirations above the bottom rung of the audio ladder. It's probably something that is in use already, albeit in a minor sort of way, and something that is easily associated with an up and coming technology. High definition is certainly a phrase that has what it takes; it has consumer resonance and would fit in well if hi-res downloads ever gain traction in the mass market. Why put up with a stodgy old pair of loudspeakers when you can upgrade to a high definition model, as evidenced by a few extravagant brochure claims and a prominent emblem on the grille? If this happens I will, for once, be ahead of the game – my dear old Beolab 5000 was described in its catalogues as a high definition amplifier, and that was in 1967!

High end was what people with limitless space and budgets would have had

TIM JARMAN
Electronics engineer





By modern standards the Sondek's overall tonal character was very warm

The one and only

David Price looks back at what's surely one of the most significant turntables releases ever and one that changed our thinking – Linn's loved and loathed Sondek LP12

In the great scheme of belt drive turntables, the Sondek was an elegant evolution of thinking first seen in the original AR deck, and crystallised in the Thorens TD150 – offering a precision of construction and attention to detail that few have matched since its launch back in 1973. Devoid of fripperies or gimmickry, the straight-laced LP12 introduced little that was radical in design terms. Rather, it was simply engineering 'best practice' of the day done to painstakingly high standards, with a patented 'single-point' bearing. Despite this, it went on to forge out an entirely new role for the hi-fi turntable in general, thanks to its own – and its creator's special endeavours.

By the late seventies the Sondek had already become the personification of the belt drive 'super deck', and by the early nineties it was surely the most famous hi-fi turntable in the world.

At the time of its inception, lest we forget, almost no one in the hi-fi firmament took seriously the idea that the source was the most important link in the hi-fi chain. And so it fell to a young Ivor Tiefenbrun to drive the

point home, but it wasn't just his obvious erudition that popularised the idea of 'garbage in, garbage out', it was because he was absolutely correct in what he said.

You spin me round...

Earlier generations of hi-fi writers had assumed that turntables needed to do nothing apart from revolve at the right speed in a quiet and stable way. Linn showed that more was needed, not least to be able to present a high precision closed loop between the turntable and tonearm in order for the cartridge to do its job.

This done, the deck would provide a high-quality signal with which the subsequent links in the system chain would work to make a great sound. If the source wasn't up to scratch, Ivor would constantly tell anyone who'd listen, the speakers couldn't make up for it later. This reasoning now seems such a 'no-brainer' that it's hard to appreciate that 40 years ago it was heresy to a great many people – especially loudspeaker manufacturers!

Interestingly and importantly, however, Tiefenbrun didn't abandon his prized LP12 while building up his

company's product portfolio; the deck received a series of upgrades which showed that Linn took the sonics of the deck extremely seriously. It was this rolling improvement programme which was to make the deck so enduring. An original early seventies sample sounds different to the latest build – yet curiously somehow similar. As such, many myths and legends have grown up around the LP12.

The Sondek is an independently sprung subchassis design, originally with an AC synchronous motor driving a heavy mazak (alloy) platter, sitting atop a machined inner platter which in turn rests on a custom, high-quality bearing. The bearing is set into a subchassis, which rests on three springs that can be adjusted for height and bounce. The subchassis also holds the armboard, which Linn supplies in a variety of guises; the original boards were painted MDF. Around all this is a veneered wood plinth; most earlier Sondeks for many years came in Afromosia – a type of African rosewood – although Black Ash was available.

In its original 1973 guise – complete with smoked dustcover – the Sondek

was a sumptuous-sounding device with a big, fat bass and sugary sweet midband. Treble was silky and soft, which meant the deck's overall tonal character was very warm by modern standards – and indeed those of the current production LP12. What really impressed was the sense of rhythms that the turntable served up; it seemed better able to extract the 'groove' from music than practically any other deck on the market back then. This made it wonderfully entertaining to listen to, and its superiority over rivals made some believe it had a magic quality to it.

Over the course of the decade a few changes were made – mostly in 1974 (from serial number 2000), with new main bearing liner material, a strengthened subchassis, a modified motor control printed circuitboard and a different mains switch fitted.

The Sondek was a sumptuous sounding device with a big, fat bass and sugary sweet midband

Then in 1979 the deck got more elegant spring-loaded lid hinges, but it wasn't until 1981 (at 27,000) that the deck really got its first major mod – one which Linn decided to give a name. The much-acclaimed Nirvana spring and motor mod kit (from 32,826) gave a tighter and grippier sound, which stripped the deck of a lot of its bass overhang and syrupy warmth. Then Linn announced the Valhalla crystal-driven power supply board (38,794), which gave a profound improvement to the overall clarity and detail of the sound, again making it sound leaner – although it was still miles away from the (then) new Compact Disc.

Mods and mockers

Eighties mods continued the theme, making the deck sound ever more neutral and better resolved. The plinth was braced more stiffly (53,000), the subchassis strengthened (54,101) and the suspension springs stiffened. A better bearing arrived in 1987 (70,000), along with a superior armboard (79,160), but it wasn't until 1990 that the Lingo power supply arrived – this was the single biggest upgrade to date, giving a far more precise, CD-like sound without losing

the charm of vinyl. Still, by this time some Linn lovers were beginning to think the deck was just a little too close to the demon digital for comfort.

Linn was on a run, and not long after in 1992, the Cirkus bearing and subchassis package (90,582) was introduced, and to date this is still the most important mod to the deck, taking it away from euphony to accuracy in one seamless leap. It worked wonders for its information retrieval, also improving the soundstaging dramatically too. Around the same time, Linn offered the option of its Trampolin kit, an upgraded baseboard to replace the hardboard base. After a very busy schedule of modifications, the company then went quiet. Admittedly, an early nineties Cirkus LP12 was still completely price-competitive with its rivals, but by the middle of the next

decade this wasn't so. Just at the time when many thought Linn had abandoned the LP12 in favour of the (then) more popular CD12 variant, more news arrived...

First was the Keel subchassis option in 2006. Costing over £2,000 it raised some eyebrows – but correctly identified one of the big weaknesses of the deck, its resonant, overly compliant steel subchassis. Although everyone loved the sonic improvement it wrought, many questioned Linn's intentions on the pricing – the new subchassis cost more than a whole new deck (with the old subchassis fitted). More mutinous murmurings arrived with 2009's Radikal DC motor, which was

Earlier Sondeks were available in an Afrosia or black ash finish



THE FACTS

There are now a great many unofficial LP12 modification packages, from bespoke plinths and top plates to a plethora of DC motor upgrades and power supply tweaks. On top of all this, the introduction of the Keel has spurred a wealth of far cheaper imitators, many made from carbon fibre rather than OE-spec aluminium. Many of the mods packages are quite successful. Ivor Tiefenbrun himself seems reasonably sanguine that his baby has spurred such a vibrant aftermarket accessories scene, while insisting (of course) that the original Linn spec is best. Certainly you can make your Linn sound different to stock with, say, top-plate mods such as those from tiger paw – but it does beg the question why you shouldn't just go out and buy a more neutral sounding turntable in the first place? Certainly, there's a hardcore of Linn LP12 owners who want to stay committed to the deck, and here is where these various mods make sense.

even more expensive than the Keel. Both upgrades made major, profound changes, taking the sound much closer to the ultra-clean, sparkly sound of SMEs and Avids of the day, without losing the LP12's trademark musicality. It made for a beautiful sound, but also made the deck a lot less accessible in its highest form.

The in sound from far out

The LP12 still sells, but in nowhere near the numbers of yesteryear. Happily though, this still means any LP12 owner can get easy access to a comparatively large number of dealers who can service the deck, expertly yet reasonably inexpensively. It also means that anyone wishing to buy secondhand can pick up one at a decent price, simply because of the relatively large number around. You can drop between £150 and £15,000 on one depending on age, spec and condition, and you'll be guaranteed to end up with something that is at the very least interesting – and at best breathtakingly musical to listen to. If you still haven't heard an LP12, you owe it to yourself to do so ●

Big Mac

US and Scottish brands
come together to form
this amazing system
and it's a match made in
heaven reckons **Ed Selley**

Most beautiful systems are partnerships between two (or more) audio brands as manufacturers that make complete systems in house are a relatively rare occurrence. Thanks to the international nature of the audio industry, many of these partnerships have a decidedly international flavour to them with brands from different countries making happy bedfellows. Sometimes though, these partnerships seem so unusual that you wonder how they came to be.

So it is with this system that features electronics from one of the most long running and well-known American hi-fi brands and pairs them with speakers from a decidedly bijou speaker company based in Scotland. The distance between Troon in Ayrshire and Binghamton in New York is a few thousand miles and the differences in design philosophy is arguably even

1



The pride of ownership
that this system
generates is likely
to be immense



COMPONENTS

1 MCINTOSH MC452
£8,495

Boasting 450W into loads as low as 2ohms and tipping the scales at a mighty 64kg, the MC452 is a monstrous powerhouse of an amplifier and one that ensures that headroom in this system will be broadly unlimited.

2 ART ALNICO SIGNATURE **£22,000**

The latest model in the Art speaker lineup mates special Alnico magnet drivers with an enormously substantial cabinet made from layers of birch ply combined with huge pieces of machined aluminium to produce an inert enclosure.

3 MCINTOSH MCD1100 **£10,995**

The flagship digital player plays CD and SACD but also offers a choice of digital inputs to operate as a DAC for your digital sources. Not enough? A choice of fixed and variable inputs means it can also operate as a preamp in an all digital system.

4 MCINTOSH C50 PREAMP **£6,995**

The C50 offers a biblical choice of balanced and unbalanced analogue inputs and will also support moving coil and moving magnet phono stages. It has more digital inputs, has three sets of outputs and a cracking pair of VU meters.

2

3

4



There are very few speakers that this amp won't grab by the scruff of the neck and drive to any level you see fit



wider, but trust me when I say that this system works together in a way that some equipment designed in the same building can't achieve.

McIntosh needs little introduction. One of the elder statesmen of the audio industry, its sizeable range of components spans stereo and multichannel, valve and solid state and analogue and digital but is all tied together behind the striking McIntosh casework complete with huge controls, gothic logos and glossy front panels. It is easy to describe this as retro, but I'm not completely sure it'd be fair.

More source than HP

There is absolutely nothing retro about the technology behind this trio either. As well as supporting CD and SACD playback, the MCD1100, has five digital inputs for external digital sources and offers a choice of fixed and variable outputs. This means you can connect it directly to a power amplifier if you want. Doing so means you'll miss the charms of the C50 preamp, which offers a mind boggling array of balanced and unbalanced analogue inputs, phono stages and more digital inputs. Cumulatively, this pairing could support a system containing 20 sources without resorting to a switching box.

The MC452 power amp is rather less endowed with inputs but what it loses in connectivity, it makes up for in power. McIntosh rates the MC452 at 450W, but given that it is an organisation that subscribes to the 'under promise and over deliver' school of amplifier output, there is strong evidence to suggest that it produces rather more. There are very few speakers that this amp won't grab by the scruff of the neck and drive to any level you see fit.

On balance, this makes the choice of Art Loudspeaker's Alnico Signature to partner the McIntosh seem a little curious. At 90dB/W sensitivity and benign 8ohms impedance, these gentle giants will be happy with less than 50W let alone nine times that amount. As the name suggests, the Alnico Signature makes use of SEAS drivers that use Alnico magnets instead of the more usual rare earth types. The cabinet and general construction of the Art is in-keeping with the company name. The cabinet is assembled from layers of birch ply, the baffle and top plate are huge billets of machined aluminium and the fit and finish is absolutely superb. Each speaker tips the scales at 80kg and feels immensely substantial.

So what does a combination of huge American horsepower and Scottish craftsmanship do when

ABOVE: Distinctive McIntosh terminals deliver the MC452's mighty 450W to the outside world

BELOW: Art Loudspeaker's Alnico Signature

combined? In short, they are utterly convincing. This is a system that has almost unlimited headroom but combines it with extraordinary delicacy. The huge soundstage of The Cinematic Orchestra's *Manhatta* is captured with astonishing realism, but tiny details of musicians shifting their positions or moving their instruments are woven beautifully into the bigger picture. The effect is absolutely unforced but still startlingly real.





The sense of scale is accurate in a way that goes unnoticed until you listen to something less capable

Part of this ability with scale is down to the truly seismic bass on offer. Even on a concrete floor, this is a system that produces visceral and genuinely deep bass that is felt as much as it is heard. The kickdrum in Fink's *Perfect Darkness* is a potent punch to the chest that starts and stops with pinpoint precision. Time spent in the company of the Arts serves to emphasise the point that there is little to touch a large driver in a beautifully implemented cabinet for really convincing bass response.

It is with voices, though, that the system shows its most extraordinary ability. The large 35mm tweeter and 150mm midrange driver of the Art combines to great effect with the incredible detail retrieval of the McIntosh electronics to produce a result that even at this lofty price point has few peers. The minimalist presentation of Regina Spektor's *Oedipus*, is a masterclass in soundstage and realism. Spektor's vocals are locked centre stage, supported by the solo piano and they combine to produce something perfect. It is often the case that with

ABOVE LEFT: The Art cabinet is a combination of birch ply and solid aluminium

ABOVE RIGHT: The MCD1100 and C50 preamp can support up to 20 inputs



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large speakers (and each Alnico Signature is not significantly shorter and quite a bit heavier than Regina Spektor is) that vocals can seem unnaturally large and dispersed, but here the sense of scale is accurate in a way that goes unnoticed until you listen to something less capable in this regard.

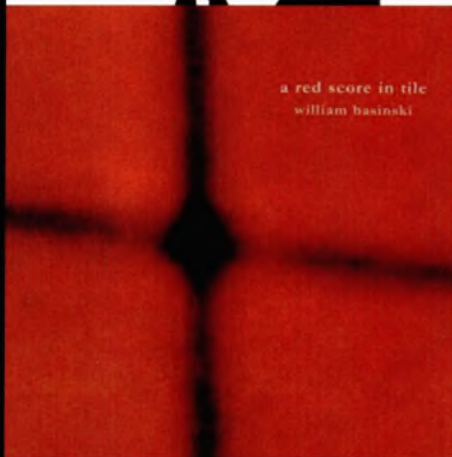
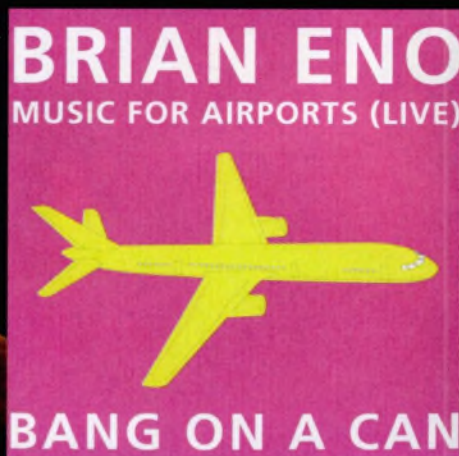
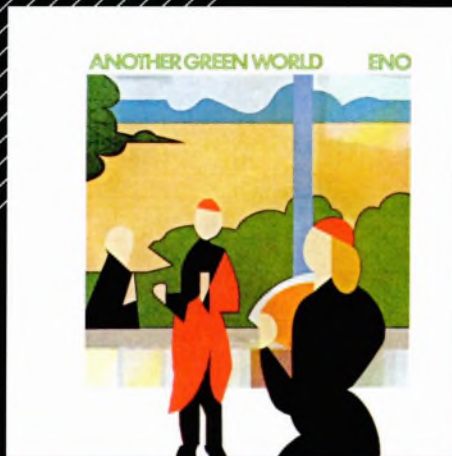
Rough diamonds

Throughout all this, this is a system that is fun to listen to and use. It balances incredible technical sophistication with a simple musical joy. When listening to DJ Shadow's slightly rough and ready *You Can't Go Home Again* you forget the slightly thin recording and revel in the speed and effortless musicality of the system. As a group of electronics, there is no question that the better the recording you give it the better it will be, but it never eviscerates poorer recordings or shows a trace of harshness or aggression at any stage. It times and drives with incredible agility that seems impossible from such large drivers. The control the MC452 exerts over the Arts is absolute and the application of near limitless power to sensitive speakers starts to make sense in a way that bald numbers don't really convey.

It is also a delight to spend time with. I'm not going to pretend this is

a cheap collection of equipment, but the controls are exquisite in both feel and execution and everything feels like it will last indefinitely. Sitting in front of this ensemble, the quartet of VU meters dancing in unison and the incredibly logical and clear displays telling you what is going on (my favourite being that the C50 preamp indicated that the maximum amount of power I ever requested off the system was a mere 38% of what it could technically deliver), it is easy to believe that the pride of ownership that this system generates is likely to be immense.

The result is a system that delivers at almost every level. There is virtually no piece of source equipment that you can't connect to it and it seems largely unfussy about the room it is placed in. More importantly it achieves a musical performance that would be impressive from a system developed entirely in-house. That it is the product of two totally different companies and performs with the cohesion and sheer ability it does is truly astonishing. This is a seriously talented set of equipment, but one that never loses its ability to find the pleasure of the music you ask it to play. It might on paper be an unusual partnership, but in practice this is a very happy marriage indeed ●



Ambient

Forget the audio crimes of new age, ambient is the sophisticated music that your high-end stereo has been crying out for. Bliss out as **Simon Berkovitch** discovers its routes...

If there was ever a genre that cries out to be well-treated by an extensive and expensive array of high-end hi-fi separates, it's ambient – music that is designed to be as audible as it is inaudible, or at least blending in with the environment.

Mention ambient to any music enthusiast and the words Brian and Eno won't be too far from tripping off their lips. The ex-Roxy Music pop star turned cultural theorist is rightly named the king of ambient, birthing the genre with a series of ground-breaking vinyl releases in the mid-1970s on his Obscure label, naming the musical style in question on 1978's *Ambient 1: Music For Airports*, one of a series of ambient releases that continues to influence electronic musicians to this day.

On the sleeve notes of this landmark album, Eno described ambient music thus: "Ambient music must be able to accommodate many levels of listening attention without enforcing one in particular; it must be as ignorable as it is interesting." Certainly, much of what commonly became known as new age music in the 1980s takes its cue from ambient, but its reduction of its components to a dash of dawn chorus and synthesiser presets certainly renders much of this sub-genre ignorable.

Eno's initial synthesis of environmental sounds with electronic music, as heard on *Discreet Music*, is the template for many respectable genres that came in its wake – from ambient house and chill out to post rock and beyond.

Ambient's influences are much more sophisticated than mere musak, taking in the

"furniture music" compositions of Erik Satie and the drones of 20th Century avant-garde composer John Cage and minimalist La Monte Young, as well as emerging technology (synthesisers) and rejection of conventional melody and often rhythm in favour of the embrace of sound for sound's sake.

The beauty of ambient music lies in its ambiguity; listen hard enough, and one can join the dots between Miles Davis' *Sketches of Spain* and the more contemporary synth experiments of artists such as Emeralds and Oneohtrix Point Never.

It's also a soothing way to keep the myriad irritants of the 21st Century living at bay – as Eno says, "Ambient music is intended to induce calm and a space to think" – so set the hi-fi controls to environmental and prepare to soak yourself in pure, cleansing sound...



The genre's lasting influence on pop music comes from Eno's role as a producer

Brian Eno

Bow down before the king of ambient

The titles alone of a couple of instrumental tracks on Brian Eno's 1975 album *Another Green World – Becalmed and Spirits Drifting* – signpost the musical preoccupations of the king of ambient from the mid-1970s to the present day. His exploration of ambient and systems music – elongated compositions characterised by repetition in the vein of the minimalist school – begins in earnest in 1973, just post-Roxy Music, in his

collaboration with King Crimson's virtuoso guitarist Robert Fripp, with the two side-long pieces that make up *No Pussyfooting*.

The title track of 1975's *Discreet Music* is Eno's first, true ambient classic: a 30-minute haze of echoing, overlapping synthesiser lines evoking the maxim of Satie's furniture music: best played at low volume. The track blends beautifully into the ambience of the room; music as environment.

Both 1978's *Music For Films* and *Ambient 1: Music For Airports* are ambient milestones – as is his collaborative work with David Bowie the previous year; the (largely) instrumental sides of *Low* and *Heroes*.

Over the course of a lengthy discography, ambient music has been a propulsive force for Eno, but the genre's lasting influence on pop music comes from his role as a producer for mainstream bands like U2 and Coldplay.



The *Environments* series produced some of the longest album sides ever recorded

The *Environments* series

Natural sound for hi-fi enthusiasts

For many hi-fi enthusiasts, formative exposures to ambient music were thanks to the ground-breaking series of *Environments* albums that were primarily designed to give hi-end hi-fis a decent work out.

Available on LP, cassette, 8-track cartridge and eventually CD, the beautifully recorded series was created by sound recorder Irving Solomon Teibel and was entirely music-free, instead consisting of natural environmental

sounds – such as waves lapping against a Californian shore or an English dawn chorus.

The first LP – appropriately entitled *Environments 1* (1970) – was an unexpected hit with hi-fi enthusiasts and comprised two side-long tracks: *The Psychologically Ultimate Seashore* and *Optimum Aviary*.

1974's *Environments 4*, featuring recordings of a torrential rainstorm and *Gentle Rain in a Pine Forest* was the first

outing for some of the key elements of 1980s new age recordings (but don't hold that against it) – as were volumes eight (*A Country Stream*), nine (*Pacific Ocean*) and 10 (*English Meadow*). The series produced some of the longest album sides ever recorded and was deemed important enough to be included on the Voyager Gold record, which provided an audible representation of life on earth and was taken into space in 1977.



A harmony of all voices, human and otherwise

David Hykes and The Harmonic Choir

Acapella, just don't mention The Flying Pickets

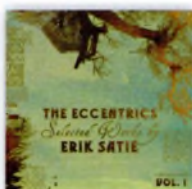
Forget creating blissful sounds using vast banks of expensive synthesisers: how about generating ambient soundscapes using just the human voice? This is precisely what David Hykes achieved with his uplifting recordings with The Harmonic Choir.

Formed in 1975 by Hykes, who was at the time an accomplished experimental filmmaker with a deep-rooted interest in traditional and sacred music, The Harmonic Choir is inspired by World Music – specifically Mongolian throat singing and the overtone chanting of Tantric Tibetan Buddhism. And Hykes is rightly regarded as one of the earliest Western pioneers of overtone singing, or as he likes to call it

“harmonic chant”. So far, so esoteric, but the contemplative music that unfolds on *Hearing Solar Winds* and follow-up *Harmonic Meetings* has grown to become ambient classics, best experienced at low volumes. It's also been used in a number of movies.

Significantly recorded in a 12th-century monastery in Provence, the sounds captured in the grooves of these records feel like a short cut to spirituality when heard in the right frame of mind.

As the sleeve notes have it: “The music of David Hykes is a harmony of all voices, human and otherwise. Just accept to feel that yours is included within.” Ambient music as mere background? Not in this case.



Referred to himself as a someone who measures sounds

Erik Satie

Invented the concept of furniture music

French composer and pianist Erik Satie may have died in 1925, a considerable amount of time before many of the early experiments in sound discussed here had even started, but he is without doubt the godfather of ambient music. Satie's compositions are regarded as direct influences on 20th-century minimalism and repetitive music, which themselves went on to shape the sound of the ambient genre as a whole.

Satie, who referred to himself as a “phonometrician” or “someone who measures sounds” – a neat precursor to Brian Eno's self-description as a “non-musician” – coined the term ‘furniture music’ back in 1917. It refers to five short

compositions designed to be played as background music – the first time the concept of music to be listened to *passively* appeared (this was famously later adapted by theorist John Cage).

The term furniture music is often erroneously extended to more famous and approachable works by Satie – namely the three beautiful piano compositions that make up the melancholic *Gymnopédies*, themselves slow-mo ambient classics.

In addition to his body of music, Satie was also a prolific writer, contributing to publications as diverse as *dadaist 391* and *Vanity Fair* using pseudonyms such as Virginie Lebeau and François de Paule.

► AMBIENT SHOPPING LIST

In addition to the four artists and albums profiled, your record collection will benefit from the following 10 Ambient classics. All are available to buy from online stores at the time of writing.



Popol Vuh
Affenstunde
Popol Vuh's first album was released in 1970 on Liberty Records. It was then re-released on German label SPV GmbH back in 2004 with an additional bonus track.



Aphex Twin
Selected Ambient Works 85-92
Richard D James is rightly considered as the pioneer of intelligent electronic music and this, his debut solo album, was hailed as a classic.



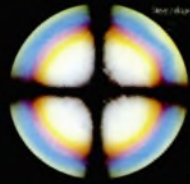
William Basinski
A Red Score In Tile
A classical clarinetist, Basinski developed his sound using tape loops and reel-to-reel decks, experimenting with short looped melodies played to create feedback.



Brian Eno
Apollo: Atmospheres and Soundtracks
Recorded for a feature-length documentary featuring footage of Apollo moon landings, tracks have been used in numerous films.



Tangerine Dream
Zeit
The third album from the pioneering German group, this double LP was the first to feature new member Peter Baumann and was released back in 1972.



Steve Hillage
Rainbow Dome Musick
This 1979 release was a collaboration with long-time partner Miquette Giraudy. Hillage famously was a member of Gong and worked alongside Mike Oldfield.



Miles Davis
Get Up With It
Davis's last studio album before a five-year retirement from music, this classic cut is a collection of tracks recorded between 1970 and 1974.



David Sylvian and Holger Czukay
Flux + Mutability
The second collaboration between Sylvian and Czukay, this 1989 release consists of just the two tracks, both of which were improvised.

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101 Patti Smith
Live at Montreux



101 The Rolling Stones
GRRR!

Musicreviews

ALBUM
OF THE
MONTH

Where are we
now? Bowie as he
appeared inside
the LP when
folded open

© DUFFY DESIGN CONCEPTS



CD - 40th Anniversary Edition **EMI**

Aladdin Sane David Bowie

★★★★★

THE RECENT MEDIA frenzy occasioned by Bowie's first album in 10 years was nothing compared with the fevered excitement that greeted the release of *Aladdin Sane* in 1973.

The Rise and Fall Of Ziggy Stradust and the Spiders From Mars had turned Bowie into the most talked-about artist of his generation. Pre-orders for the follow-up topped 100,000 for the first time since the heyday of The Beatles, and gave Bowie his first number one album (it's one of rock history's quirkier facts that *Ziggy*, arguably one of the most influential rock albums of the 1970s, was kept from the top spot by the cheap and cheerful Woolworth's multi-artist compilation *20 Dynamic Hits*).

Written and recorded in snatched moments during a US tour, Bowie himself described *Aladdin Sane* as "Ziggy goes to America" and the influence of Lou Reed and Iggy Pop is evident in the album's edgier rock tracks such as *Watch That Man* and *Panic In Detroit*. The craziness surrounding Bowie's hectic apotheosis into glam-rock messiah could have hobbled his inspiration.

But instead, he drew from it a turbo-charged creative urgency that infuses everyone of the original 10 tracks. The decision to reissue the album without the addition of 'bonus' material will please those who think it sacrilege to add or subtract a single note to or from such a seminal recording. Others may feel short-changed that there's no bonus live performances from the time

"Written and recorded in snatched moments, Bowie described *Aladdin Sane* as 'Ziggy goes to America'"

and non-album studio tracks, like the brilliant *All The Young Dudes*.

The original vinyl pressing was criticised at the time of release for the sludgy sound that bedevilled several tracks. On the Stones-influenced opener *Watch That Man*, Bowie's vocal was oddly muffled, while his harmonica on

Cracked Actor was buried so deep that its sharp tones were almost totally lost.

According to some sources, this was down to the mixing process being compromised in the record company's haste to get the album out. But another account claims that the sound was quite deliberate and Bowie was seeking a raw, garage-rock primitiveness to contrast with the plangent cabaret decadence of the album's ballads such as *Time* and *Lady Grinning Soul*.

Despite comprehensive digital remastering by Ray Staff, who cut the original LP at Trident Studios 40 years ago, neither of the controversial tracks sounds much different – so perhaps the murkiness was indeed an intentional part of Bowie's plan. Elsewhere, Staff's re-treatment of the master tapes boosts the jazzy, avant-garde arpeggios of Mike Garson's piano playing, particularly on the title track and *Time*, while the cranked-up rockers *Panic In Detroit*, the breakneck version of *Let's Spend The Night Together* and *The Jean Genie*, sound much fatter and less brittle. **NW**

The one and only James Marshall Hendrix would be 70 this year

BRIAN T COLVIL © AUTHENTIC HENDRIX, LLC.



Jimi Hendrix People, Hell & Angels

★★★★★

CD

Sony Music

RELEASED TO COINCIDE with the celebrations for what would have been his 70th birthday, the record company hype would have us believe that these dozen previously unreleased studio recordings are the bones of the album Hendrix might have released had he not died in 1970. Given that they were recorded with different line-ups over a period of two years prior to his death, it might be more accurate to say

“Intriguing experiments offering tantalising hints of where his genius might have taken him”

they're intriguing experiments offering tantalising hints of where his genius might have taken him next.

The remastered production by Eddie Kramer (who was Hendrix's engineer in his lifetime) eschews the psychedelic clutter of Hendrix's 1960s releases. The result is a sound that is raw and clean, emphasising a funkier, R'n'B feel and pushing his vocals high up in the mix to give his voice a rare and welcome clarity. That said, it's still the stellar guitar playing that commands attention. **NW**



Morrissey Kill Uncle

★★★★★

CD

Parlophone

THE POOR RECEPTION that greeted Morrissey's second solo album in 1991 has long rankled with the Smiths singer who felt its experimental tendencies were misunderstood. Hence this revised version, with a new sequence, one of the original songs replaced by a superior take, the addition of two previously unreleased tracks and the 'newness' emphasised by a redesigned cover. By and large the makeover works and the clunky, unsympathetic production by Clive Langer and Alan Winstanley has been dramatically sharpened up by crisp remastering. **NW**



Donovan Breezes Of Patchouli

★★★★★

4 CD box set

EMI

THESE 90 TRACKS chronicle Donovan's sixties career as he abseiled across the face of British pop, undergoing a series of transformations from acoustic folkie (*Catch The Wind*) to swinging pop star (*Sunshine Superman*) to psychedelic princeling (*Hurdy Gurdy Man*) and whimsical hippie mystic (*A Gift From A Flower To A Garden*). He played them all with conviction, but they struggled against the crummy production of pop svengali Mickie Most, who put his energies into the hit singles and skimmed on everything else. Remastering papers over some, but not all, of the cracks. **NW**



The Brand New Heavies Forward

CD

Heavy Tone Recordings

NOT SO BRAND new (or heavy, either), but the first album in six years sees the soul jazz trio reunited with N'Dea Davenport, the most consistent visitor through their revolving door of chanteuses. Musically, there's no real difference since their nineties heyday, which is effortlessly recreated here – pumping, slapped bass, funky guitar and drum patterns, with soaring horns and synths all in place. There may be no standout quite as memorable as their cover of *Midnight At The Oasis*, but first single *Sunlight* comes close. **DO**

★★★★★

AUDIOFILE VINYL

★★★★★

Jeff Beck, Tim Bogert, Carmine Appice Beck Bogert Appice

180g vinyl

Epic/Speakers Corner



JEFF BECK GOT together with the former rhythm section of Cactus and Vanilla Fudge in 1972 after he disbanded the second Jeff

Beck Group. In doing so he formed what was widely recognised at the time as a hard-rock super group.

Full on backing was provided by bass player Tim Bogert and drummer/singer Carmine Appice. It's classic power trio stuff, not the most sophisticated of Beck's

career nor is it anywhere near as powerful as the live performances are reputed to have been, but the album contains some good stuff including a stonking version of *Superstition* that was released as a single.

Recorded at Chess Studios and Village Sound in Los Angeles in late 1972/early 1973, it's not the most open nor incisive sounding record, in fact it's quite compressed but this pressing is a lot more powerful than the original. Fortunately, the compression does little to obscure Beck's supreme skills, which are evident on a number of tracks including *Why Should I Care* and *Lady*, but you have to listen hard to appreciate them beneath the barrage of the rhythm section. **JK**

HIGH RESOLUTION DOWNLOADS



HOT PICK

The Rolling Stones

GRRR!



24-bit/88.2kHz Polydor Ltd through Linn Records

GRRR! CONSISTS OF 50 outstanding tracks from Great Britain's funkier pensioners celebrating their band's 50th year, featuring songs from their first single from 1963 all the way through their new studio recordings from 2012. It's a brilliant collection of wonderful old blues transmogrifying into rock. Recorded in 24-bit/88.2kHz, the Stones sound as vibrant and vital as ever with all that energy and fire encapsulated. **MS**



Windwerk
Zwischentöne
(Nuances)



24-bit/192kHz Acousense through Linn Records

NAMED AFTER THE German word for the blower of a church organ, this duo features the sounds of organ and saxophone. And what a magnificent, glorious sound the band produces. The music is improvisational and draws on elements of jazz and church, both genres that employ experimental playing to grand effect. Windwerk create music that seems deeply moving and inspirational despite its outward simplicity. **MS**



Johannes Brahms



Clara Schumann

Lisa Batiashvili

Staatskapelle Dresden
Christian Thielemann



Brahms Concerto for Violin and Orchestra Op 77

Lisa Batiashvili (violin), Dresden Staatskapelle, Christian Thielmann

CD **Deutsche Grammophon**

THIS IS ABOUT as good as it gets for the Brahms violin concerto; a performance of great passion and commitment, played with electrifying clarity and precision. Intonation is perfect, and few accounts of this work are as well executed. There's drama too – a sense of the music moving mountains and grabbing the listener by the throat. The recording sounds open and smooth, with the orchestra and soloist set back in a fairly reverberant acoustic. Tonally, the sound is clean and refined and there's no lack of immediacy. **JH**



Alice Sara Ott

Mussorgsky
Pictures at an Exhibition



CD **Deutsche Grammophon**

RECORDED LIVE AT the White Nights Festival in St Petersburg. Ott gives a commanding and atmospheric performance of Mussorgsky's *Pictures*. Lasting over 35 minutes, tempi are quite slow in places, and the music unfolds at a pace that is often mesmerising and hypnotic. There are lots of subtle imaginative touches that catch the ear, but this is not an effete rendition; the big moments are executed with unflinching power and rich sonority. The live recordings sound smooth and natural, with a deceptively wide dynamic range. **JH**

HOT PICK

BLU-RAY DVD ★★★★★

Patti Smith Live at Montreux

eagle-rock.com



MONTREUX SEEMS LIKE

an unlikely place to find the high priestess of punk but it's a mark of her capabilities that she pulls it off in style.

Smith and her band are consummate musicians aided by Television front man Tom Verlaine on guitar. Together they have a great sound with solid bass and an open, uncompressed feel that enhances the performance. Smith can still whip up a frenzy, yet has a wide emotional palette to draw on which makes her a very human and engaging performer. **JK**

HOT PICK

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DCS PUCCINI XCD/SACD player in silver 2.5 years old. Original box, remote etc. Unit is in mint condition. Collection from TN14 or

can ship. Cost £11,995, asking £7,500 ono: email: katherinenewman74@gmail.com

WADIA 1701 iPod dock/transport. Excellent condition, black with original box, instructions, power lead and Wadia supplied digital interconnect. Please note remote control does not work. Get CD quality from your iPod. £125 ono (RRP £400): **07500 767 281 (Bucks)**.

REGA P3-24 turntable with Ortofon 2M Bronze cartridge, external PS £375; Arcam Alpha 9&9P amplifiers £250; Castle Eden speakers £150. All for £700. Buyer collects: **07500 992 269** or email: chorc2001-2@yahoo.co.uk (Bristol).

EB ACOUSTICS XEB2 stand-mount speakers – Oak finish. Used but in excellent unmarked condition. You do not have to wait four months to get your hands on a new pair of these wonderful



Bargain hunters might want to sniff out this Yamaha A-S2000

sealed-box speakers, get these now, they are just about run in! Excellent 87dB sealed-box design, ATM SC11 beaters! Collection only. £480: **07725 525001** or email: alan.strudwick@googlemail.com (South Wales).

TECHNICS SLP-770 CD player, late 80s Technics hi-end CD player with remote and manual. Virtually unused. No signs of wear, plays faultlessly and sounds superb. £170 ono. Sony SCDS-555ES SACD player, gold, manual, remote. Unmarked as new condition, stunning in SACD mode, 15kg of Sony's finest. £495 ono. Siltech G7 25th anniversary 770i RCA interconnect (1.5m), as new with all packaging, locking RCAs. Simply amazing upgrade, bass and midrange are jaw dropping through this cable. £249 ono + postage. VDH hybrid integration interconnect 1m, RCA, as new with bag/box £89 + post. Can post all: **01766 781 211 (Gwynedd)**.

PROAC Response 3.8 in real Yew veneer. Slight cabinet damage, but not noticeable set up. Otherwise perfect. Amazing deep bass at low volume. Can be tested. £1,400 ono: **07976 009 835** or email: Steverees67@gmail.com (County Down).

CYRUS Streamline 1 with remote, as new, 14 months old. Boxed with manual. (£1,600) £700: **07956 040 064** or email:

paul_sims@talktalk.net (Staffordshire).

LINN system, Majik amplifier, Genki CD, Pekin Tuner, Katan Speakers, Pioneer PDR609 CD player/recorder, speaker stands. £1,400 ono: **01406 365 078** or email katherine1954@btinternet.com.

PIONEER A300R precision stereo power amplifier (modified by Tom Evans). This is a very rare piece of Tom Evans hardware. Has been modified by Tom himself to run as a stereo power amplifier. It is an amazing piece of kit with stunning sound and will drive virtually all speakers to very high levels. The conversion process, it cannot be reconverted to an integrated amp so you are going to have to use a preamp with it. It is in perfect working order but case does have some surface scratches. £350 ono: **07725 525 001** or email: alan.strudwick@googlemail.com (South Wales).

TURNTABLE power supply for Garrard 301/401 Thorens etc. Regenerative mains supply, clone of Lorcraft PSU II, £349 no offers. Can post if needed: **0207 499 8729**.

YAMAHA A-S2000 amplifier and Yamaha CD-S2000 SACD-CD player both boxed and mint. Light use. Can deliver UK mainland. £1,400 for the pair: **01423 866 670 (weekends only)**.

BUYING TIPS **BUYING SECOND-HAND** can be a great way to pick up a bargain. A formerly expensive second-hand component might well prove a better long-term bet than a brand-new product if the price is right. **DO SOME RESEARCH** on which brands have a good service back-up, so if something does go wrong, you can get it fixed. Unless you purchase from a dealer, you're unlikely to get any warranty, so it's up to you to ensure the fitness of any gear that you buy. **USUALLY** speakers should be less prone to breakdown than amps, and amps should be more reliable than CD players. But any abused component could be trouble – have a proper demo and judge the seller as well as the goods!

NAD 304 304 amp £40. Mission 760i speakers £35. Aiwa ADF700 cassette deck £25. Heybrook open frame speaker stands £35: **01691 610 589**.

WANTED: pair of Linn Ican speakers must be in perfect working order, in very good/excellent condition. Top price paid if condition good. Any wood finish. Will collect: **07754 507 519**.

MANA ACOUSTICS six tier equipment rack £350. One turntable table with reference level £250. Two power supply tables £50 each. Buyer collects: **07860 155 521 (West Drayton)**.

VITA AUDIO R4i CD, DAB/FM compact stereo system, iPod dock, 80W output with subwoofer. Excellent condition. Black gloss and boxed. Was £600 will accept £395: **01634 255 168 (Kent)**.

KENWOOD Integrated amplifier KA3020SE, Technics CD player SL-PS670A. KEF Coda 7 speakers. Maker's boxes. Good condition, can demo. Some cables. Instruction manuals. Buyer to collect. £300 ono: **01493 444 203 (Great Yarmouth)**.

DENON AVR4308 (Premium Silver) mint condition and boxed £500. Atacama 4 Tier Glass stand (used) £75: **01909 731 413 or email nwhelpdale@btinternet.com (North Notts)**.

HOVLAND Sapphire power amp. Just re-tubed, serviced etc. Boxed and VGC. £2,500: **01 772 314 151 or email: jamesmckendrick@btinternet.com (Preston)**.

YAMAHA A500 amplifier, Marantz 6004 CD, NAD C545 BEE CD, NAD C426 tuner AM/FM, Quad 2L2 stand mount speakers, Wharfedale 9-1 speakers. Buyer to collect please: **019 77 695 385 (West Yorkshire)**.

SONY Hi-MD MZ-RH1 Walkman £249. Unused, boxed. 5 Hi-MD discs, 1GB unused. £50. Russ Andrews Power Pak 3 for Naim preamps etc. £129. Fidelity Research FR T5 phono cartridge transformer £450. Boxed: **02392 453 382 (Hants)**.

GRADO Reference RS2 headphones (£500) with

latest Grado carrying case thrown in, £210. Sennheiser HD650 headphones (£350), £180. Rega Ear headphone amplifier in black (£148), £75. All light use, VGC and in original packaging: **07772 711 432 or email: orchard.schofield@kcl.ac.uk (Bucks)**.

VAN DEN HULL Meridian Interconnects. Pair interconnects 900mm length, Neutrik phono connectors £37 + p&p. Pair interconnects 600mm length, Neutrik phono connectors £32 + p&p: **01582 573 570 or email: i.fraser587@btinternet.com (Luton)**.

REGA Planet 2000 CD player (silver), owned from new, VGC £190, Linn (Black) high quality analogue interconnect cable (as new) £30: **07581 195 784 (W Yorks)**.

FIRESTONE Fubar I/O USB DAC/ADC (black/silver) with Chord Co Silver Plus (0.9m) USB cable. Full working order £85: **01179 500 429 or email: ron.watt@sky.com (Bristol)**.

DALI Royal Menuet II bookshelf speakers, boxed with manual, bi-wireable, (Cherry), excellent condition £195: **01326 374 797 (Cornwall)**.

QUAD 33 and 303 amps, FM3 tuner, unused since full Quad service, supporting paperwork, boxed £350: **01825 722 936 (Lewes)**.

MUSICAL FIDELITY X-A1 amp with separate power supply £100: **01132 933 478 (W Yorks)**.

QED Genesis Silver Spiral bi-wire cable 6 m x 2. Good condition. Terminated with banana plugs on speaker side, banana/BFA plugs on amp side. (£800) £300 ono: **07927 143 348 or email: creativeeh@googlemail.com (Surrey)**.

MARANTZ PM 11-S2 integrated amp with phono, (silver), only 8 months old, in superb condition complete with remote, manual and original box (£3,500), now £1,250 ono: **01303 863 424 (Kent)**.

ATC SCM11 speakers (Cherry), (£1,000) £480; Roksan Kandy K2 CD (£899) £450; K2 Amplifier £450; Leema Xero, (Cherry), (£700) £350; all boxed, 30

months old: **07583 640 342 (Nottingham)**.

CYRUS CDXT (silver), original box, instruction manual and remote. High quality CD transport to partner any external DAC. VGC £330: **01422 885 440 or email: n.taylor154@btinternet.com. (W Yorks)**.

PIONEER PD-S707 Stable Platter CD player, in mint condition with remote. Optical Digital Out for use as a transport, *Hi-Fi Choice* recommended. £150 including delivery: **email: jk78610@yahoo.com (France)**.

AYRE ACOUSTICS AX7c integrated amplifier, three years light use. Unmarked condition including remote. This is a current production model (£2,500) £1,150: **07785 465 137 or email: how.750@gmail.com. (Lincolnshire)**.

LINN Ikemi CD player, Immaculate condition, boxed with remote and manuals. £800 **07870 159 725 or email: johndsidebottom@hotmail.co.uk (Somerset)**.

TRANSPARENT Music Link balanced XLR, 1m, stereo pair interconnects £250, Nordost Solar Wind 2.5m and 3.5m (doubled) speaker cables £150, excellent condition: **01457 871 622 (Lancs)**.

LINN Sondek LP12 turntable with Linn Ittok LV11 tone arm and MC cartridge. Open to

Offers. Photos available:

Email: philipmitchello2@02.co.uk (N Ireland).

NAD Viso Two one-box system. Comprises CD player, DVD player, FM/AM tuner and 50W amp. Excellent condition, boxed. £275: **01926 259 022 or email: davidhardy18@talktalk.net (Warwick)**.

RUSSANDREWS Classic Powerkord with 24ct high quality Wattgate £70: **01484 427 426 (Yorkshire)**.

LOWTHER Accolade 2011 (Birch wood) £2,200, 8ohm, 100w, DX2/DX45 (veneered) £3,540, excellent, engineer's test result, Monitor Audio RX6 8 ohm 125w, (Rosent) (£800) £500. Can demo: **01661 823 606 or email: grant.darras@gmail.com (Newcastle Upon Tyne)**.

ROKSAN M2 integrated amp, as new, boxed, supplied with all original accessories, superb, £1,100: **07787 574784 or email: stephen.adolphus@gmail.com (West Sussex)**.

AURUM Cantus Volla loudspeakers. Figured maple finish. Hardly used. As new condition. Complete with stands and boxes. Can demo. £1,400: **07736 339 194 or email: j.boswell@rbht.nhs.uk (Bromley)**.

ACOUSTIC ENERGY Radiance 1 speakers, great condition, well

loved and cared for, £230: **07902 303 181 or email: chris.skinners@gmail.com (Herts)**.

TECHNICS SL1210 Mk2 (no cartridge) £249, Garrard 401 with plinth, no arm £699, Garrard 401/301 power supply £299: **0207 4998 729 (London)**.

B&O Beogram 8000 with MMC 20CL cartridge £225, B&O P30 speakers £125, all good working order, buyer collects: **01302 772 495 or email: adrian.petch@btinternet.com (North Lincolnshire)**.

HARBETH P3ESR speakers and a pair of dedicated stands. All in mint condition (maple natural wood veneer), boxes, packing and instruction manuals included, £1,300, buyer to collect: **01305 263 069 (West Dorset)**.

CHORD G3200E balanced preamp, 2007 (silver) with Integra legs and brick remote control. 2x XLR, 5x RCA inputs, for demo. £2,195: **0208 6558 674 or email: jbandgz@aol.com (Surrey)**.

REGA RS3 speakers (black ash) £500, DALI Lektor 1 speakers (oak) £150, Cyrus FM7.5 tuner (silver) £100, Grado SR80i headphones £75, Sennheiser RS180 headphones £100, all in VGC: **01427 617 038 or email: stuartb63@btinternet.com (Lincoln)**.

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Import, distribution and retail

Ed Selley casts his expert eye over this month's top hi-fi websites...



DEFINITIVE AUDIO

definitiveaudio.co.uk

Definitive Audio is one of the UK's premier dealers and offers a unique range of products. Kevin and Lynn Scott have accrued a line-up of equipment that when partnered with their 'house brand' Living Voice speakers is capable of astonishing results. I've listened to the Vox Olympian horn speaker on two separate occasions and both have been truly staggering experiences.

One of the better kept secrets of the Definitive Audio site is the 'Stuff List'. This is a compilation of ex-dem and trade-in equipment for sale and what might come as a bit of a surprise to people aware of the price points that Definitive generally operates at, some items are stone-cold bargains. Sure, the pair of Octave Audio speakers at £17,000 is probably not going to be an impulse purchase, but experience from people who have bought equipment suggests that the product descriptions are unfailingly accurate. For the DIY enthusiast, the other interesting part of the kit list is that as well as complete electronics, there is a range of ultra high-quality drivers, capacitors and inductors for sale as well.



QOBUZ

qobuz.com

Many download sites currently available tend to specialise in a single genre of music or are the retail end of a single record label. This means that if they are the genre you are looking for, they are absolutely brilliant, but they are as much use as a handbrake on a rowing boat for everyone else.

Qobuz has a strange name but is making a better effort than most to offer a wide variety of genres and album choices. The site has a very large library of lossless audio and a fairly impressive selection of high-resolution material ranging from 24/44.1kHz to full fat 24/192kHz and this is usefully spread out across multiple genres. The site isn't perfect though. Qobuz is based in France and requires you to run a

site translation if you want English and it charges in Euros. More of a problem is that, like HDTracks, if you want to buy material you will need to be in France or able to operate a proxy server to put your location wherever you need to be. This is a legal grey area and something to undertake at your own risk, but might be worth considering for some of the more unusual material.



VINYL ENGINE TONE ARM DATABASE

vinylengine.com/tonearm_database.php

Picture the scene, enthralled by our recent eulogy to the Systemdek (or indeed simply looking at one of the dozens of amazing used turntable buys out there), you have purchased one of these talented veterans. Unfortunately, you have purchased one without a tonearm fitted so you need to choose one that will work on the deck. How do you work this out? In many cases there simply isn't any manufacturer data to help.

The Vinyl Engine tonearm database is an godsend in this situation. It has data on over 1,000 tonearms, which give you the specific offset and measurement that the arm needs to work correctly. This means you can see if the arm will fit in the first place and if it does, use the data to have an arm board made that will allow for the correct fitting distances for it. If you don't have an arm in mind, assuming you know the specific offset requirements of the turntable, you can enter these and run the database in reverse to see which arm is a good match. If that wasn't enough, you can also see the weight range of cartridges the arm supports.



DIRAC HD PLAYER

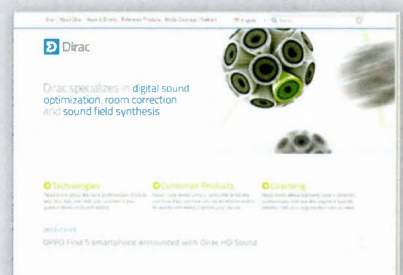
dirac.se/en/consumer-products/dirac-hd-player.aspx

I have recently tested the XTZ Earphone 12 (and you can read my thoughts in *Choice Extras* on page 113), which make use of a dedicated iOS audio player that allows for a sophisticated EQ program to be run against the music that you listen to in the player to try and produce a flat response in ear. This is without doubt extremely clever, but a somewhat specialist piece of software unless, of course, you happen to be an Earphone 12 owner.

What might be more useful for those of you that don't have these earphones is the fact that this technology has been developed into a spin-off. I talk of the Dirac HD player.

The Dirac HD player is designed to perform the same EQ process as it does with the XTZ, but instead has been specially tuned to work with the standard white Apple earbuds. These are usually so sufficiently dreadful that I didn't have a pair to test the player with, however, the Dirac Player also works with the newer 'Earpod' type headphones being supplied with the iPhone 5 and the latest version of the iPod Touch (and that even without Dirac is much better than the old design).

The results with the Earpods were extremely impressive and priced as a £1.99 upgrade for iOS users, it's well worth checking out.



The Game Changer

Once in a while, a product comes along that 'redefines the meaning of excellence'. That time is now.

Q Acoustics is proud to introduce the new Concept 20 Loudspeaker.

The Concept 20 is a truly remarkable new loudspeaker which delivers a level of sonic performance previously only available to audiophiles able to invest in high-end models.

This exceptional performance has been achieved by using breakthrough technology and applying scientific methodology to overcome the fundamental problems of speaker design.

As well as class leading drive units and crossover, the beautifully lacquered Concept 20 cabinet utilises Gelcore™ construction, specifically developed for acoustic enclosures. In effect this is a 'cabinet within a cabinet'; separated by a special, resonance cancelling compound. This enables the drive units to simply reproduce music, completely unencumbered by cabinet induced colouration.

The result is nothing short of sensational.

For the very best results the Concept 20 should be used on its unique dedicated speaker stand, which uses the same Gelcore™ construction technique.

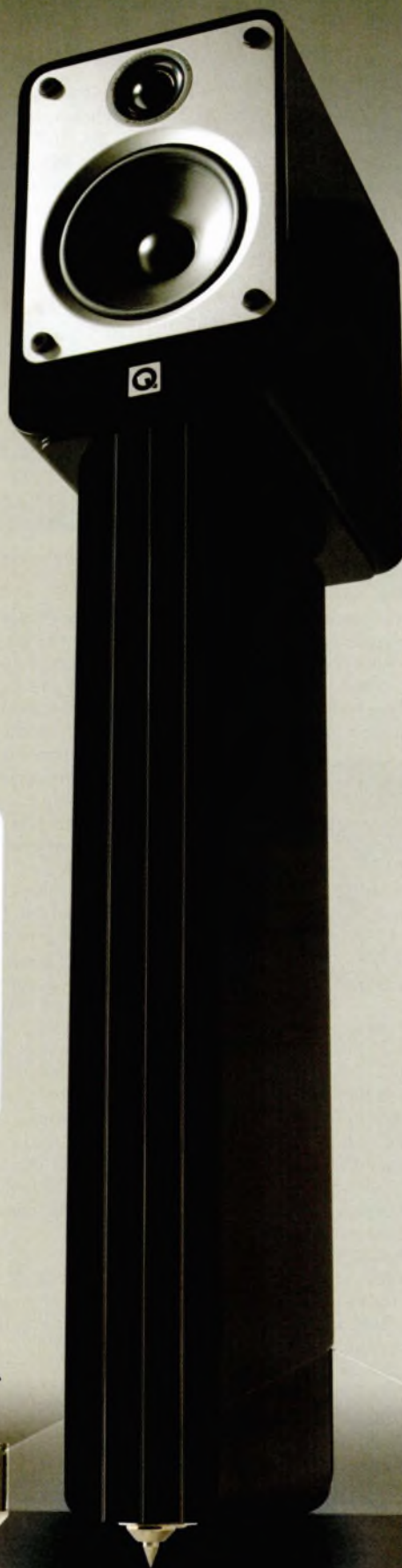
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Dynavector P75 mk3 MM/MC phono stage

It doesn't seem that long ago that I reviewed the last incarnation of this compact phono stage, but having gone back and checked the records it's just over two years ago, so time is clearly accelerating at an alarming rate. Nonetheless I got a good result the last time round so hopes were high that the changes made to this latest version would result in an even better performance this time.

The case hasn't changed size, but it now has grey (rather than black) steel work in an attractive matt finish and a new glass front panel, that said the P75 is never going to win any prizes for design or beauty.

It's one of those components that's practical and solid and, to be frank, best kept hidden away at the back of the shelf out of harm's way. I spotted one in just that location when I visited Abbey Road studios recently. They were showing off the sound of some new Beatles vinyl using a Rega RP3 turntable and had a P75 mk3 between it and some Classé amplification, speakers were Bowers & Wilkins 800 Diamonds, which looked tiny in the cavernous Studio 2 but the sound was excellent.

Ch ch ch changes...

To get back to the P75, changes include a new multi-layer PCB, an output amp with lower noise and more current, more headroom from the power supply, and, most significantly, more adjustments for impedance, capacitance and gain, including variable gain for MM.

Changing the various parameters in order to match a given cartridge requires removing the case work and moving jumpers onto specific pins. This is a slightly fiddly process, but means that the P75 is able to offer considerably more flexibility than most stages at this price. The owner's manual has apparently been improved but still requires some focus to relate to the jumpers on the board, however this was achieved without too much pffaff. It also has a phono enhancer mode that takes into account the internal resistance of the cartridge as well as the load impedance it likes to see. This is designed to benefit Dynavector cartridges, but should be of use to other designs as well.

Sound quality

I started out using a Dynavector DV-20X2L moving coil on an SME Model 20/3 turntable, a pairing that generally works rather well and this was the case with the P75. It produces a particularly open, relaxed and yet well-timed result that delivers solid but taut, rather than prodigious, bass. It's very good at opening up the layers in a mix; it pulled out the electric organ that usually gets subsumed by the rest of the band on Leo Kottke's *Running Up the Stairs* (from *Great Big Bay*). It also revealed the muscle of the bass guitar and drum in a well-defined and nimble manner.

The definition in the bottom end is what makes this combination of cartridge and phono stage so appealing, its fleetness of foot means that the tempo is always clear-cut and driving. At the same time it's very clean, there is no glare on leading edges, instruments and voices are clearly rendered with much of their tonal depth intact.

You can find richer more detailed stages at higher prices and distinctly cruder ones that are more affordable, but I don't recall hearing one near this point that is superior. It offers considerable amounts of low-level detail and this gives the music a strong sense of realism. Reverb is one aspect of these quieter sounds that makes for a very convincing performance, this is an area where lesser stages often struggle, especially with lower output cartridges.

Tough test

I also tried a rather trickier cartridge with the P75, a Van den Hul Condor. This particular example is a low output model that produces 0.375mV, it doesn't specify internal impedance so I started off in the 'low' setting that worked with the DV-20X2L and that was woefully short on gain. As the stage was at its highest gain setting I tried the other internal impedance setting and discovered that the high one dramatically improved matters. Now the system was able to reveal just how remarkable the Condor really is by delivering a sound that was both delicate and powerful and produced music that you only had to close your eyes to believe was in the room.

It's interesting just how much difference that change made to the result and reveals how much flexibility you need in a phono stage if it is to work with a range of MCs. The P75 mk3 may not look terribly exciting, but the sound it produces with a nice cartridge is packed with all the thrill power your vinyl can offer up. **JK**

DETAILS

PRICE: £649

WEBSITE:
PEARAUDIO.COM

OUR VERDICT



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PM1 There are times when only music matters. When you want to forget the world and simply lose yourself in sound. The PM1 was designed for these moments. Its carbon-braced tweeter, Kevlar bass/midrange driver and Matrix™ braced cabinet combine to make everything else seem insignificant. It might just be the most refined small speaker we've ever built. **Listen and you'll see.**

www.bowers-wilkins.co.uk/pm1

Atlas Element USB cable

I ordered a 3m Atlas Element A-B USB cable to connect my laptop and DAC in this test because I have found that shorter cables do not necessarily sound the best where USB is concerned. In truth, in many tests before, listeners and I have significantly preferred 5m cables to 1m varieties: so despite the fact that signal transmission down a wire is an analogue process – digital signal being just wide bandwidth, square waves – so-called digital signals can appear far less fussy than their analogue counterparts, possibly because of the high frequency content they contain.

For the purposes of this test I used a CEntrance DACmini powered by a Red Wine Audio Black Lightning LFP Edition battery power supply connected to my reference Naim multi-amplifier/Neat XL10 system. Digitised music was copied from my NAS and played on the laptop using the Gold edition of Media Monkey software through the CEntrance Universal Driver.

You pay your money...

This might seem an unduly expensive and revealing system in which to test a cable costing only £57.50 but that price makes it broadly competitive with my current favourite audiophile USB cable, the Furutech ADL Formula 2, which starts at around £60 (3.6m costs £115). To provide perspective, a typical computer-reseller grade 3m USB 2.0 cable suitable for “connecting a printer” can be had for under £2.00. Such cables usually sound somewhere between dire and disgusting, and so I would discourage their use in any musical application – despite the obvious cost-saving benefits. What is more, in my opinion, USB audio needs all the help it can get!

The Element cable draws on the experiences and lessons learnt by Atlas during the development of its successful HDMI cable, in particular the precise matching of the conductor lengths in each pair of conductors to maintain the signal propagation time of each pair along with extreme care with the overall shielding to reduce noise. The conductors themselves are high purity copper produced by the Ohno Continuous Casting process, which significantly reduces

the number of crystal boundaries within the copper – boundaries at which impurities collect. Each wire might contain three or four crystals rather than the thousands of boundaries typically found in regular OFC wire. Current research strongly indicates the performance superiority of these ultra-pure conductors, says Atlas.

The Element cable furthermore uses crimp-connection terminations to provide reliable and impedance-matched connections with the conductors and optimal signal transmission through the plated plugs. It also seemed a slightly less bulky cable than the Furutech. I confess that I am now waiting for some manufacturer to make a USB cable with connectors hewn from aluminium billets and the size of Schuko mains connectors, and then claiming some ludicrous performance advantage for them!

Needless to say, the Atlas connectors are not extravagant and on the initial listening, alongside a dozen or more rival cables from a number of manufacturers, the Atlas Element quietly impressed with its ‘together’ quality and balance of musical and hi-fi attributes.

Sound quality

Some of the competing cables stood out because of one particular strength – their dynamic compass, their bass agility, their instrumental texture, vibrant tonal colour or suchlike. The Element brought all these strengths and more to the party with its masterful and completely sympathetic handling of singer, Emeli Sandé. The cable’s presentation of her hit single *Next To Me* was wonderfully dramatic, dynamic and rich in both detail and texture.

The bass guitar was solid, deep and vibrantly tuneful, while the percussion, at the other end of the frequency spectrum, was extended and appropriately delicate. Her glorious voice, the most important element, appeared little short of incandescent and had an uncanny knack of communicating effortlessly with the listener.

One obvious strength the Atlas possessed was that of imbuing voices and instruments with deliciously abundant texture: this made Sandé and her piano sound quite magical and present on *Read All About It* and, what is more, conveyed the convincing and beautiful dexterity of her lyrics and overall magnificence of her song-writing abilities.

The Atlas Element provided a powerful and remarkable link to the singer because its ability to communicate emotion seemed exceptional with this and other albums. It often seemed able to penetrate deep into a vocal line going past the words that were being sung and unearthing the feeling and meaning behind the composition.

In short, the Atlas Element USB is a spectacular performer at a beer-budget price. As such, it comes heartily recommended. **MS**

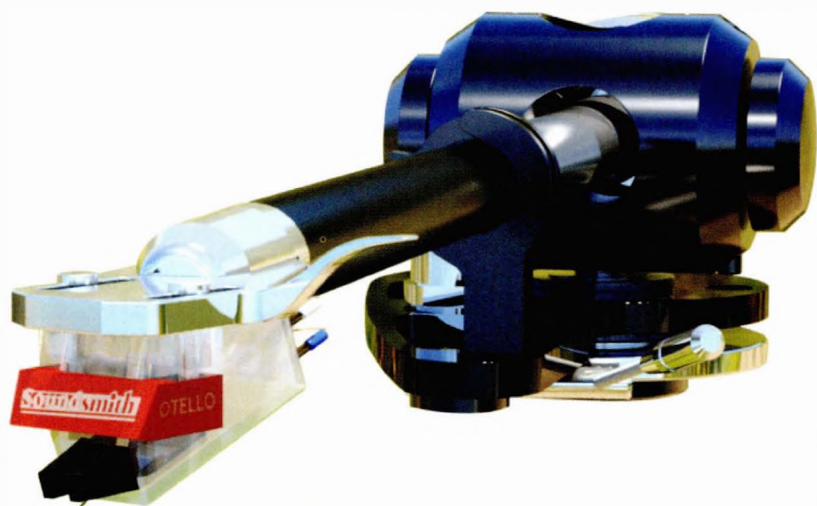
DETAILS

PRICE: £57.50
CONTACT:
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WEBSITE:
ATLASCABLES.COM

OUR VERDICT



The secret to make your cartridge perform at the same level as one costing between 3 to 70 times as much



2012 Tonearm of the Year award - The Absolute Sound Magazine



2012 Tonearm of the Year award

Vinyl enthusiasts would find themselves in an unexpected journey when they try an Origin Live arm.

The results obtained by using one of these arms, are indeed extraordinary and open eyes to new possibilities. In fact, users find that their cartridge starts performing at the same level as one costing anywhere between 3 and 70 times the price.

Such claims seem wild, but the strange thing is that owners of Origin Live arms, are so impressed by the improvements over established references, that they go on later to upgrade to arms higher in the range and are just as delighted.

To find out why these claims are not so wild, please read www.tonearm.co.uk

"The biggest improvement I've made in 25 years of listening to music and lots of exchanges of hi-fi stuff!breathtaking, big new level! It's like coming to Nirvana!" **OWNER COMMENT- FERDINAND ROHRIG**

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*Simple design,
elegant construction
and does not miss a beat!*

Asus Xonar Essence One

If you go looking for this product on the Asus website, you'll find it under soundcards. The company is best known as a producer of desktop and laptop computers but the Xonar Essence One is in fact a DAC and headphone amplifier with a fully functioning preamp and a choice of RCA and XLR outputs.

The internal hardware is impressive. The Asus has 8x symmetrical upsampling that works when sampling both 16/48kHz and 16/44.1kHz data. This means that it works in perfect multiples each time and avoids 'forcing' the material to be resampled. You can also switch it off. There are two volume controls; one that controls the main output and one that controls the headphone volume. The inputs include a 24/192kHz capable USB input with a dedicated driver. The styling is a bit fussy and the stylised tiger on the top is a matter of personal taste but the build is impressively solid.

Sound quality

The performance is good too. The Asus manages to sound smooth and unfatiguing, but without losing detail or becoming overly soft. Voices especially are full bodied and extremely convincing. The only problem is that the volume control cannot be switched out of the circuit, so connecting it to an integrated amplifier will leave you with two volume controls in the circuit. The rather better news is that the headphone section of the Asus is extremely impressive. The same detailed and natural performance is available from the headphone socket and there is no shortage of power on tap to drive them.

There is plenty of impressive competition and many of the other DACs with adjustable levels are better suited to being used in systems that already have a volume control, but the Asus is a well-specified and strong performing unit. If you are a headphone user especially, it is well worth seeking out for a demonstration. **ES**



DETAILS

PRICE: £350

WEBSITE:
ASUS.COM

OUR VERDICT



XTZ Earphone 12

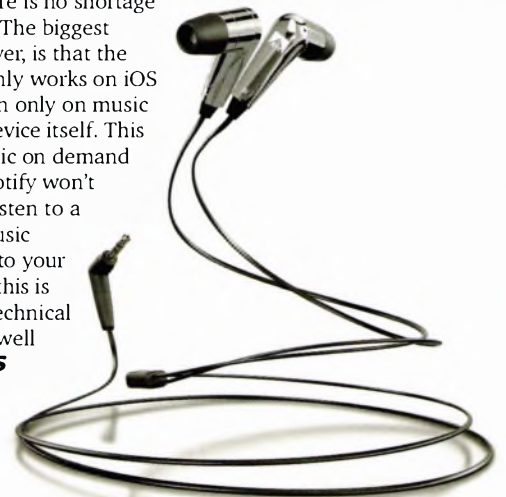
For the last few years XTZ has been producing a range of electronics and loudspeakers that normally pack a substantial amount of technology and bang for your buck into cost-effective packages. With the continued growth in earphone sales, it has now moved into this category with the Earphone 12.

The Earphone 12, like many XTZ products, is a mix of the conventional and unusual. Each enclosure contains a single 8.6mm dynamic driver and a variety of rubber tips are supplied for a comfortable fit (although I found that some aftermarket designs worked better). Some design details like the magnetic housings and flat cable (that help reduce tangles) are clever, too.

Sound quality

What sets the XTZ apart is that if you are an iOS user, you can download a free app offering DSP correction developed by specialists Dirac. This can be switched in to flatten the response. In practice, the results work extremely well. The Earphone 12 is a perfectly capable performer when used without the DSP correction, but when you activate it, the results are impressive. The performance is accurate, controlled and packed full of detail. The bass response, which can be slightly leaden without the DSP engaged, tightens up nicely and adds a welcome sense of speed and timing.

The Earphone 12s aren't perfect, though. The supplied rubber domes are attractive, but not as comfortable as some other designs and there is no shortage of competition. The biggest problem, however, is that the DSP software only works on iOS devices and then only on music stored on the device itself. This means that music on demand services like Spotify won't benefit. If you listen to a great deal of music actually ripped to your device though, this is an interesting technical solution that is well worth a look. **ES**



DETAILS

PRICE: £70

WEBSITE:
XTZ.SE/UK

OUR VERDICT



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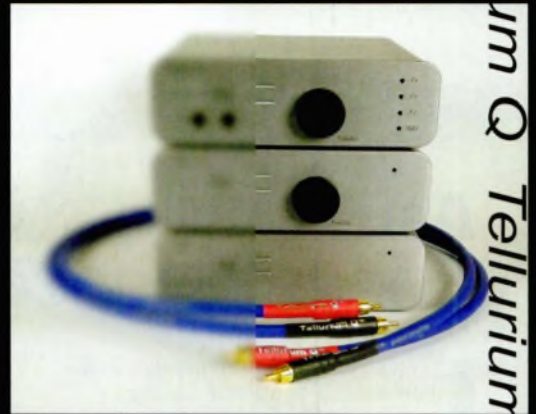
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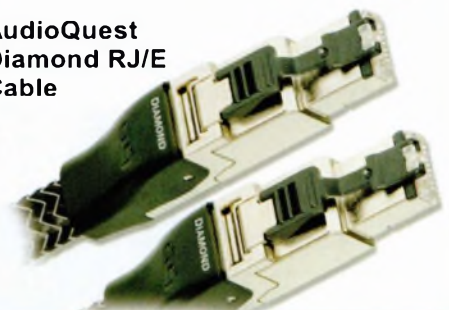
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Cambridge Audio Minx 100

Many of us have extensive music libraries stored in compressed form on phones, tablets and computers and sometimes we just want to tap or swipe to listen to our favourite tunes, in reasonable quality. Wireless or portable speakers provide a convenient and fun way to enjoy music, especially in rooms such as kitchens and bedrooms.

And when it comes to enjoying online music and radio as well as music stored on a portable device the simplest way is to stream wirelessly, using AirPlay or Bluetooth, or as in the case of the Minx 100, both. Previously, speakers with physical docks ruled the roost but it's unsatisfying not being able to use your handheld iDevice as it's moored up across the room. Other factors such as Apple's move to a different physical connector and the introduction of apt-X Bluetooth transmission in CD quality means that manufacturers are ditching physical docks and adopting the airwaves.

Cambridge Audio says the Minx is designed to blend seamlessly with its environment rather than take it over. Instead of taking a bold, risky approach to the speaker's aesthetics, the company has played it safe, and for some the grey mesh front cover and white lacquered body may be just a bit too dull. There's no arguing with the build quality, however, and the scratch-resistant ceramic cabinet, rubberised underside and ergonomic, soft-touch controls feeling reassuringly durable.

Behind the scenes

Behind the grille a 100W Class D digital amplifier powers twin 4in BMR (Balanced Mode Radiator) speakers and there's a passive subwoofer with the bass port cleverly incorporated into the carry handle. A more powerful model is also available, the larger Minx 200, which boasts a 200W amplifier and an active subwoofer.

The power cord input located on the rear panel is complemented by a bass gain control (also duplicated on the credit card-sized remote control), an Ethernet port, service port, generic MP3 line-in and analogue stereo phonos, allowing you to use the Minx with a TV, Blu-ray player or PVR. The Ethernet port provides a hard-wired alternative to wirelessly connecting the Minx to a router, perhaps using a powerline connection.

Cambridge Audio has cleverly integrated internet radio access into the Minx, with five preset stations stored in five buttons on its top side. To change the station settings, and to get the most out of the Minx, you need to use the Minx Air app. It has an attractive interface that combines radio station icons and pop-up controls for adjusting the volume, bass and selecting from a range of preset EQs. One nice touch is that searching for internet radio can be filtered by bit-rate quality to eliminate some of the rippier stations.

Why offer AirPlay as well as Bluetooth? The latter is universally available and immune to network drop-outs which can ruin a musical moment. But AirPlay's wireless range is a lot greater than Bluetooth; I was able to get



upstairs in my thick-walled Victorian house with AirPlay, and no further than the next room with Bluetooth. Also, once you've got the Minx on to your network, it will always appear automatically as a speaker option when you play music. Bluetooth can be a little bit more work, plus apt-X isn't compatible with all operating systems.

Sound quality

The full potential of the BMR drivers can be realised by hooking up to a CD or DVD deck using the stereo phonos. A FLAC recording of Britten's *Young Persons' Guide To The Orchestra* has terrific dynamic range, with a powerful, room-filling orchestration from the lower and middle registers and good clarity with distinctly heard individual instruments. The passive sub isn't the most detailed but it's tightly controlled and well matched to the main drivers, blending and underpinning the mid and upper ranges.

Switch to an MP3 rip streamed over AirPlay and the percussion becomes a little muddy and the strings lack the open warmth of the CD version. It's still a decent sound though and the unit keeps everything together as the brass section kicks in and the strings carry the piece to a forté crescendo.

Rock music streamed over Bluetooth or AirPlay highlights the Minx 100's most obvious weakness, which is its narrow, almost non-stereo, sonic imaging and tendency to highlight cramped vocals. MP3 rips of rock music show – as does internet streamed radio – there's little the Minx can do about the flattening effects of compression, especially with higher frequencies. Tina Turner's vocal range in *Private Dancer* illustrates the problem well with her bassy murmuring at the start effortlessly engaging while the higher-pitch screams are shrill, thin and typical of digital amplification; a little on the bright side.

Using apt-X delivers a more detailed sound than AirPlay or regular Bluetooth at 352kbps in 16-bit, 44.1kHz). The problem is that portable iDevices don't support it and in order to get a MacBook Pro to use it I had to first play a 16-bit FLAC recording in Vox (a free audio player) before switching to iTunes.

Overall, the Minx 100 has plenty going for it, with versatile connectivity, solid build quality, decent power and an engaging, articulate (if somewhat narrow) sound. The Minx Air app also makes it a real pleasure to own and operate. **AJ**

DETAILS

PRICE: £330
WEBSITE:
CAMBRIDGE
AUDIO.COM

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HiFiCollective Glasshouse Speaker Kit No. 2

HiFiCollective has recently added a plaited stereo loudspeaker cable kit to its new range of plaited interconnects. This kit uses four lengths of Neotech STDCT-18 UP-OCC (Ultra-Pure, Ohno Continuous Casting) high purity copper wires per cable, two of which are plaited together for the send and the other two for the return. The kit is supplied either with the Audio Note CON-060 banana plugs or, if preferred, without connectors. Also included are suitable lengths of Mundorf 3.8% silver solder together with red and black heatshrink sleeving. Standard kits are supplied with enough wire to make 2m, 3m or 4m pairs, although any length can be supplied on request.

Plaiting the Neotech wire will take about an hour for the 2m kit when using the relatively simple technique demonstrated in the HiFiCollective YouTube video entitled Four Wire Weave (see www.hificallective.co.uk/catalog/glasshouse-speaker-cable-p-9105.html). Once plaited, it's simply a case of soldering on the Audio Note banana plugs and finishing off with lengths of the appropriately coloured heatshrink sleeving.

Some purple sleeving is also included to indicate directionally after running in. The resultant speaker cables are very neat in appearance, thanks to the slippery nature of the Teflon sleeving, which evens out the weave along the full length of the cables.

Sound quality

This cable produces a lovely bright and forward sound that is crystal clear with a taut bass and excellent imaging. The overall result is a highly cultured sound that is musically engaging.

If you are content to embark on a DIY project and spend some time with your soldering iron, you can have a really high performing speaker cable that is excellent value for money and fun to assemble. **NS**



DETAILS

PRICE: £179.20

CONTACT:
01908 217202

WEBSITE:
HIFICOLLECTIVE.CO.UK

OUR VERDICT



Analogue Seduction Stylus Brush



This neat little brush from Analogue Seduction contains a tight matrix of vertical carbon fibre bristles to remove dirt and deposits from your stylus without the use of fluids or cleaners.

It will come as no surprise to know that it is essential to have a perfectly clean stylus at all times. Tiny deposits on the playing face of your vinyl will be dragged up and stored on your cartridge's stylus and cantilever, affecting sound reproduction and reducing the life of your cartridge. The dirt can even find its way onto the underside of the cartridge and into the cantilever suspension. I recall being asked to look at a friend's cartridge as the cantilever was at an angle and he was concerned that it had been bent. I was surprised to find a little ball of fluff had accumulated near the suspension which was pushing the cantilever sideways. Fortunately, no damage had been done and when the fluff was removed, the cantilever returned to the central position.

Clean up your act

The instructions say that to clean your stylus you should move the tip of this brush gently under your cartridge from the back to the front. The soft carbon fibre bristles attract and retain any dirt or dust, removing them from the stylus. However, as the brush is designed to be used dry, the retained dust and dirt is easily removed by gently rubbing it upside down over a clean edge so that the carbon fibres flick the dust away.

I found that the brush does exactly what it says on the tin (to coin a phrase) and it is very quick and easy to clean your stylus after playing each side. This is a low cost and highly recommended accessory and mine has taken up permanent residence on my record deck next to my tonearm. **NR**

DETAILS

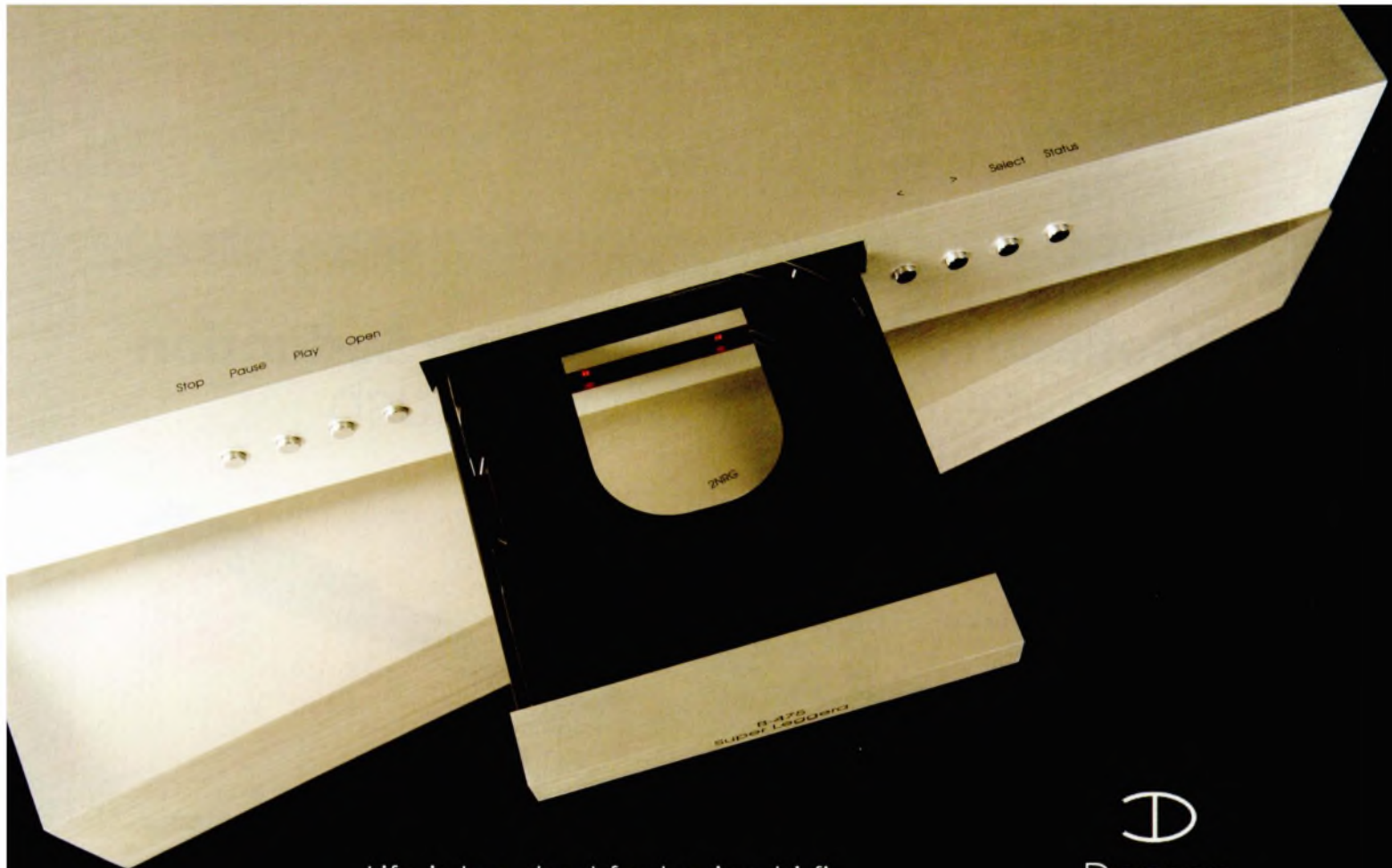
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Chord Electronics

Chordette MX Series TX headphone amp

Chord Electronics has expanded its 'boutique' Chordette range to include the new MX Series, which comprises four units closely based on their Chordette siblings and featuring sleek, squared-off casework with clean lines and sporting a new Chordette logo. Chordette components are about 6in long, but perform to a similar standard as Chord's full-sized components. They can be stacked on a portable 'carry' system and can even be supplied in a variety of high-quality finishes, including a luxurious, no-compromise gold plate, if bling is your thing.

One of these four units is the Chordette MX Series TX headphone amplifier here. This is an advanced headphone amplifier fitted with both balanced and RCA phono switchable inputs, plus a high-quality USB input. This USB input is to enable a personal computer to be used as an additional signal source for the headphone amplifier by feeding digital music directly into the TX internal DAC, which is a really great feature. The TX also has a pair of headphone outputs to enable two people to use the amp and listen simultaneously. Power for the TX comes from the supplied 12V 0.6A 'wall-wart' switched-mode power supply.

Hey good looking

Physically, the TX is beautifully made and, as you might expect from Chordette, quite minimalist in design. The review sample I had was finished in silver and looked very smart indeed. As the unit is physically on the small side, it should be easy to situate it next to your main amplifier without it looking out of place.

The TX has an impressive specification with a quoted frequency response of 20Hz–200kHz, a dynamic range of 112dB and a THD+N: 0.06%. The internal USB 2.0-compliant DAC is 0.006% THD and supports 44.1/48 kHz sampling. This certainly looks good on paper, but how does it perform in practice?

Sound quality

We get off to a great start with the TX phono inputs connected to the output of a preamp and a pair of Sennheiser HD580 headphones. With good quality vinyl source material, a full orchestra is reproduced with all the splendour and presence I was hoping for, with plenty of life apparent at both extremes of the audio spectrum. Solo instruments are positionally well defined inside my head and also have great clarity and credibility. Jazz recordings, meanwhile, are conveyed with all the atmosphere and style of that genre – there is a sense that they are playing to you personally.

The TX also incorporates a 'Crossfeed Network Selection' switch on the front. Chord states that this serves to provide a more coherent soundstage for "an enhanced listening experience". Sorry, Chord – not with my headphones it doesn't! This feature, in common with more filters and tone controls, is best left in the off position. When turned on, the depth to the sound stage

completely collapses and the lower registers are somehow shifted to the left!

The inclusion of a USB port means that the TX can be connected to the USB port of a personal computer and will be recognised as another audio device by the operating system. Any music played on the computer will be digitally decoded and then converted to a hi-fi quality signal by the TX DAC for playback, without going anywhere near the computer's sound card. Comparing the sound from the computer's sound card with the TX, is little contest. The TX is streets ahead of the PC as you might expect – and the audio quality from the sound card is flat, lifeless and dull in comparison with the superior sound from the TX when playing CD quality 16/44 WAV files. There's no doubt that this is a genuine piece of hi-fi and listening to it ticks all the right boxes – great imaging, taut and extended bass and crisp treble.

Connecting the RCA phono inputs of the TX to a Squeezebox Touch makes a very happy partnership that results in a bright and detailed performance across the musical spectrum. The listener gets to feel involved with the music in that very personal way that headphone listening offers.

Must-have accessory

This is a lovely piece of kit that offers real audiophile quality without taking up too much space in your hi-fi rack. Whether you want to fork out the extra £1,500 for a gold finish is entirely a matter of personal taste, but the TX represents a great value hi-fi headphone amplifier in the standard finishes and will benefit any system that can only offer an all-too-common sub-standard headphone facility or indeed, none whatsoever. **NR**

► DETAILS

PRICE: £900 (BLACK); £2,400 (GOLD)
CONTACT: 01622 721444
WEBSITE: CHORDELECTRONICS.CO.UK

OUR VERDICT



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Cyrus Audio PSX-R Power Supply Upgrade

One of the often overlooked issues with hi-fi equipment is the importance of a good power supply. In my experience, replacing internal or external switched-mode power supplies with a good linear substitute can make an enormous difference to the audio quality. For example, the effect that a good power supply can have on the music reproduction with a Class A amplifier is not really surprising when you consider that the power supply is effectively in series with the audio signal. But switched-mode power supplies can actually generate noise, and this can often find its way into the signal path.

The improvements resulting from the use of a top quality power supply has not been overlooked by Cyrus Audio, which produces the rather nice PSX-R upgrade for its wide range of amplifiers and CD players.

The PSX-R is an intelligent and highly regulated power supply. Under the bonnet sits a weighty 300VA toroidal transformer, which has plenty of current delivery capability. The 30,000µF slotted foil reservoir capacitors ensure that very low ESR and wide bandwidth are presented to the linear mode regulator stage that follows. Current sharing, fast double-output power transistors are employed to ensure a quick response in providing the demanded current from the partnering Cyrus unit. Low-noise, high-gain amplifiers provide the load and line regulation of the PSX-R.

Sixth sense

The intelligent nature of the control circuitry that is built into the PSX-R not only senses the requirements of the partnering Cyrus component and protects the PSX-R against mal-operation beyond its designed parameters, but also hands over the power-on control to the partnered unit. This allows the PSX-R to be situated out of the way and is one less thing to have to remember to turn-on! However, both units require their own separate mains supplies, so you will need an additional mains socket to use with this unit. The partnered unit will simply remain off without its own mains feed – this caught me out initially!

Connection to the partnered Cyrus unit is made through a quality XLR cable assembly.

In low power applications, such as CD or DVD players, the addition of the PSX-R provides a highly stable external power source with a large inertia, which provides battery-like operation for such units. In high power applications, the PSX-R is designed to inhibit mains-related distortions and stop charging spikes from reaching the signal lines of the amplifier.

The die-cast enclosure of the PSX-R is really well made and incorporates a high-efficiency heat sink that enhances its thermal efficiency without making the unit unduly large. Additionally, the non-resonant nature of the alloy minimises microphonic effects. The non-ferrous case provides an effective shield from external electro-magnetic disturbances and reduces any risk of

coupling the power transformer's stray magnetic fields to the sensitive audio circuitry.

The PSX-R provides three sets of outputs: +/-35.5VDC for stereo power and integrated amplifiers, +/-18-30VDC for mono-bloc power and other amplifiers and +/-21VDC for low power applications. It will, therefore, power most of the current range of Cyrus products, including the splendid CD 8 SE2 CD player which was also supplied for this review.

As the PSX-R is a simple plug-in upgrade to the CD 8 SE2, it was an easy job to compare the performance with and without the power supply upgrade. I was, therefore, able to switch between the two with every CD I auditioned, covering a wide range of musical styles.

Sound quality

Although the CD 8 SE2 is a great performer in its own right, it is not without its faults. Without the PSX-R fitted, strings are a tad harsh and dare I say squeaky? This characteristic is completely eliminated with the PSX-R in place and the sound improves hugely. Strings are smooth and well positioned, revealing great clarity and realism. Another noticeable element is an improvement in front-to-back imaging. At the lower end of the audio spectrum, installation of the PSX-R results in a real tightening up of the bass, making it altogether more extended and musical.

The Cyrus PSX-R is a significant hi-fi upgrade. The improvements to a system's sound quality are easily heard, and in many cases they are quite simply astounding. Superb! **NR**

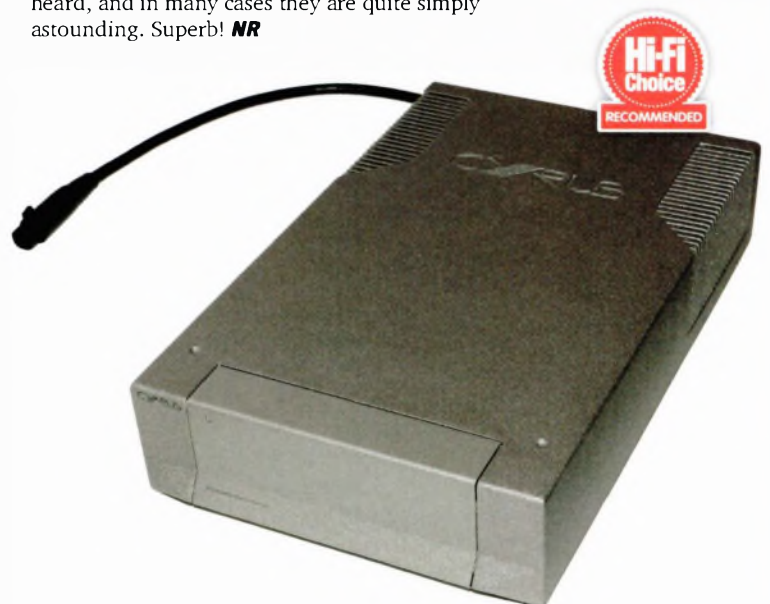
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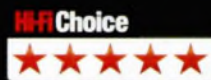
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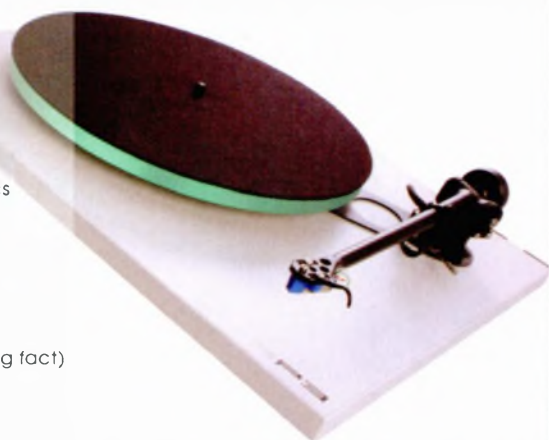


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JRiver MediaCenter for PC and Mac

For some time now I have been meaning to check out the competition on the PC side of high-resolution audio players, so my exposure to JRiver in the guise of its HDTracks downloader pushed me over the edge...

Once on the site the happy discovery is that it is also able to operate as a Mac player – although this is now an incredibly crowded market. The site currently offers 30-day limited Mac alpha releases, but it may have changed this by the time you read these words. If you get on board and test the pre-releases with JRiver your license will be cheaper than the final full \$49.98 version. It currently has the same Windows-like and Java-based feel that the downloader does.

Areas of specific interest for Mac users include the various possibilities of playback for some of those formats that are not commonly supported on the platform. For PS3 SACD backup merchants there is the promise of SACD .ISO file (backup disk images of those precious SACDs) playback, and there is always the possibility that Windows Media support may come in useful for some antique WMA Lossless files.

Of course, these features are much more robustly implemented in the full release PC version of the player – for the price you would expect a fully featured product and JRiver certainly delivers – there is huge flexibility in audio setup to suit your interface (from ASIO to kernel streaming). There is also a free 30-day trial. So while the Mac version is a long way from complete, if you're on the PC side of the fence this is just about the best hi-res iTunes substitute you can find. Set it up right and it sounds simply fantastic. **PC**

▶ **DETAILS**
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OUR VERDICT



DOWNLOAD



HDTracks Downloader for PC and Mac

While we wait for a decent UK high-resolution audio download service, (David Bowie's latest release is available in 24bit via HDTracks and Qobuz already – no such luck over here), some are prepared to jump through hoops to get hold of some of the good stuff. The US provider is coming on stream with great catalogue new and old at the rate of scores of titles almost every week.

Of course if iTunes ever uncages its rapidly building 24-bit master archive as lossless, the likes of HDTracks and Qobuz will undoubtedly wither, especially as iTunes has that reliable download engine.

Until recently the HDTracks downloader felt a little home made and was definitely slow – issues that seem to have been addressed in this new download manager, which has been developed by JRiver, a hook up which makes perfect sense given that JRiver also makes a PC FLAC player that many gravitate to as best of breed.

On a Mountain Lion Mac the new downloader still has the same slightly alien Java-based feel that its predecessor did. The big issue is the lack of surety that your valuable download isn't going to get lost somewhere and require contact with a (presumably) UK-unfriendly customer services department – the new one feels much more robust.

The biggest advantage is that there is a preference setting to allow more than the default three concurrent streams of download. Whacking it up to seven streams means you can download four albums in a couple of hours on a typical UK ADSL setup – previously you were in for an overnighter for this, if not longer. **PC**

▶ **DETAILS**
PRICE: FREE
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OUR VERDICT



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Q ACOUSTICS CONCEPT 20

AMAZING NEW COMPACT STANDMOUNT
has great looks, but how does it sound?

ALSO:

We test six 'starter' turntables priced up to £400 – some with USB compatibility for vinyl archiving



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ALSO Musical Fidelity M6 500i, PMC twenty.21, Fostex HP-A8, Pioneer X-P01DAB, Choice Extras, Music Reviews and your hi-fi questions answered

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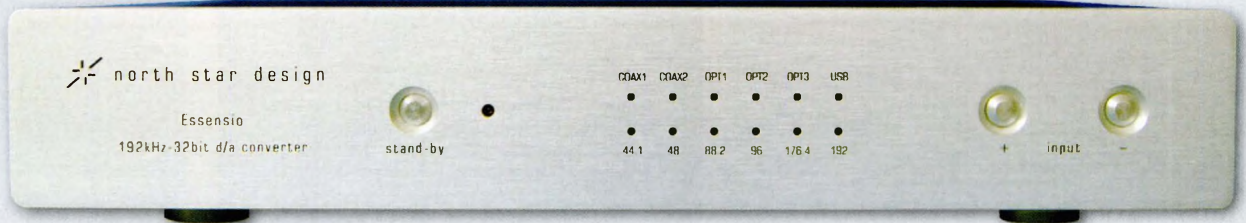
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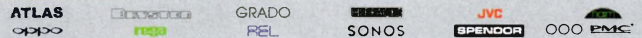
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WE HEAR...

MARCH 16th and 17th SAW THE LATEST CLASSIC ALBUM SUNDAYS EVENT. The great and the good were there to celebrate the fortieth anniversary of Pink Floyd's iconic *Dark Side of the Moon* LP. Held at The Old Vinyl Factory – the site of the former EMI pressing plant – the sound system was provided courtesy of Absolute Sounds and it was hosted by Colleen 'Cosmo' Murphy, founder of Classic Album Sundays. We hear a fine time was had by all, and ticket proceeds went to the charity War Child. To find out about the next event, point your browser towards: <http://classicalbumsundays.com>.

SONY HAS LAUNCHED A NEW PAIR OF FLAGSHIP HEADPHONES. The MDR-XB910 feature a closed-back design with 50mm drivers and a claimed frequency response from 3Hz to 28kHz. Real aluminium accents are fitted for extra bling and the earcups swivel and can be stored flat for when you travel.

SAD NEWS COMES OF THE PASSING OF ONE OF THE LAST OF JAPAN'S GREAT HI-FI COMPANY FOUNDERS. Hideo Matsushita, founder and executive emeritus of Audio-Technica, passed away of natural causes at the age of 93 on March 5th. He established the company back in 1962 after spending the earlier part of his career running 'LP concerts' for the Bridgestone Museum of Art in Tokyo, where he worked. After launching the AT-1 stereo phono cartridge, the company grew quickly over the following three decades. In particular it made a great name for itself because of the superb quality of its cartridges, microphones and headphones – all of which Matsushita insisted remained affordable for real-world audiophiles. Pick-ups such as the AT-93E moving magnet and AT-OC9 moving coil have remained best sellers around the world for three decades or more.

THROUGH THE PAST, SMARTLY...



HI-FI CHOICE ISSUE 58 MAY 1988
CD, it seems, was very much on the rise and so we decided to throw together a little group test consisting of 40 (yep, that's right, 40) decks with an average price of £380. And the final verdict? "Given the current

rate of progress with CD, vinyl disc could well have become relegated to archive and specialist enthusiast role by 1989" Surely not...

Meanwhile, *Hi-Fi Choice* was teaming up with *Time Out* magazine and sponsoring the audio section of the *Time Out Live* exhibition at London's Olympia. As the news pages explained: "We are going to let you get your hands (or at any rate your ears) on some high-end equipment, as well as the latest in home entertainment, CD and video".

Outside of the hi-fi world a small American company called Microsoft quietly released something called Windows 2.1 for something called a computer, while a report by US surgeon general C Everett Koop revealed that the addictive properties of nicotine are similar to those of heroin and cocaine. Who'd have thought cigarettes would turn out to be bad for your health?



HI-FI CHOICE ISSUE 178 MAY 1998
"World's First Digital Amp!" boasted our cover as we made the bold claim that: "One day all amplifiers will be made this way!". As Paul Miller pointed out in his gushing six-page review: "the TACT Millennium offers a taste of one possible digital future. Early adopters will not be disappointed".

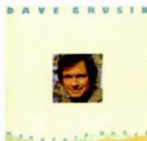
Editor in Chief ATW "Stan" Vincent had his mind on radio and a new-fangled thing called digital radio. Stan excitedly reported "imagine if you could take advantage of digitally-transmitted music in your domestic hi-fi..." before pointing out that this revolution on our airwaves would lead to 60 channels of music being available. Just imagine...

Meanwhile in the wider world, the first Euro coins were minted in Pessac, France. However, because the final specifications for the coins had not been fully agreed on, they were promptly melted down and then reminted the following year. Elsewhere, the world's pagers (remember them?) were thrown into chaos as the Galaxy IV satellite failed, leaving Yuppies having to find new ways to communicate with one another.



DESERT ISLAND DISCS

This month, **Steve Rowland**, Michell Engineering chooses four of his favourite albums...



DAVE GRUISIN MOUNTAIN DANCE
My first 'grown up' LP, bought from a record shop in Borehamwood. A record typical of its time, synthesiser jazz, all very eighties, but just a great album!



NAT KING COLE AFTER MIDNIGHT
I would say that this is my favourite recording. It's just a group of guys playing music that they love, and I think you can hear that all over the whole album.



PAUL SIMON GRACELAND
This has some very clever lyrics all right, but its fantastic production and musicianship mean that it has to be one of the classic albums of all time.



DONALD FAGEN NIGHTFLY
The distinctive Steely Dan sound is something that I love, and for me this moves it to another level. A record that I play all the time, there isn't a weak track on it.

Hi-Fi Choice

PASSION FOR SOUND

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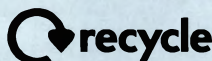


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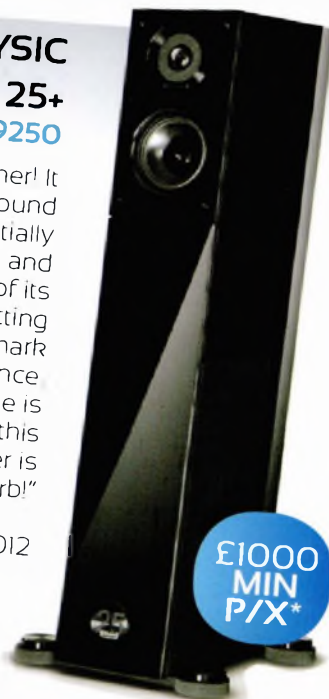


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WHAT HI-FI?
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