



Amplifier super test: pre/power vs integrated

Which type is best? Quad, Rotel and Densen take on Rega, Moon and Electrocompaniet

Audiolab 8200A tested

The legendary 8000A is back, but is it any better?



Hi-Fi Choice

PASSION FOR SOUND

Issue No. 349

£3.99

Gold standard

Can the new £2,300 Monitor Audio GX200 outshine its rivals?

Exclusive: HD music to arrive in 2012

Major labels to release high-resolution
back catalogues at last! Details inside

EXCLUSIVE

26

carefully selected
reviews: Triangle,
Marantz, SRM Tech
Micromega, and
much more...



System heaven

Audio Research, Sonus faber and Copland unite in sweet music



COMPETITION WIN!

Rega RS7 speakers
worth **£1,685!**



Clear the clutter.

Now you can store, browse and play your entire CD collection on something no bigger than a small hardback book!

Stores & plays up to 5000 CDs



Small enough to pick up with one hand yet big enough for a lifetime of music, the Brennan JB7 is one man's brilliant idea for everyone's forgotten music. It's only available direct from Brennan at www.brennan.co.uk.

Key features

- ▶ Browse albums by spinning the volume knob - push to play
- ▶ Display track names as they play
- ▶ Delete tracks you don't like
- ▶ Seven rainbow colour coded playlists
 - ▶ Segue function blends one track into the next
 - ▶ One touch record from vinyl, cassette or radio
 - ▶ One button plays the entire music collection at random
- ▶ Plays MP3 downloads - future proof
- ▶ Clock with alarm
- ▶ 60 Watt, 4.8 x 16 x 22 cm steel and aluminium construction
- ▶ Backup music to external USB hard disk for safe keeping
- ▶ You can use it with your existing hi-fi or on its own

Introducing the new and truly amazing Brennan JB7

What's the point in owning hundreds of CDs worth thousands of pounds if you never listen to them? The problem with CDs is that it's quicker to make a cup of coffee than dip into a CD. Try timing how long it takes to pick a CD, load it in the CD player, play a snippet from a track or two, eject it and put it back where it came from. Then there is the problem of finding music. The print on a CD spine is tiny. What if the track is on a compilation CD? What if the CD is in the car? Then there is the clutter. You need to keep your CDs near the player or you won't play them. So you are forced to share your living space with literally hundreds of cheap plastic boxes.

CDs are a great way to listen to music but they are also inconvenient, inaccessible and a bit of a chore.

The Brennan JB7 is a CD player with a hard disk that stores up to 5,000 CDs - and that's not all

It saves space and clutter and delivers near immediate access to an entire music collection. JB7 owners rediscover then fall in love with their music again simply because the Brennan makes it so accessible.

The Brennan also records from vinyl and cassette so you can enjoy your entire music collection but keep the originals in another room or retire them to the attic.

Over 10,000 sold. Lots of happy customers.

Until you actually own a Brennan or at least see one operating, you can't really put into words how wonderful and amazing it is. You wonder how something so small, compact and stylish can do so much! Now, with the touch of a button on the Brennan, it randomly plays music and I no longer have to make such decisions by myself. It makes them for me."

Mr G. Patterson, N. Ireland

The Brennan JB7 is available in Cobalt Blue or Titanium Metallic



FUL MONEY BACK GUARANTEE

If you're not suitably impressed with your Brennan JB7 we'll collect it free of charge and refund you in full.

The face behind Brennan

Martin Brennan, who designed the JB7, has worked with Sir Clive Sinclair and Sir Alan Sugar and has designed over 20 silicon chips in his career. He was a real pioneer in the computer games industry - he played a central role in the design of the worlds first 64 bit games computer.

Ever since CDs were invented Martin wanted a CD player that would hold his entire CD collection. He wanted something as simple to use as a light switch but at the same time something that would let him find a particular track without leaving the armchair.

A word about copyright

"In 2006 the record companies said unequivocally that they are happy for you to load your own CDs onto a hard disk but the Advertising Standards Authority have asked us to tell you that it is unlawful to copy material without the permission of the copyright holder. Confused? Find out more and have your say at www.brennan.co.uk"



Martin Brennan

ONLY AVAILABLE DIRECT. To order visit www.brennan.co.uk

brennan

Hi-Fi Choice

PASSION FOR SOUND

YOUR EXPERTS



PAUL MESSENGER
EXPERTISE: SPEAKERS

PAUL is the UK's foremost expert on loudspeakers. Having worked as a speaker designer and reviewer for over 30 years Paul is internationally recognised for his ability to assess loudspeaker performance, and report on developments in the field.



JIMMY HUGHES
EXPERTISE: SYSTEM OPTIMISATION

JIMMY has been involved in hi-fi for over 40 years. His knowledge of tweaking and optimising systems is unrivalled in the hi-fi industry and he brings enormous expertise to the pages of *Hi-Fi Choice*. If anyone can help you improve your set-up, it's him.



RICHARD BLACK
EXPERTISE: TECHNOLOGY

RICHARD writes exclusively for *HFC* and brings his experience as a successful musician and recording engineer to the title. As Technical Consultant, he's our authority on tech testing, ensuring that our verdicts are beyond compare.



ED SELLEY
EXPERTISE: TROUBLESHOOTING

ED has spent the best part of a decade selling, developing and supporting products from some of the biggest names in audio. As *HFC*'s troubleshooter, he is on hand to help you answer your questions and help you create that perfect system.



NIGEL WILLIAMSON
EXPERTISE: MUSIC

NIGEL has been writing for *The Times* for more than 25 years and has written for various titles including *Uncut*, *Billboard* and *Songlines*. A Mercury Music Prize judge for five years, Nigel has written books on Bob Dylan, Neil Young and the Blues.



JASON KENNEDY
EXPERTISE: TURNTABLES

JASON edited *Hi-Fi Choice* through the Brit-pop era and relinquished the helm after 17 years on the title. A hi-fi addict since his twenties, Jason fell for the beauty of vinyl and has never looked back. He's here to help you get the best from your LPs.



MALCOLM STEWARD
EXPERTISE: EMERGING TECH

MALCOLM is a legend in hi-fi magazine circles. A former editor of *Hi-Fi Review*, he was one of the best known and most outspoken reviewers of the 1980s and 1990s. He now writes exclusively for *Hi-Fi Choice* and he loves being 'back'.

Welcome...

www.hifichoice.co.uk Issue No. **349** September 2011



I don't know about you but lately I've really begun to feel the pinch of the UK's austerity measures. With less money in our pockets making the right spending decisions and getting good value

has become paramount. So in this issue, we've concentrated on sourcing sensibly priced products that aim to outperform their price tags.

Perhaps the best example of this can be found on p66; the new £400 Cambridge Audio NP30 network audio player, which offers audiophile sound quality for student-system money.

Speaking of value, we've also tested Audiolab's highly anticipated 8000A replacement – the 8200A on p60 – and our *Blind-listening Group Test* this month looks to steer amp-buyers towards the 'right' configuration: pre/powers are put up against integrations to discover the smart buys. Of course, if you want to indulge, we have that covered too: head to p92 for a Copland/Audio Research/Sonus faber extravaganza! Enjoy.

Dan

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OUR PROMISE TO YOU

HI-FI CHOICE is passionate about high fidelity. We're dedicated to the very highest standards of sound reproduction. Our commitment is to bring you the most reliable, in-depth hi-fi equipment tests anywhere and we're backed by the UK's biggest technology publisher. Our expert writers will help you get the most from your hi-fi and guide you towards the best-performing products for your budget. Our passion is your passion.



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Jordan Acoustics

Jason & Medea+

by weiss

The reference JASON CD Transport from Weiss is the perfect partner for the state-of-the-art NEW Weiss MEDEA+ D/A Converter. Using a high-quality top-loader transport system, the heavy-duty motor driven lid on the JASON protects the CD and also safely puts the puck onto the CD upon closure. The JASON uses a specific method (spread spectrum technology) to treat the output signal such that the clocking quality of the subsequent D/A Converter does not have much influence on the audio quality. This makes JASON the Transport of choice for those who want the very best from their DAC.

The NEW MEDEA+ 24 bit / 192kHz Digital to Analog converter, utilises a new analog section and a new D/A converter chip augmented by an impressive eight in-house designed discrete operational amplifiers. MEDEA+ is a true state of the art design, making it a reference class performer amongst other Audio D/A Converters and for many, the only choice. All MEDEA units can be upgraded with the new analog section.

Other upgrades available for MEDEA and MEDEA+ are:

Firewire interface and an ST type glass fiber optical input.



*subject to conditions

free unbiased advice ▶ large product range ▶ free parking ▶ 0% flexible finance*

The non-compromise DAC for computer playback



DAC202 Firewire D/A Converter
by weiss

"I listened to the DAC202 last week and immediately ordered one. It is the best DAC I have ever heard. Period."

A customer on computeraudiophile.com



DAC202 Firewire D/A Converter
by weiss

"All things considered, the Weiss DAC202 is the best-sounding DAC I've had in my system. I've never heard better sound through my audio system than when listening to hi-rez recordings through the DAC202."

Jeff Fritz - UltraAudio

design © audioscience 2011 JKA/NEC 053348

bournemouth showroom

telephone:

01202 911 886

e-mail: bournemouth@jordanacoustics.co.uk

address:

*Unit 2 - The Old Cart Building, Parley Court Barns
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Open: Tuesday - Saturday. Closed Monday.

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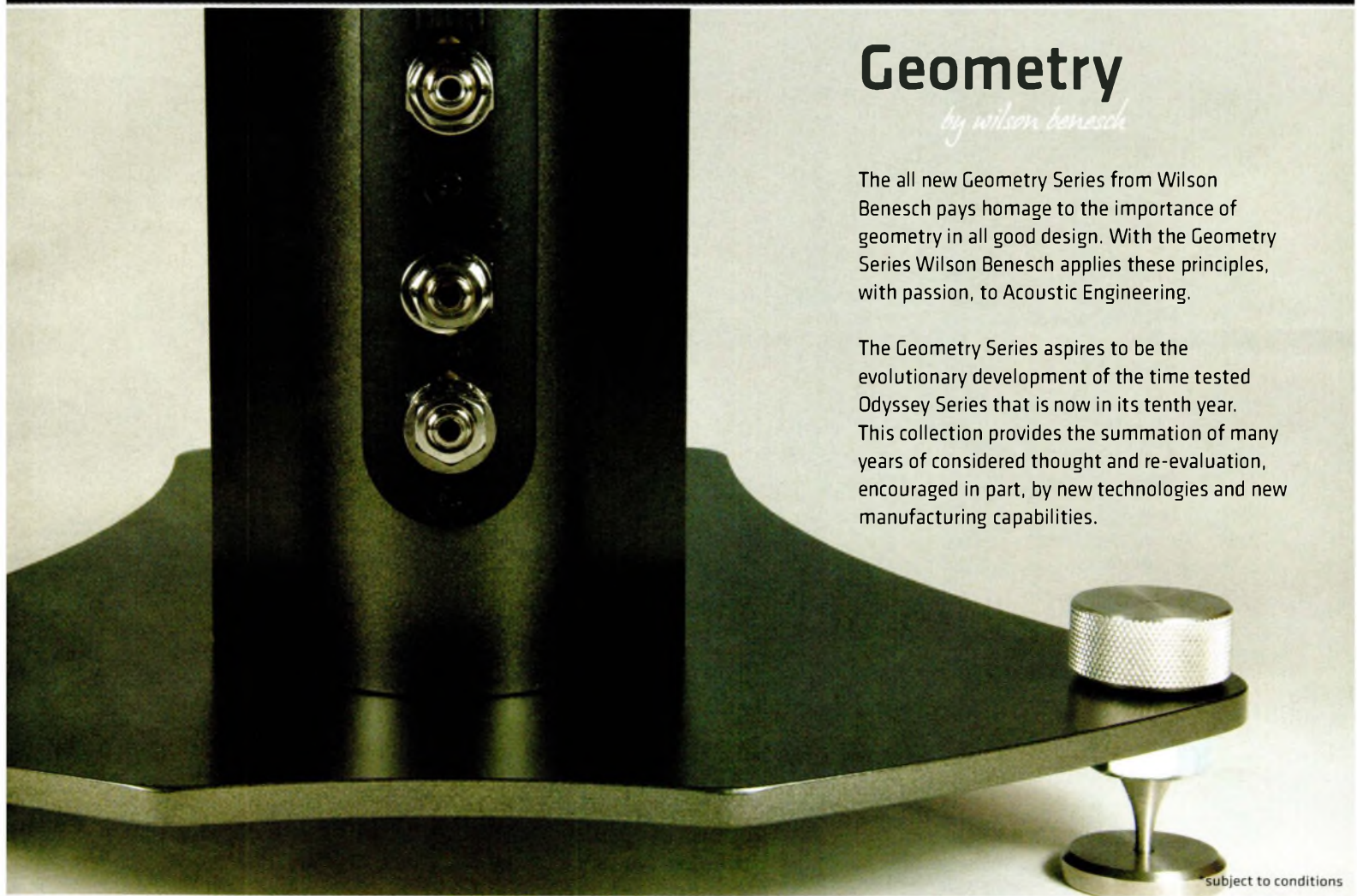
01592 744 779

e-mail: glenrothes@jordanacoustics.co.uk

address:

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Open: Manday - Friday. Closed Saturday.



Geometry

by wilson benesch

The all new Geometry Series from Wilson Benesch pays homage to the importance of geometry in all good design. With the Geometry Series Wilson Benesch applies these principles, with passion, to Acoustic Engineering.

The Geometry Series aspires to be the evolutionary development of the time tested Odyssey Series that is now in its tenth year. This collection provides the summation of many years of considered thought and re-evaluation, encouraged in part, by new technologies and new manufacturing capabilities.

subject to conditions

part exchange* ▶ large selection of used items ▶ home demonstrations*

With the Geometry Series, only the artist who composed the music and the musicians that interpreted it will be present at the event...



NEW Vector *by wilson benesch*

The Vector is a 2.5 way, highly optimised, advanced materials technology, floorstanding loudspeaker. Thanks to the cleverly engineered A.C.T. monocoque / poly alloy shell structure, complex bracing is no longer accepted as a design compromise. The shell design delivers huge amounts of air volume, despite its small external surface area, which is another key factor in the success of this superior design.



NEW Vertex *by wilson benesch*

The Vertex is a 2-way highly optimised advanced materials technology stand mounted loudspeaker. Unlike many stand mounted designs, the Vertex and its stand, work in harmony to attain structural integrity, vital to the control of key components. Mounted with high tensile bolts, the speaker and stand become one.

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"Owning your music in the cloud is a holy grail for many audiophiles."

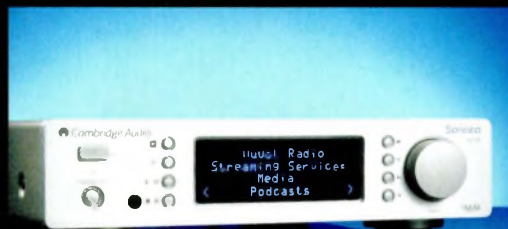
Adam Hartley, Investigation: The Future of Music p34

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4PR

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Silverback

103_ Wireworld

Stream

Subscribe and get a Chord Co. interconnect worth £70! (p32)

Audiofile

All the latest news and views from the hi-fi industry

Mini marvel

According to Bowers and Wilkins, the PM1 is “the world’s most refined small speaker”

PRICE: £1,995

AVAILABLE: NOW

CONTACT: 0800 232 1513

WEB: BOWERS-WILKINS.CO.UK

Bowers and Wilkins has announced the PM1 standmount loudspeaker which it claims features several key technological innovations. The £1,995 miniature (dedicated stands are available for £400 the pair) uses a variation of the ‘Matrix’ assembly method first seen in the 800 Series. This is a system of interlocking panels that create a cabinet said to be extremely inert and solid. The front baffle is modelled on the ‘head unit’ of the 800 Series and is designed to

break up to 40kHz and Bowers and Wilkins claims that this has a dramatic effect on frequencies below 20kHz.

Like the 800 Series, the tweeter is ‘Nautilus-loaded’ in its own tapered enclosure. The mid-bass driver is the traditional Bowers and Wilkins’ Kevlar, but in the PM1 this uses an ‘anti-resonance plug’ that fits tightly in the voice coil former and damps the motion of the driver, said to result in a smoother, more refined sound. This is partnered with the trademark Flow Port which regulates airflow in and

The ‘Carbon Braced Tweeter’ delays high-frequency break up to 40kHz

minimise the surface area around the drivers and reduce diffraction and smoothly disperse the sound.

The drivers themselves are equally technically impressive. The PM1’s tweeter is not diamond, as it is in the more expensive 800 Series, but it’s still a level above the more conventional Bowers and Wilkins offerings. The aluminium dome is ‘strategically stiffened’ by a ring of filament-wound carbon fibre. The ‘Carbon Braced Tweeter’ delays the high-frequency

out of the cabinet to aid bass response from what is a relatively small speaker.

The crossover is specific to the PM1 and features Mundorf M-Cap Supreme capacitors for maximum performance. Oxygen-free copper terminals are also used to maintain signal integrity.

Considerable attention it’s said has also been devoted to the exterior of the PM1; the side panels are finished in Mocha gloss wood panelling.

The PM1 is available now from authorised dealers.



ONE OF A KIND

THE PM1 IS NOT the first example of a one-off product in the Bowers and Wilkins range. The company has frequently produced limited editions – such as the 601 'Fatboy', that featured artwork from Norman Cook and the 'SE' version of the CDM1 standmount. Like the PM1, Bowers and Wilkins has also produced one-off models to fill a space in its range. One of the more notable examples is the limited edition Signature Diamond – a two-way design valued at £11,000.

fact[®]·3



fact[®] loudspeakers represent the ultimate in luxury and audiophile performance; they convey the unadulterated essence of a recording from a wholly elegant form.



"It does everything so well, but with an air of calm, level-headed restraint that never gets in the way of the music"

April '11

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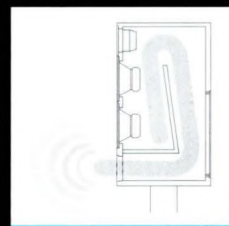
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- **Performance enhancing stand** featuring the same elegant design cues of the fact[®]·8 floorstander
- **Higher compression ATL™** (Advanced Transmission Line) produces the richest, deepest, and most dynamic bass available for this cabinet size



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Bespoke Stand



High Compression ATL™

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Silver Cipher

Krell launches new flagship £12,000 CD/SACD player, the Cipher

According to Krell, its new Cypher SACD player advances the state-of-the-art in SACD/CD reproduction. The £12,000 Cypher uses an advanced disc drive, paired with Krell-customised disc-drive firmware to ensure optimal disc reading.

The drive uses composite mounts to eliminate vibration and mechanically isolate the drive from the chassis.

Digital-to-analogue conversion is handled by a pair of 24-bit/192kHz DACs that feed a native balanced current output directly to Krell's Current Mode Circuitry. Krell claims that this eliminates the sonic penalties of current-to-voltage conversion. This is paired with Krell's CAST technology and balanced outputs for optimal playback.

The power supply arrangements are also

extensive. The Cypher features independent power supplies for the digital and analogue sections to maintain signal isolation. The power supplies themselves are descended from the Krell Evolution series of products.

Finally the Cypher is housed in a machined-aluminium casing and is available in silver or black.



PRICE: £12,000 **AVAILABLE:** NOW **CONTACT:** 020 8971 3909
WEB: KRELLONLINE.COM

Tiny dancer

Pro-Ject plays audio files without a computer



Pro-Ject has launched the Media Box S. This is designed to allow the playback of stored audio files, without the need for a computer or Wi-Fi network.

The Media Box S supports MP3, WMA and AAC formats up to 384kbps and can read material off USB drives or via an SD card reader on the front panel. A digital output is fitted to allow connection of an external DAC for improved performance.

PRICE: £250 **AVAILABLE:** NOW **CONTACT:** 01235 511166 **WEB:** PROJECT-AUDIO.COM



Slick new system

ONKYO has announced its new CS-245 'Colibrino' mini hi-fi system to augment its already significant range. As well as the obligatory CD and DAB/DAB+ tuner, the Colibrino is able to replay audio files via USB drive and from iPods and iPhones, thanks to a dock built into the top plate of the unit.

The supplied remote controls the Colibrino and an Apple device docked with it. The Onkyo makes use of an internal digital amplifier, paired with the proprietary Active Bass Control system for smooth and natural bass performance.

Included with the Colibrino are a pair of free-standing, two-way bass reflex speakers. The cabinets are tapered to reduce internal standing waves. Black and white finishes are available.

PRICE: £280
AVAILABLE: SEPTEMBER
CONTACT: 01628 473350
WEB: ONKYO.CO.UK



Wind of change

PURE has just debuted its £350 Sirocco 550 music system. The feature list is extremely comprehensive. The Sirocco can replay audio from an internal CD drive, as well as DAB/FM radio, but is also fully network capable. This means that the Sirocco can stream audio over network and access internet radio stations including PURE's online portal The Lounge.

The Sirocco also features an iPod and iPhone dock that includes a video output for sending video from sources such as YouTube to a screen. Finally, two additional auxiliary inputs are fitted for connecting additional sources. The Sirocco is built around an 80-watt Class D amplification, that makes use of proprietary ClearSound 'audio shaping' technology for optimal performance.

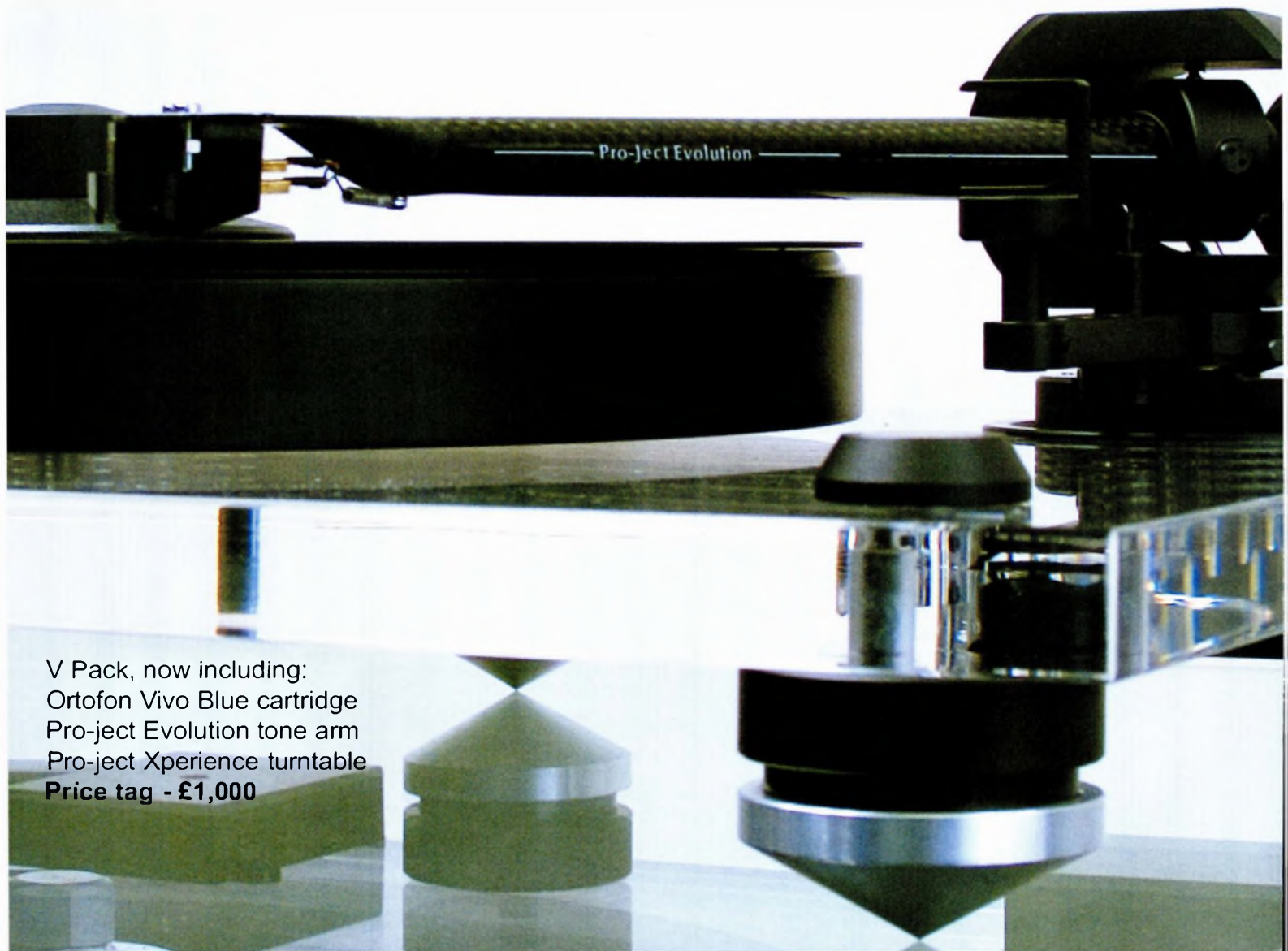
PRICE: £350
AVAILABLE: NOW
CONTACT: 01923 270188
WEB: PURE.COM



Pro-Ject

A U D I O S Y S T E M S

Xperience, gained...



V Pack, now including:
Ortofon Vivo Blue cartridge
Pro-ject Evolution tone arm
Pro-ject Xperience turntable
Price tag - £1,000

NAD NAS

New digital media player from NAD is versatility itself

NAD has taken the wraps off its new C446 digital media player; a network streamer able to replay files over both wired and wireless networks. The NAD supports both UPnP and DLNA, and also makes use of the Digital Audio Renderer (DAR) standard, to allow for creation of playlists from both the NAD and other devices on the network.

The C446 supports the usual range of formats through to high-resolution and also allows access to internet radio stations. The NAD also features an internal DAB/DAB+ and FM/AM radio and a digital output for connection to an external DAC, as well as analogue outputs. The C446 also offers support for the Last.FM cloud-based music service.



More powerful than you can possibly imagine

PMC has added another model to its Signature loudspeaker series. The OB1i Signature benefits from the same upgrades as the other models, most notably the completely upgraded crossover which has been reworked by company founder Peter Thomas. PMC claims the result is a reproduction quality unprecedented in a speaker of this size and price.

The basic design is unchanged; comprising a PMC/SEAS 27mm tweeter and 75mm soft-dome driver, paired with a 170mm bass driver that uses the classic PMC Advanced Transmission Line for low-frequency response down to 28Hz.

Like other Signature products, the OB1i is finished in a distinctive Rose Palassandre veneer and boasts an incredible 20-year warranty.

PRICE: £4,840 **AVAILABLE:** NOW
CONTACT: 0870 4441044
WEB: PMC-SPEAKERS.COM



PRICE: £695 **AVAILABLE:** NOW **CONTACT:** 01279 501111 **WEB:** NADELECTRONICS.COM

Asparational

Aspara unveils new flagship floorstander

Aspara has launched the HL1 SE, its new range-topper. The HL1 SE is a floorstanding design that combines a Fountek horn-loaded ribbon tweeter, with a 50mm compression midrange. Low-end duties are handled by a 305mm horn-loaded bass driver. The crossovers are also

of a new advanced design. Each pair is finished by hand to the owner's specific requirements and Aspara's claim that "truly world-class performance has been achieved."

The stated sensitivity of 95dB/w makes the HL1 SE ideal for use with valve designs and other low-output amplifier types.

PRICE: £21,599 **AVAILABLE:** NOW **CONTACT:** 01326 212291 **WEB:** ASPARAACOUSTICS.CO.UK



NEWS IN BRIEF

A selection of news-breaking stories on everything hi-fi



• **MYRIAD'S** £350 A170 loudspeaker in an elegant piano finish, complements the MI all-in-one system.
myriad.co.uk



• **GENEVA** says that its £550 Model M iPod and iPhone system is the "epitome of ravishing minimalist design."
sav-distribution.co.uk



• **RUSS ANDREWS** has expanded his range of Clarity filters. According to Russ, the three-strong range "neutralise noise inherent in electrical circuits."
russandrews.com



• **TEAC** debuts its new SR80i iPod dock with DAB/FM. The £150 dock uses TEAC's proprietary MAXX AUDIO bass system.
teac.co.uk



• **AUDIO PRO** claims that the £150 WF100 allows for the real-time transfer of lossless audio over ranges of up to 100 metres line of sight.
sav-distribution.co.uk

Fazons to stun

DALI claims new speaker is "the shape of brilliance"

DALI has launched the striking Fazon F5 loudspeaker and claims it's a "genuine mixture of craftsmanship, performance and aesthetics." The distinctive enclosure is constructed of aluminium and provides an absolutely stable and inert base for the drivers, while the curved sides prevent the formation of standing waves.

The drivers themselves are a pair of five-inch, mid-bass units, featuring the trademark wood-pulp cone. A combination of low mass and a long-throw design ensures good bass response. The tweeter is an ultra lightweight soft dome in an aluminium housing. All the drivers are mounted on a 'sandwich' baffle, with a layer of polymer sealant for the maximum possible isolation. As befits a speaker of this shape and design, the F5 is available in painted finishes.

As well as the F5 floorstander, DALI has released a Fazon satellite, LCR speaker with matching stand and a pair of subwoofers for use in multichannel systems.



PRICE: £2,699 **AVAILABLE:** NOW **CONTACT:** 0845 644 35 37 **WEB:** DALI-SPEAKERS.COM

DESERT ISLAND DISCS

Kulwinder Singh Rai, Onkyo's UK mouthpiece gets his groove on



THE CULT
LOVE
Sometimes everything comes together, just at the right time, just in the right way. This was the soundtrack to a carefree summer spent in Brighton a few decades ago. Anthemic.



NEW ORDER
POWER, CORRUPTION & LIES
Enthralling Brit-electronica made accessible by a group that drew on tragedy for inspiration, for what seemed the longest time.



BRUCE SPRINGSTEEN
THE RIVER
To an 18-year-old, Springsteen's tales of disillusionment, faded dreams and salvation, through automotive adoration, struck all the right chords. As did he.



VARIOUS ARTISTS
THE CLASSIC BHANGRA WEDDING ALBUM
It's difficult for anybody who isn't a Punjabi Sikh to appreciate how utterly integral Bhangra is to our existence. Life without Bhangra? Why that'd be no life at all...



Summer Sounds ON STREAM

Come out to play this summer

The future of hi-fi is coming to an event near you this summer. Come and hear the next generation of digital hi-fi, including the NDX network player, UnitiSystem wireless multi-room offering and an exclusive preview of the next addition to Naim's digital line-up. We'll see you there.

DATES & VENUES

17th August

Park Inn
Heathrow
Heathrow

24th August

Cottons
Hotel & Spa
Knutsford

31st August

Thorpe Park
Hotel & Spa
Leeds

8th September

Stonehouse
Court Hotel
Stroud

15th September

Hilton
Dartford Bridge
Dartford

Find out more and register your interest at naimaudio.com/on_stream



world class sound...




Panel beaters

HFC's US correspondent, *Kevin Gallucci*, gains exclusive access to the Canadian factory of the biggest name in electrostatics – MartinLogan



ELECTROSTATIC TRANSDUCER

This unique transducer has been around since the early 1920s. Fundamentally, it is a very simple design. An electrostatic panel incorporates a flat diaphragm that is suspended between conductive panels (aka. stators). The flat diaphragm is usually made of a clear and extremely light film that is coated with a conductive material. By applying an electrical charge to the stators this excites the diaphragm to move back and forth – essentially what a cone speaker does when an amplified signal is applied to it. The benefit of the electrostatic panel is that its diaphragm moves more like a piston. A driver that follows the supplied signal more precisely has lower levels of distortion and being more 'pistonic' means it is capable of more faithfully reproducing the original recording. This is why electrostatic speakers have a reputation for being extremely transparent.



MartinLogan has given *Hi-Fi Choice* an all-access pass to its state-of-the-art factory in Toronto, Canada, the home to some of the world's most famous electrostatic speakers.

Historically we have been strong supporters of the MartinLogan philosophy. The process of combining an electrostatic panel with a conventional piston driver to handle bass output, results in a more compact design than would be the case with a conventional full-range panel.

We also find that ML designs have more slam and attack than is often the case from a conventional panel. This combination sounds simple enough but seamlessly integrating two very different types of driver

“The loudspeakers are transported from room-to-room, with each stage carefully controlled.”

is no easy task and the combination has become synonymous with MartinLogan over the years.

The company has come a long way from its early days of combusting prototypes to taking the 1983 CES show in Las Vegas by storm with a demonstration of its Monolith loudspeaker. Its unique designs have fascinated audiophiles for almost three decades, but a lot is unknown about how it creates its unique electrostatic panels.

Our journey into the world of MartinLogan aims to discover how the process of making the often-admired transparent-sounding electrostatic panels works and how it differs from a conventional speaker factory.

Although based in Kansas, the majority of MartinLogan's loudspeakers are manufactured just outside of Toronto in a cavernous 230,000 square-foot facility it shares with Paradigm loudspeakers and Anthem electronics. All three companies are owned by ShoreView Industries, a financial firm that buys and then invests heavily in private companies.

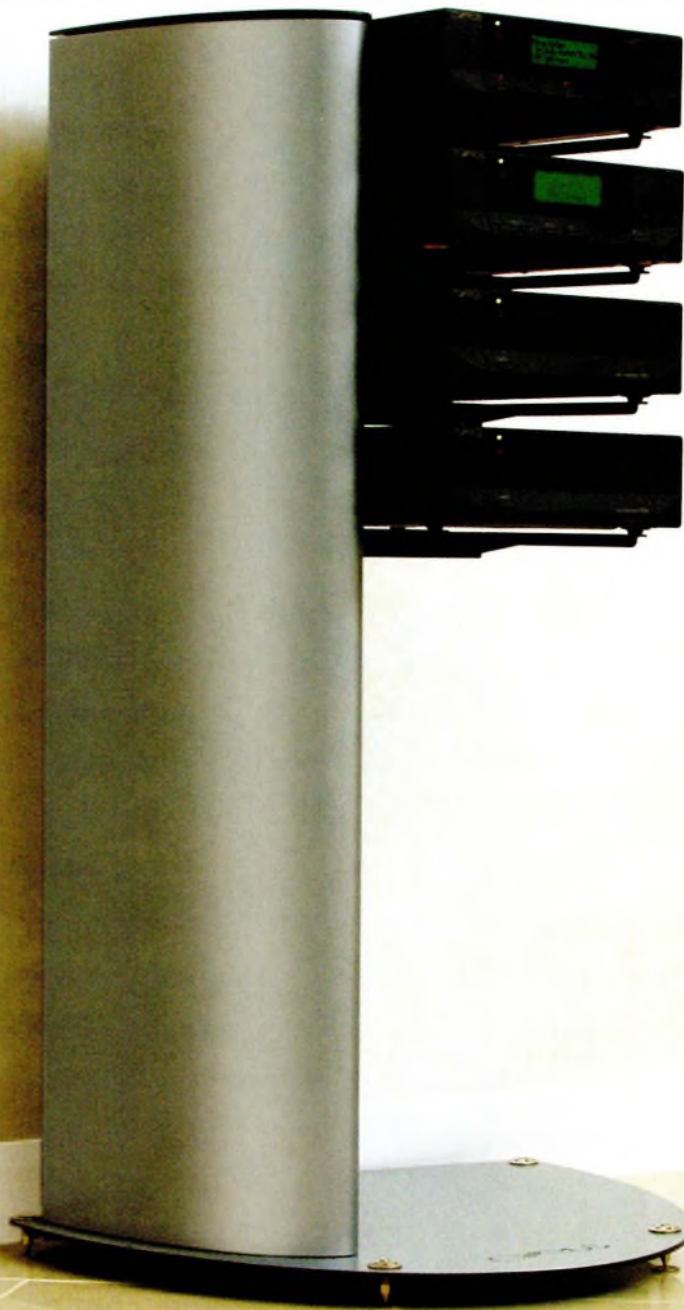
Every stage of production is done in-house and all of MartinLogan's loudspeakers that are created here use parts manufactured under the same roof. The only exception is the bass driver which is entirely constructed at another site. ▶

CYRUS

Streaming Audio Excellence

Stream X is the latest model from Cyrus' new range of streaming audio players. Based on the remarkable Stream XP platform, the Stream X is a dedicated source component that delivers high quality streamed audio into hi-fi systems that already have a DAC such as the range of Cyrus XPD integrated amplifiers and preamplifiers. Stream X provides you with immediate access to your entire network music library whilst also featuring a USB connection for an iPod. Plus you can listen to over 30,000 internet radio stations from around the globe using the inbuilt TuneIn radio.

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Cabinets get hand-staining



Unfinished cabinets await assembly



Conveyor belt

The factory is divided into sections, each of which plays a specific role in building the loudspeakers, including crossovers, cabinets, panels and electronics. Conveyor-belt style, the speakers are transported from room-to-room, with each stage of the production carefully controlled to ensure manufacturing results of the highest standard. There's a fully equipped machine, wood and paint shop, all contained within areas that dwarf similar set ups among its competitors.

“Each speaker is individually tested to ensure that it meets a strict performance standard.”

Lots of tech has been employed. Routers have been custom-designed for hollowing out the speaker cabinets and the company has at its disposal: five CNC machines; seven plastic injection-mould machines and multiple wood-ovens. The showpiece is a ZPrinter 650, which is a start-of-the-art 3D modelling machine that creates plastic prototype parts for mocking up a new design concept.

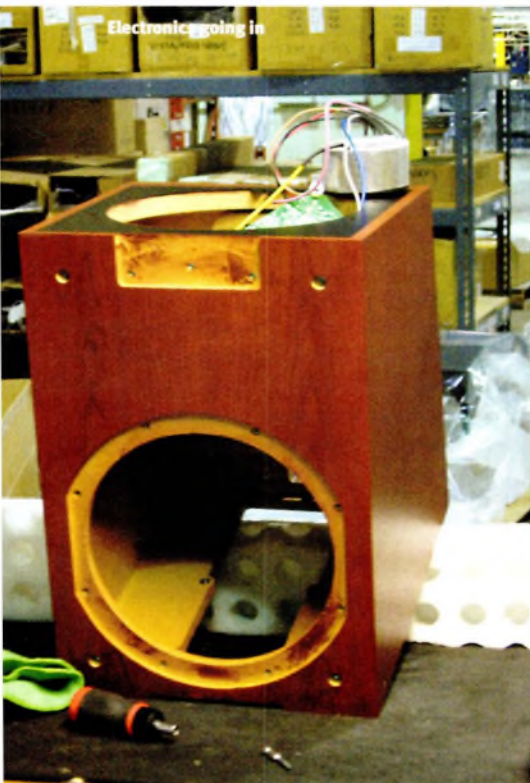
It's not all about technology though. There are a lot of traditional hand tools scattered throughout the factory and it is refreshing to see that ML values technological innovation to help aid in the building of each loudspeaker, but still uses and respects traditional manufacturing methods. Even with all this

technology at its disposal, each loudspeaker is still hand-built; any technologies being utilised to make the build process easier more precise and more efficient.

Mylar membranes

If you ever thought electrostatic transducers are easy to build, then think again. Each panel requires four to five hours per piece – the process is very labour-intensive. The membrane used in each panel is made from a material called Mylar. It's extremely tough and requires precise application between the stators or the whole panel is ruined. Care is necessary because if a panel breaks at home then it will have to be

Electronic going in

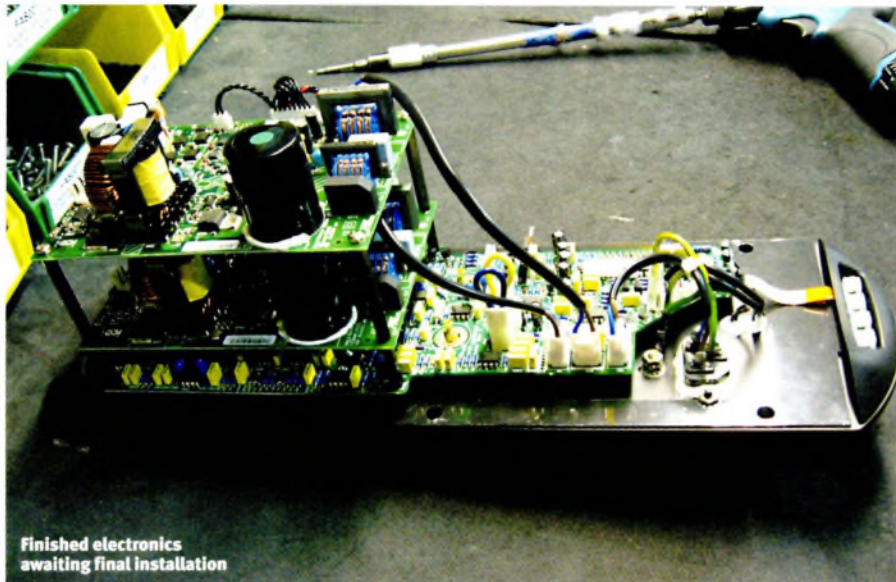


Hand-assembly of the electrostatic panels



THE INSIDER

MARTINLOGAN: FACTORY TOUR



Finished electronics awaiting final installation

MARTINLOGAN TIMELINE

Late 1970s – Gayle 'Martin' Sanders and Ron 'Logan' Sutherland begin discussing the possibility of designing a safe, reliable and manufacturable electrostatic transducer.

1980 – The first prototype is ready. It is a (re) sounding success, but quickly 'smoked' and fried both the transducer prototype and the expensive (borrowed) amplifier.

1982 – First (non-playing) electrostatic speaker prototype shown at CES.

1983 – First (playing) electrostatic speaker prototype demonstrated at CES.

1983 – First 10 pairs of Monolith speakers shipment arrives and although three were destroyed in freight, Gayle and Ron press on.

1985 – The Monolith II – a major cosmetic update to the original Monolith and the start of the tradition of highlighting the visual transparency of ML's electrostatic transducer by NOT covering it with a grille cloth (the standard for every ESL model since).

1986 – The legendary CLS full-range electrostatic speaker is launched (since named one of the top 100 audio products of all times).

1988 – Sales increase tenfold and ML expands into a dedicated manufacturing facility.

1989 and 1990 – Forbe's names ML as one of the 500 fastest-growing privately held companies in the US.

1991-95 – Product line expands with introduction of floorstanding models: Aerius, SL3, and Quest.

1992 – ML releases the world's first dedicated electrostatic center and surround speakers: Logos and Stylos.

1997 – The flagship Statement e2 loudspeaker system debuts.

1999-2001 – The Prodigy generation is released. Includes Prodigy, Odyssey, Ascent and Aeon floor-standing speakers.

2001 – ML releases its first subwoofer, the Descent, making (for the first time ever) a full 5.1-channel speaker solution a reality. Subwoofers quickly grow to be a huge part of the business.

2003 – The Design Series is released, including an extremely compact and affordable electrostatic floorstander and the first non-electrostatic speaker (featuring Advanced Thin Film planar magnetic driver technology).

2004 – ML releases its first line of in-wall and in-ceiling models. Critics rejoice!

2005-07 – The Summit Generation is released. Includes Summit, Vista and Vantage floor-standing speakers. This era of product issues in a new compact 'XStat' electrostatic technology that allowed ML to design 'smaller' electrostats with 'bigger' sound than the Monoliths.

2008 – The CLX – an update to the legendary CLS speaker – is released as a new flagship model.

2010 – The Motion Series – a complete line of multichannel speaker solutions featuring Folded Motion driver technology.



Hung out to dry: a painted cabinet



together harmoniously. ML has started to incorporate DSP into some of its speaker designs to help increase the synergy between the electrostatic panel and cone drivers. Its new Ethos loudspeaker incorporates DSP into the crossover and ML believes this technology provides additional authenticity to the sound.

Custom-built

ML tailor the look of a product to meet customer demand. Customisation is an important part of the company portfolio and that is why you will find a dedicated page on its website (martinlogan.com/customshop). It was nice to learn that the company will still try to repair every product it has ever made. A customer who bought a set of speakers from ML twenty years ago can rest assured that their purchase is future-proofed.

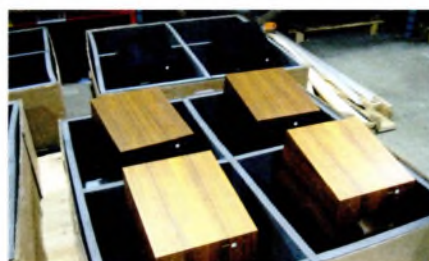
Competition in the loudspeaker market has always been fierce, but MartinLogan has always stayed true to its electrostatic origins. Its unique designs have always been visually intriguing, while the acoustic sound quality of its loudspeakers has given the brand a very loyal following. ●

completely replaced; it being impossible to repair an electrostatic panel.

Each speaker is individually tested to ensure that it meets a strict performance standard and test results are recorded and logged into the company records. If a product comes back to be serviced, performance measurements can be compared to reveal any problems.

Digital Signal Processing

During the visit we also had an opportunity to learn more about ML's recent venture into Digital Signal Processing (DSP) for select speakers. Although the company makes electrostatic panels that mix with traditional cone drivers to reproduce low frequencies, the two technologies – electrostatic and cone drivers are two fundamentally different transducers, and it is, therefore, difficult to make them work





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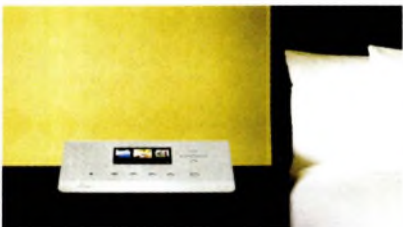
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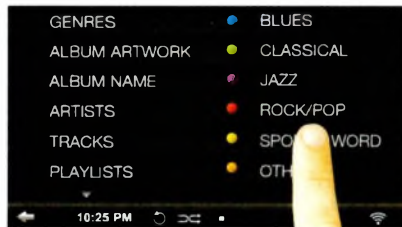


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Champing at the bit

Our US correspondent **Kevin Gallucci** believes we need to get our 24-bit audio house in order first before we think about 32-bit audio

I am not about to argue the merits of 32-bit audio, because it would be pointless. It is superior to 24-bit audio, or at least it is from a mathematical standpoint. 32-bit audio provides more space for the original recording which equates to higher resolution, and this conversely increases the signal-to-noise ratio of an audio track. Both of these are very important in accurately reproducing music, because we all know compression kills sound quality.

Recently, we have seen hi-fi companies introducing 32-bit DACs. Companies such as McIntosh, Simaudio and Oppo are currently showcasing their latest 32-bit creations. While I think these products are technologically very interesting, I do think they are jumping the gun a bit.

My big issue with this so-called rise of 32-bit DACs is that we are just barely starting to see 24-bit audio files hitting the mainstream. We all know SACD was a bust (I know it is controversial to say that, but it is the truth). SACD did have superior sound quality to standard CD, but consumers didn't buy it and it is now basically a dead format. 24-bit digital files have replaced it as the new king of sound quality, but we still have a long way to go with 24-bit recordings.

The issue is, that 24-bit audio files are not widely available yet (see p34 for the latest development). In general, the best sound quality you can get today is still good old CD. This is changing every day and we are starting to see an increase in 24-bit recordings available.

The majority of these releases are from past artists, but it is a start. There are a few big names remastering and releasing their work in 24-bit audio: Tom Petty, The Rolling Stones and Elton John to name three. And with any luck we might see some newer mainstream artists release 24-bit audio in the near future.

The increase in Blu-ray sales has helped bring awareness to consumers about high-definition (HD) in general and to some extent, HD sound. People have become aware of it because of the effective

marketing done by DTS and Dolby. DTS-HD Master Audio and Dolby TrueHD soundtracks are on just about every Blu-ray disc available today. The problem is that your average consumer thinks that HD sound only applies to movies.

Biting off more than we can chew

In my opinion, we are just starting to perfect 24-bit DACs. Companies have made huge strides in eliminating jitter, clock issues and even transport issues in the past five years. I think the introduction of 32-bit DACs is basically a horsepower race (it's all about who has the most power under the hood) and I don't think it's necessary at this current time in hi-fi to introduce 32-bit tech.

It has taken over 20 years to get past 16-bit audio and we are just starting to fully utilise the potential of 24-bit audio. We are just breaking the barrier of 24-bit – why the heck are we trying to jump past it so quickly? Just because we can create the processing power doesn't mean it needs to be the new standard. We have the technology and it is getting closer to perfection every day. Now all we need is more 24-bit music. Once it has become the new music standard, then we should start talking about 32-bit audio and DACs.

The introduction of 32-bit DACs is basically a horsepower race: I don't think it's necessary at this current time to bring in 32-bit tech



Simaudio leapt to the forefront with its 32-bit transport, the Moon 750D



KEVIN GALLUCCI

Our US correspondent, Kevin (former HFC Tech Labs manager) is based stateside and is first on the scene when tech news breaks

WHAT DO YOU THINK?

Do you agree? Perhaps, you feel technology should be free to progress? Email us now: hifichoice@futurenet.com



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AMPCITY

Back to the future

Do valve systems of yesteryear offer the solution to greener hi-fi?
Ed Selley looks at low-power solutions to high-fidelity sound

Our review of the Audio Note Zero components in the last issue (*HFC* 348) was notable for a few reasons. It was fantastic to have Audio Note back in the magazine after a 'review' holiday across the press for a few years and even better to see them producing equipment at relatively real-world prices.

Less obvious in the excitement was that the Zero integrated amplifier is the lowest powered amplifier to have graced the cover in over 50 issues. With eight watts on tap, the Zero is a long way adrift of even the most austere budget hi-fi amplifier in terms of power output – in fact, in a straight fight with many integrated iPod docks it would probably be bested.

This did not hinder the performance of the system as a whole though, mainly because the Zero system is designed around the premise of extracting the absolute maximum from every one of those eight watts. The AZ-Two speakers are sensitive enough to generate real-world listening levels from the Zero and, as a result, unless you had a barn to fill with death metal, you would never find the output of the Zero electronics a problem.

On account of being a valve-based system, the Zero set-up is still unlikely to garner many awards from the Energy Saving Trust. The power consumption to generate those eight watts will be higher than many substantially more powerful solid-state integrations. The philosophy may be more commendable though. With energy efficiency becoming ever more important across all manner of electrical equipment, does the Audio Note methodology – low-power amplifiers maximised by high-sensitivity speakers – hold the key to efficient, but great-sounding hi-fi?

This practice was not originally born of any desire to save the planet, but simply of necessity. Single-ended amplifiers need to be big to exceed ten watts in output and gigantic to better twenty.

To successfully emulate an orchestra on this output, speakers needed to be sensitive and they were – Tannoy and Klipsch offerings from the '50s and '60s are often over 95dB/w sensitive. As decibels are a logarithmic scale, this makes them several times more efficient than an average modern speaker in the 88-90dB range.

Trade-off

The trade-off is that drivers of this sensitivity are generally large and the cabinets that house them, larger still. As amplifier power increased from both push/pull valve amps and then solid-state technology, the sensitivity of speakers declined as they became more room-friendly. The present day slim-fronted speaker is unable to match the sensitivity of the older designs and needs more power to function.

Faced with an ever-growing requirement to be green, there is an argument that rather than rely purely on increasing the efficiency at which an amp generates a high-power output, why not reduce amplifier power and return to a larger cabinet, high-sensitivity loudspeaker? As Jimmy Hughes commented in his review of the Zero system, there is a certain magic that low-power amps seem to possess that is lost as power increases. Might it be time to see if this magic can be achieved at the same time as your hi-fi garners an 'A' energy rating?

The space being recovered from smaller equipment (and your CDs being stored in the cloud) will offset the likely increase in size of the speakers (the laws of physics remain unmoved by our plight) and we can look into the wonderful world of sensitive speakers. As well as the Audio Note offerings (whose hemp drivers are likely to earn us more eco points), Tannoy, Living Voice, Aspara, Klipsch and JBL all produce speakers with sensitivity levels above 94dB/w and while many of these designs are expensive, others are more affordable than you might think.

As an industry, we have been relatively unscathed by the demand for energy efficiency. If the requirement for genuinely green hi-fi does come about, it is intriguing to think that early audio might hold the key to its future. We could be seeing many more eight-watt amps in the magazine in future.

With energy efficiency becoming ever more important, does the Audio Note methodology hold the key to efficient, but great-sounding hi-fi?



Audio Note's Zero system: the eight-watt giant



ED SELLEY

Ed worked in retail before joining some of the biggest names in the hi-fi industry creating and supporting audio products

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Splendiferous Sony

The Sony CDP-101 was an amazing technological achievement for 1983 and set a benchmark for every subsequent player, recalls *Jimmy Hughes*

Assuming you were Gung-Ho enough to invest in a CD player back in March 1983, when the medium was launched in Europe, you'd have had two choices: a Philips CD-100 (or the virtually identical Marantz CD-63) or Sony's CDP-101. The Philips was a very basic player; like easyJet without the 'frills'! It sounded okay, but was slow and clunky to use.

By comparison, Sony's CDP-101 looked as though it had come from another planet – it was in a totally different class. Someone encountering the old Philips player today would probably find it impossibly slow, mechanically noisy, and hugely unfriendly to use – no track-time readout, for example. However, the CDP-101 still looks and feels like a current player and set the standard for all subsequent machines.

While some listeners expressed reservations about the quality of sound produced by Sony's CDP-101, few argued with the way the player handled. Quite simply, it was a 'first generation' machine that operated like a second or third generation one. It was fast, responsive and an absolute joy to use. It even had – whisper it! – a cordless remote control – an unbelievable luxury in those far-off days.

It was bloody expensive. But, for those who stumped up the dosh, it was money well spent. With such a slick user interface, the CDP-101 literally changed the way we listened to music in the home. It created a new paradigm for access, making things like LP and the compact cassette seem desperately slow and cumbersome. Despite concerns about sound quality, CD had chalked up its first significant victory.

The CDP-101 was a fairly small unit – as was the early Philips/Marantz player – and it did not adopt the conventional width/shape of most hi-fi components. It was surprisingly solid and heavy, and the player's innards were literally crammed-full of circuit boards and components. Unlike many modern players, there was no free space anywhere – every inch was used.

Nowadays, when we look inside a modern CD player and see just a small circuit board and a few ICs, it's easy to forget just how complex these devices are. Technology has made complexity small, simple and cheap. But, back in 1983, there were no easy short-cuts. The CDP-101 is testimony to that. Like early video machines, its innards are amazingly complicated.

Turning the corner

But what did it sound like? The general view at the time was that the early Philips/Marantz player sounded smoother and more natural.



The out-of-this-world Sony CDP-101 CD player

Tonally, the Sony seemed a bit bright and thin, and could be harsh and fatiguing when listened to long-term.

For audiophiles, the launch of CD had been a depressing event. Many of us were unhappy with the sound produced by early players and we were horrified by the prospect of the record industry having tied itself to technology that was deeply flawed and inadequate. So, when manufacturers like Meridian offered a modified audiophile variant of the Philips player, it was like a lifebelt thrown to a drowning man.

Suddenly, we seemed to be getting somewhere and nearer to home, many of us found ways of tweaking our hi-fi systems so that they showed CD in a more positive light. When Meridian's MCD Pro player came along in 1985, it felt like a corner had been turned. But had it?

Speaking as an early advocate of the MCD Pro, it certainly seemed that way. But then I chanced to compare it with a friend's CDP-101 – a very early one, bought the first week of the launch. I expected the Meridian to leave the Sony in the dust, but it wasn't quite like that. The Meridian was better, but not by anything like as much as I'd expected. How confusing!

Certainly, the MCD Pro sounded fuller and richer, with less high frequency glare and edge. But the Sony was crisper and just a shade clearer, giving a slightly more immediate and lucid presentation that was very likeable.

Let's not get carried away here; no one in their right mind is going to acclaim Sony's CDP-101 as an overlooked audiophile masterpiece. But, nonetheless, it remains an impressive achievement for its time. Without doubt it was a remarkable player that – if nothing else – forcibly demonstrated the sheer ease and convenience of CD as a medium. The rest, as they say, is history. ●

The CDP-101 literally changed the way we listen to music in the home, making things like LP and cassette seem desperately slow and cumbersome



JIMMY HUGHES

A hi-fi enthusiast for four decades, Jimmy's knowledge of system-matching and record-collecting are unmatched in the industry

WHAT DO YOU THINK?

Do you remember the CDP-101? What did you buy in the 1980s? Tell us about it. Email us now: hifichoice@futurenet.com

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Computer love

In the June edition (HFC 346), the report from the *Hi-Fi Wigwam Show* described a custom turntable deck that had two arms. Believe it or not, the idea never crossed my mind, although I think most self-respecting audiophiles would have known about this.

A perfect solution for cartridge junkies, I would want one for mono and one for stereo. So why aren't we seeing dual-tonearm systems from the mainstream turntable manufacturers? Are there any technical limitations that prevent this?

Surely, all you need are provisions on the deck to accommodate a second tonearm; which can remain unused if not needed?

Are there any manufacturers who make and sell two tonearm decks?

Logen Bharatham, via email

***HFC** Multiple-arm turntables were relatively common in the Sixties because – as you note – it was a simple way of playing mono and stereo records without changing cartridges over. The design of many record players also helped, as they were essentially sold as a self-contained platter and motor that would be fitted to a plinth. This gave the owner the ability to choose both the*



Army Dreamers

length of the arm and whether they wanted more than one.

There are no technical limitations to multiple-arm decks. Provided that the arm is mounted at the correct distance and angle, then the exact location is not important.

The rise in turntables that were single-chassis units and the increasing ubiquity of stereo meant that multiple-arm turntables became rarer. A number of brands did continue to offer multiple arm turntables, but they were not a common sight in the UK.

Happily, the vinyl resurgence and the rise of the 'skeleton'-style turntable has meant that the multiple-arm version is more common than it has been for some time. The German

market seems especially fond of multiple-arm designs, so Dr Feickert, Scheu Analogue, Brinkmann and Transrotor all make turntables that will accept up to three tonearms.

An Apple a day

I've been reading the back and forth exchange over the 'worth' of Apple products (and whether they constitute hi-fi) with some amusement.

Taken at face value, I am an unlikely advocate of the iPhone, as I currently own a system built around vinyl and valves, in which digital is only present under sufferance. Despite this, my iPhone is an indispensable part of my hi-fi life. I don't dock it or stream directly from it (although I confess that I like the idea of

Applications like iCrates make the iPhone an almost essential hi-fi accessory



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controlling my system with it), but it helps me enjoy my music all the more.

First up, I use the Spotify app to make my commute a bit more bearable. Often I will find something I haven't heard before that I want to buy for the main system. At a stroke, Spotify has reduced the risk when buying an album from an artist with whom I'm not familiar; as I can listen to it before purchase, rather than simply buying it on the strength of a couple of tracks.

With the price of new vinyl being what it is, this is a boon. If the copy I am buying is used, I can use another app called iCrates to determine the recent sale prices of copies, the versions available and their relative scarcity before I visit any online sites or record shops. If I'm buying new, I can still order them directly from my phone.

I've not had to deal with any existential struggles over whether my Apple product is hi-fi. I bought it originally because it usefully combined phone and iPod, but its contribution to how I enjoy my hi-fi is beyond doubt.

Alex Giles, via email

HFC This is something of a new direction in the big Apple debate, but one that has a lot of merit. Purchasing new vinyl at over £20 a go can be something of a risk and anything that can be used to help confirm the decision is going to be a good one to be celebrated. Equally an app that helps separate the bargains from the chancers is a good thing, too (and those buying used digital will be pleased to hear that iCrates can do CD pricing as well).

If we leave aside arguments over sound, are there other readers out there improving their hi-fi lot with smartphones or other devices and if so, how are you going about it?

Free to air

I have been following your radio articles in *HFC* 345 and 346,

although I wonder why you don't mention Freeview radio, as it is available to most people in the UK.

Freeview Radio, as you no doubt are aware, is transmitted at a higher bit rate than DAB radio and increasing numbers of people with digital inputs on their DACs/CD players will be able to take advantage just by adding a Freeview box.

I have this set-up myself, including the Harman/Kardon HD 990HD (I read your review in *HFC* 323 and bought one) and can listen through my two-channel system. The sound quality is really quite good on BBC Radio 3, particularly with live broadcasts.

A friend of mine who is an FM fan tried it via a Panasonic DMR-EX75 DVD recorder and he said that it compared very favourably with his FM system. Compared to the Squeezebox that really is as cheap as chips!

M. Booth, via email

HFC We have generally kept Freeview Radio to one side during discussions on radio. The reasoning is simple enough – generally Freeview tuners will require a screen function and these are not always in attendance in a typical two-channel system.

If you do have a screen (or you are able to commit the channel numbers you need to memory), we agree that Freeview radio offers strong performance at a bargain price.

Freeview boxes equipped with a digital output (or indeed your DVD recorder) can also be used with an external DAC for even higher performance levels.

Wrong way round

I read the piece on 'front end first' (*Back Page*, *HFC* 348), with a slight sense of relief. I have been into hi-fi for over thirty years and throughout that time, I have considered that front end first is a crazy way of building a hi-fi system and this was the case even before the relative performance of digital sources began to fall.

Put bluntly, if you do not kick proceedings off by finding a pair of loudspeakers that work correctly in your listening room, absolutely everything else from the tip of the stylus to the plugs of your speaker cabling are going to be up against it.

I am not saying everything sounds the same (far from it), but to argue that anything other than your speakers can have the greatest effect on the performance of your system in a given room is crazy. I would agree that putting a poor source into excellent speakers is valid, but the best sources going will not redeem a pair of speakers in the wrong environment, or even simply ones that you don't like the sound of.

The rise of competitively priced 'super DACs' is great news, not only because it means that top-flight performance is cheaper than it has been before, but also because it might start to change the way that we put systems together. Get the right pair of speakers for your tastes and room and the rest will follow.

Anthony Stuart, via email

HFC We do think that there is considerable validity to this. Loudspeakers are still the area where there are most differences in presentation and performance. Choosing them first is logical to an extent, but it does run into the issue that to hear them in the first place, it will be necessary to hear them with electronics of some description! This being the case, the electronics will need to have been selected with one eye on the performance traits of the speakers themselves.

We cannot argue with the fact that if you have not managed to get a good working relationship between your speakers and your room, then it will be hard to make meaningful improvements in other areas. If changes in thinking represent better sound for more people, we will always be in favour of it.

Not simply a recorder but a bargain digital radio: Panasonic DMR-EX75



A9

"A strength: clear transparent sound, subtle and seamless integration"
What Hi-Fi



A6

"Outstanding true and low hi-fi"
What Hi-Fi

A5

"Easily listenable these are accomplished beyond their price"
What Hi-Fi Mar 11





Whiter than white: the Kudos X2 stands out in a crowd

Wooden wonders

In your *Blind-Listening Group Test* in HFC 347 (loudspeakers), five of the six speakers featured were in a wood finish, but it was the white Kudos X2 that caught my eye. Do we put too much effort into trying to make speakers invisible in a domestic environment?

When I think about their general shape, the requirements of placement and the fact that they come in pairs, are we kidding ourselves that they will ever be proper furniture, no matter how well they are assembled? In the living room, they would be judged on the merits of styling, rather than if they were 'blending in'.

I'd love to see more speakers be less restrained in form and colour and show some more styling touches of their own. There will always be a place for the well-finished wooden box, but there should be a place for the speaker as an art statement, as well

Jason Hudson, via email

HFC Firstly, we hope that you enjoy the review of the Red Triangle Colors on p65! Speaker manufacturers have a balancing act when it comes to finishing products. We too feel that a bold speaker design that is unashamedly different is something to celebrate, but it has to be accepted that for every person that loves it, there will be (at least) one person that doesn't. With this in mind there will be a tendency to play safe. Nonetheless, we will do what we can to celebrate the bold and the beautiful when we see it.

LETTER OF THE MONTH

Digital dreamworld



I'VE JUST FINISHED READING the *Back Page* from the June issue (HFC 346), entitled *Cold Storage*. I found the article to be quite timely in that I've just fired up my new custom-built home theatre PC (HTPC). I too find myself yielding to the inevitable progress of technology and while I am a lover of music and all that this entails, I am also a lover of technology. That being said, I have a vast collection of music on vinyl and various formats of disc and love the tangible aspects of touching and feeling something real.

You're absolutely correct about the enjoyment we get browsing through liner notes, photographs and artwork. It completes the experience that I firmly believe the artists themselves wanted us to feel. Nevertheless I have finally given into the wonderful advantages of storing this vast collection of mine in one easy and efficient location on six Terabytes of hard-drive storage.

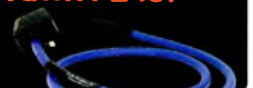
Having so much entertainment that's so easily accessible has me reaching back to listen to music I haven't played via my hi-fi in years. Now there are no more excuses! No longer do I have to search through all my vinyl and CDs before I find the album I want. I can just boot up and off I go, rummaging through thousands of songs now conveniently located at my fingertips.

So everyone, let's just sit back, relax, and enjoy the music through our big black and silver boxes. After-all, who knows how we'll be tapping into our collections in the future. ●

Keith Brown, via email

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**A: Horn B: Transmission Line
C: Spring**

Please text your answer: Rega A, B, or C to 87474 or visit futurecomps.co.uk/Rega and follow the instructions, leaving your selected answer and details where prompted

The contest in our *Blind-listening Group Test* for compact floorstanders (HFC 347), was one of the closest we have seen in years. The participants of this all-British selection vied with each other in terms of price and ability, but in a field of strong contenders only one speaker could be awarded the coveted *Group Test Winner* badge and that speaker was the Rega RS7.

This speaker ticks all the right boxes. For instance, we particularly like the slim design that mounts a clever transmission line-loaded 180mm bass driver on the side of the cabinet to reduce the frontal width, as well as the excellent build quality. But what impressed us most of all was the sound. We loved its outstanding coherence and openness and its considerable low-end punch.

Thanks to the generosity of Rega, one lucky reader will be able to experience this phenomenal speaker in their own home by entering this month's competition.



TERMS AND CONDITIONS To enter the Rega competition, you can either (a) text your answer to 87474 at any time between 21.07.11 and 17.08.11, or (b) enter online at www.futurecomps.co.uk/Rega with your entry being received between 21.07.11 and 17.08.11. By sending your entry you agree to these competition rules and you confirm you are happy to receive details of future offers and promotions from Future Publishing Limited and carefully selected third parties. If you do not want to receive information relating to future offers and promotions, please include the word STOP at the end of your text message or at the end of your postal entry. Texts will be charged at £1.00 plus your standard network tariff rate.

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The cloud has a silver lining

Starting from 2012 at CES, the major record labels will be pouring money into 24-bit versions of their rich back catalogues. **Adam Hartley** looks at the online services available now to capitalise on this long-awaited opportunity

Major online music stores such as Apple's iTunes or Amazon's MP3 store, as well as streaming services such as Spotify have had a limited appeal amongst audiophiles to date. After all, until listeners that passionately care about sound quality can stream or download *any* music they want in an open and lossless digital format (which they can then play

anywhere they choose – on their hi-fi, smartphone, laptop or tablet – whenever they like) many are more than happy to stick with CD and vinyl.

There are a number of lossless download stores and subscription-based services currently available to the audiophile online music buyer, yet these have only offered a fairly limited, niche selection of music to date. Yet this situation

is soon going to change, with all of the major labels soon set to re-release considerable swathes of their back catalogues in 24-bit lossless format.

"Starting from January 2012 at CES, the major record labels are going to start pouring money into promoting the re-mastered 24-bits of all the great music of the 1960s and 70s," says Linn's MD, Gilad Tiefenbrun. "It is going to be a

revival time for all of us involved in specialist music. High quality is going to be the hot topic at CES next year."

For now, both Amazon and Google have recently announced cloud-based music 'locker' services, which allow users to store digital music remotely on their servers and then access it from any device they like. Following those fairly low-key launches, Apple



Access to your cloud-based music collection should be simple and straightforward, whatever personal gadget you're using



MAJOR BITE FOR APPLE

Perhaps the most interesting aspect of Apple's new iCloud service is the fact that all of the major labels have been quick to sign up.

"Clearly the majors don't want to be left out of any opportunity to sell music easily," says Linn MD, Gilad Tiefenbrun. "And let's applaud any effort by the music industry to make it easier to make legal purchases.

"However, the majors also know that Apple is just one route to market. The movement to the cloud is good news for them, because Google and Amazon are also there."

Most importantly, these other cloud-based services will start to differentiate themselves from Apple on quality, as the majors are soon re-releasing everything from the back catalogue at 24-bit.

"All these other ways of buying music online will absolutely differentiate themselves from Apple, offering music which is not defined by the server or any artificial limits to the quality of the music available," adds Tiefenbrun.

INVESTIGATION: THE FUTURE OF MUSIC



Google's take on music in the cloud

has announced its own plans to develop its digital music business, with the new iCloud service enabling iTunes users to store their music remotely, easily syncing and accessing them across all of their iOS devices.

As ever, Apple grabbed the headlines with its most recent launch, yet is iCloud of any real interest to audiophiles? Or is it, as some in the hi-fi business describe it, little more than "an Apple solution to an Apple problem"?

The final hurdle

As ultra-fast broadband becomes available to many hi-fi fans across the UK, limited bandwidth issues combined with increasingly affordable digital storage costs means that there are no longer

any technical limitations to downloading (or streaming) lossless, high-quality music. For many hi-fi fans, cloud storage and streaming will soon be cheap enough to replace NAS drives.

The fact that we still cannot download or stream all of the lossless tunes we want to is purely a business decision. Put simply, this means that the final hurdle for the leading download stores and subscription-based streaming services is to persuade the major music labels to make their back catalogues available in 24-bit lossless formats.

Right now, locker services such as Amazon's Cloud Drive, Google's Music Beta and Apple's iCloud allow users that buy a lot of their music digitally to store it

"For many hi-fi fans, cloud storage and streaming will soon be cheap enough to replace NAS drives."



Amazon has its own cloud-based storage system

"in the cloud" – which basically means that it is stored on one of the above-mentioned company's servers and then obtained and accessed by the user on any device they like.

It's still early days for music in the cloud and these are toe-in-the-water test services from the tech giants. However, for many audiophile listeners, there are still too many limitations and complications with these current offerings to warrant their attention.

With Apple iCloud, for example, users push their iTunes library into the cloud by subscribing to something called iTunes Match. Yet you will only then be able to access a 256kbps AAC version of your music – fine for listening in to on your iPhone or iPad on the go, but not really suitable for use on a hi-fi.

Mass market vs quality

"The cloud is a great idea, right?" says Tiefenbrun. "In terms of what Linn's customers want, they want the ability for their music collection to be wherever they are. And that's what we all want. But it has nothing to do with Apple, with the iCloud just being a clever piece of marketing that means Apple grabs all the headlines. It doesn't really do anything to take the notion of the cloud forward. In fact, it does much less than what Google and Amazon have already announced.

"What Apple is doing, pure and simple, is something that it should have done years ago, which is creating a sensible way of syncing multiple devices. We all know that, if you have multiple Apple devices, then the way that the sync works is a right pain in the ass! They created that mess. So the iCloud is simply an Apple solution to an Apple problem. It is not a world solution to a world problem."

Right now, iCloud is little more than a synchronisation utility for low-resolution music. "A mass market thing," according to Nick Banning, marketing manager of Monitor Audio. "Stereophiles like having bits of kit, they are proud to own certain brands of speakers, amps, cables, CD and record players.

"Doing research and auditioning pieces is part of the joy of listening to music. iCloud will offer a service like Hotmail, so in theory no matter where you are in the world, your music, images and info can all be accessed, as long as one can get a 3G or internet signal."

Oliver Kriete, product support manager at D&M Europe agrees, adding: "If you only like to enjoy your music at home there is no need for you to think about iCloud. If you are user of an iPod and a computer with iTunes the service may be interesting for you. It's clearly designed for the mass market and the features should attract 'mobile' people, as it is not only about music but other services as well."

iCloud versus Spotify

For the time being, most audiophiles are likely to stick with the limited range of niche-interest portals to download high-definition audio. And a minority will occasionally use services such as iTunes or Spotify to obtain or listen to music on those occasions when they are away from their home-based hi-fi.

Spotify is, of course, the darling of the digital music industry right now, though many in the consumer technology and high-end audio industries have already started to question whether new developments such as iCloud might hamper the chances of Spotify cracking the US market.



In the internet age, AV receivers are once again becoming of interest to audiophiles

"I think iCloud will seriously hamper Spotify's chances," argues Nick Banning. "Apple has such a market force I think it will not only endanger Spotify, but Google and Amazon with their own cloud servers will have to seriously do a lot of marketing and great deals to tempt people away from Apple."

There is more than a very good chance that Apple will develop and improve the iCloud service over time, once certain deals are in place with the music labels, to increase its appeal to the audiophile market. Though many others in the hi-fi business don't see any threat to music lover's services such as Spotify.

To own or to rent?

"This notion that iCloud will kill Spotify's chances in the US presupposes that the two propositions are direct competitors," says Kulwinder

Singh Rai, PR consultant to Onkyo. "They aren't. iCloud will appeal to those who still believe in the concept of ownership where music is concerned and that's no great surprise, given the existence of iTunes. It would have been silly for Apple to launch a cloud-based

"The concept of owning all of your music in a native, lossless format in the cloud is a holy grail for many audiophiles."

music service that instantly disenfranchised the millions who have paid good money and expended precious time and effort, in order to build up huge music libraries."

Spotify is based on an entirely different business model and perception of today's music lovers' needs, believing that, as Rai opines, "today's new generation of music lovers are totally

comfortable with the notion of simply leasing content, rather than owning it."

In the short term most believe that there is room in the market for both models, though Rai is adamant that, in the longer term, "the Spotify model will win out,

and conclusively so. Because, ultimately, it's the music and the range of music that you can inject into your finite life, that truly matters. Those audiophiles that remonstrate that music heard in either AAC or Ogg Vorbis doesn't compare in quality to the same content heard in a lossless format are, to an extent, missing the point. Unless, that is, they already have

APPLE LOSSLESS

For those audiophile users that do choose to use iTunes, then Apple Lossless is the best quality digital format on offer. But what is it?

It is a proprietary format, which Apple doesn't publish any specifications for, with Naim, Arcam, Linn, Bowers and Wilkins and most other major British hi-fi companies allowing Apple Lossless files to be played, although, as Linn MD Gilad Tiefenbrun admits: "We have to be very careful about this, as you are not officially supposed to, because Apple won't license it to anybody."

"We don't understand what Apple gains from keeping a format like Apple Lossless secret. It doesn't help anybody. People just want a simple life. They want high-quality music that they can play anywhere."

Most hi-fi brands advocate the free, open and lossless FLAC format because it is not owned by any corporation. "So we can be confident that our customers' music can be stored in perpetuity and can be used however they want."

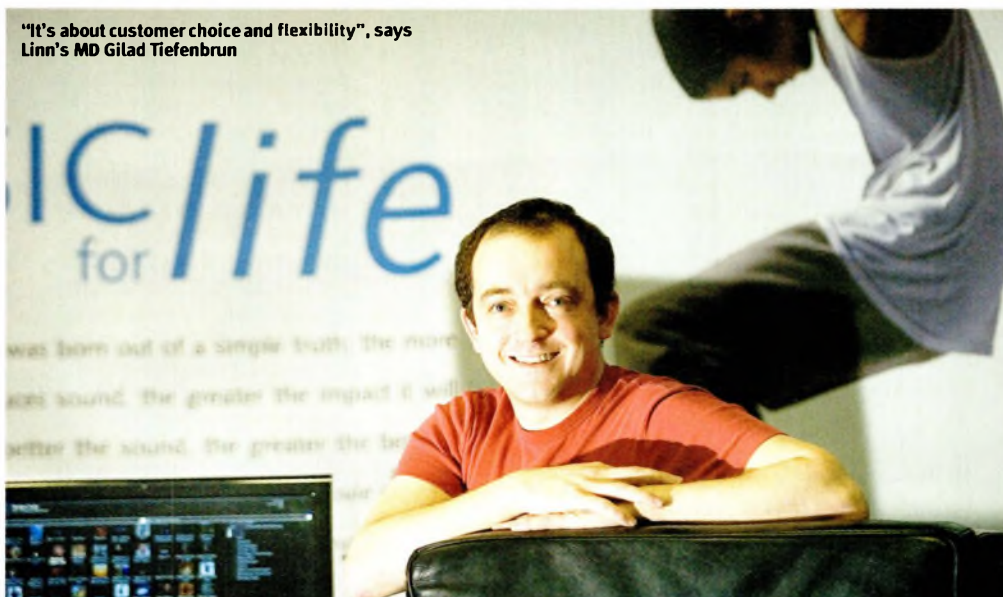
10 million-plus songs ripped to their computer or mobile device in a lossless format."

Leaving aside the limitations of the current cloud music offerings, there is no question that the concept of owning all of your music in a native, lossless format in the cloud is something of a holy grail for many audiophiles.

For the hi-fi industry and its customers the real promise of the cloud and what we all want, is something that simply and effectively stores your music collection at the native resolution – so if you have it in 24-bit, you want it stored in the cloud in 24-bit – and then you want it to be accessible to any device that you own, regardless of what manufacturer you have purchased that from, whether you have an Apple product or a Linn or Naim hi-fi system, or whatever else.

"After all, this is what the network is for," says Tiefenbrun. "The age of the internet is perfectly suited to multiple manufacturers running open systems that inter-operate with each other. It is about customer choice and flexibility. That is what the cloud will deliver and those services are coming. But the Apple iCloud is one very small, Apple-specific subset of this." ●

"It's about customer choice and flexibility", says Linn's MD Gilad Tiefenbrun



How we test

Hi-Fi Choice employs the most rigorous test and measurement regime in the business, here we explain why our verdicts are beyond compare



Hi-fi reviews

No other magazine offers a more reliable standard of hi-fi testing. Technical Consultant **Richard Black** explains...

EXPERT TESTING

FOR OVER THREE decades, *Hi-Fi Choice* has been trusted for its combination of subjective and technical review expertise. The crucial consideration for any audio component is how it sounds, but it is important to back this up with laboratory measurements for many reasons – everything from the wish to check basic performance to the possibility of uncovering peculiar behaviour under conditions, perhaps slightly different from those of the subjective tests.

Listening

Subjective testing doesn't necessarily require the world's sharpest ears. What's more important is the experience to analyse the sound arriving from the hi-fi and this is where our subjective reviewers come in: they have been listening critically to audio equipment for aeons and have learned to identify the characteristics that make kit informative, involving or just plain dull.

Measurement

But even the most experienced listener, with a stack of familiar recordings heard in familiar surroundings, can't always know what is causing a particular

characteristic in the sound. Brightness, for instance, may be a function of frequency response or distortion and this is where measurements come in. We analyse a range of parameters to see just where the correlation lies between sound and design. Our test equipment has been tried, tested and added to over the years and again our experience with it is unrivalled.

Straightforward presentation

We call on that experience to boil down the measurements to simple bar charts, which show at a glance how well a component behaves relative to others in its category. It's this combination of subjective and technical expertise that makes our reviews the most useful in the field.

“crucial consideration for any audio component is how it sounds, but it is important to back this up with laboratory measurements...”

OUR AWARDS



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



RECOMMENDED: The products we feel meet a certain high standard of performance



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

STATE-OF-THE-ART HI-FI TECH

HFC's test equipment is the most advanced kit available



AT HI-FI CHOICE, we have access to some of the most advanced test equipment currently available on the market, including the Audio Precision APx585, which you'll find in the labs of many top hi-fi manufacturers. The 585 can be configured to test a variety of key hi-fi products, such as amplifiers, CD players/DACs and – with the help of a specially-calibrated microphone – loudspeakers.

In conjunction with some conventional lab equipment at our disposal, the 585 will also be used to test analogue playback equipment including phono stages and turntables. These objective measurements – which conform to recognised industry standards – are designed to complement subjective evaluations such as the listening panels organised by our internationally respected reviewers.

The standard of our test facilities is unrivalled in the UK press. Quite simply, no other magazine offers this level of cutting-edge testing, making the verdicts in *Hi-Fi Choice* the only ones you can really trust.

Unrivalled group tests

Hi-Fi Choice is the only magazine to offer blind-listening group tests, fully backed up with objective data

BLIND-LISTENING TESTS

THIS CRUCIAL test involves relatively rapid-fire comparisons of the test units for a panel of three listeners who are not aware of which product they are listening to. Levels are accurately matched and the test is conducted with the minimum of distractions, playing the same programme through each system while the listeners take notes of whatever pleases or bothers them.

In this way, an evaluation free of prejudices based on brand, price or appearance can be made, while the different tastes and sensitivities of each listener help round out the analysis and make it more widely applicable. Occasional repeats of kit give a 'sanity check', while years of experience help make the process efficient and reliable.

SIGHTED LISTENING

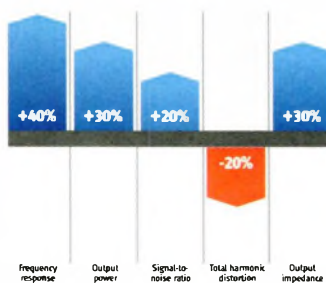
IN ADDITION to the 'blind' test, the author also spends a longer period listening to each system with various items of partnering equipment and a wider range of music. Apart from the obvious fact that this is how most people listen most of the time, this also has the advantage that interesting aspects of the sound can be investigated and different musical

styles tried out to see what works, not to mention experimenting with such variables as listening level.

Long-term reference pieces of equipment (some from past reviews) get substituted for the kit under test from time to time, in order to check on performance relative to the rest of the audio world, while recordings made by the author provide a live reference.

TECH LABS

RESULTS AT A GLANCE



THE POINT of lab tests is twofold: first, to establish basic operating criteria for the equipment and make sure it will work under likely conditions of load, input level etc. and second, to find out what lies behind the subjective observations noted. To this end, all the units in this group were checked for maximum output power and response flatness using basic analogue test equipment – signal generator and AC level meter, plus an oscilloscope to look for the onset of overload.

Other parameters were measured using a high-performance analogue-to-digital converter connected to a PC, with the data analysed digitally to show up such characteristics as distortion (including total harmonic distortion) plus intermodulation and digital aliasing distortion.

Finally, five basic parameters are summarised for each unit in our unique bargraphs:

FREQUENCY RESPONSE

Amplifiers should have a response that's flat within a small fraction of a dB. We test this by sweeping a signal across the band and noting the largest deviation.

OUTPUT POWER

Output is measured in eight ohms, against a maximum allowed distortion of 0.1 per cent and then compared to the DUT's (Device Under Test) specification.

SIGNAL-TO-NOISE RATIO

Ideally, amplifiers should have a better SNR than any source they are likely to be fed from. This means the target is about 100dB – noise should be at least 100dB below maximum output at typical volume settings.

TOTAL HARMONIC DISTORTION

We measured this in the midband, with the output power set to a 'general-use' level of 10 watts into eight ohms, but our results do take into account the performance at other levels and frequencies.

OUTPUT IMPEDANCE

A low output impedance means good control of speakers, while a high one can lead to response irregularities. We measure this by examining the degree of output 'sag' when a load is applied the the amplifier.

TESTING EQUIPMENT USED

Source: Cambridge Audio Azur 640C/
Cambridge Audio DacMagic DAC

Speakers: B&W 803s/ATC SCM20

Cables: Kimber, Wireworld, Black Rhodium and QED

TEST MUSIC USED

STEELY DAN: BABYLON SISTER



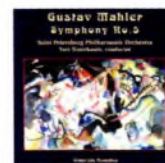
OTIS REDDING: THE DOCK OF THE BAY



PALLAVICINO: MADRIGALS



GUSTAV MAHLER: SYMPHONY No 5



THIS ISSUE'S BLIND PANEL

This month's panel of experienced listeners from within the industry are:



PHIL HANSEN
JOB: OWNER, RED SHEEP COMMS.

PHIL IS A PR and marketing consultant, having previously worked as a marketing manager in hi-fi manufacturing.



ABBAS HUSSAIN
JOB: MANAGING DIRECTOR

ABBAS IS currently the main man behind Wireworld UK, but was also involved with Orelle, a maker of fine amplifiers.



STEVE REICHERT
JOB: PR MANAGER ARMOUR HOME ELEC.

WITH NEARLY FORTY years in the business, Armour's PR man is also the 'Golden Ears' for the Q Acoustics and QED brands.

DEFINITIVE VERDICTS

No other magazine offers an equivalent listening programme

Few, if any, magazines in the world can equal our dedication and thoroughness in combining blind and sighted listening with extensive lab tests and detailed internal examination of equipment passing through our hands. Each of these is equally important and it's not just that we do them – we also bring to the table decades of audio experience.

Our listeners in the *Blind-Listening Group Tests* for example, are experts from within the hi-fi industry. Each and everyone of them is used to listening critically during product development and initial product testing. In fact, many of them also get involved in making recordings and their own music.

One of these is *HFC's* Technical Consultant Richard Black, who has been involved with designing, testing and evaluating audio equipment for a quarter of a century.

It's the culmination of all the aspects mentioned on these pages that makes for the most reliable hi-fi verdicts in the business.

TESTED THIS MONTH: AMPLIFIERS
TURN OVER NOW!

Blind-listening Group test

PRE/POWERS VS INTEGRATEDS £1,600-£3,000

Power struggle: one box vs two

Richard Black and the blind listening panel compare integrateds against pre/power amps, asking if there's really any benefit in the two-box approach

TRADITIONALLY THERE'S BEEN a clear division between integrated and separate pre/power amplifiers. Yet ever since the dawn of the line-level-only integrated, that division has been getting progressively eroded. After all, many folks have reasoned that an integrated is little more than a power amp with a volume control and a selector switch. At the same time, integrated amps have been getting more sophisticated electronically and moving upmarket – we can still recall the shock felt in the industry when Krell released an integrated amp some years ago.

So it makes perfectly good sense to mix integrated and pre/power amplifiers in a single group test. There's plenty of overlap of features and prices, with the most expensive here being an integrated design. Of course, one of the biggest justifications for separate pre and power amps (back in the days when vinyl was everyone's main source), was keeping the sensitive phono stage well clear of the large power transformer involved in supplying power. There's still logic to that (though it's worth mentioning that modern surface-mounted components,

being physically smaller, can help make phono stages less sensitive to hum pickup), but even here things are not clear-cut. If you use the Quad pre-plus-monoblocks system (as its makers expect most owners will) the short ribbon cables will effectively ensure that the phono stage is no further from the

“Integrated amps have been getting more sophisticated and moving upmarket.”

big mains transformers than would be the case in a typical integrated.

A blind listening test, with the listeners completely unaware of kit identity is the ideal environment to test the relative merits of one-, two- and three-box amp solutions. It doesn't provide for all the possible options, of course, most attractively that of placing monoblock amps right next to loudspeakers so as to keep speaker cables short, but it does get some way towards establishing whether there's any obvious necessity for more than one box, in general.



PRICING

NOT THE CLOSEST group we've ever considered, but the spread makes allowance for all sorts of options, most obviously that of allocating more or less budget to amplification, source and speaker parts.

The old rule of thumb that you should put the lion's share of expenditure into the source is arguably no longer true in these digital days, but is it really necessary to go gung-ho on the amps? And then there is the question of features. A good built-in phono stage or DAC can save money – or with devices like the DacMagic or Creek's dinky phono stages around, might that be false economy?

ON TEST



Densen Beat B-200/B-310
£1,400/£1,450 **P43**

As black slabs go, these are very black and very slab, but the Densen brand has a strong following for sound. Facilities are good, with plenty of inputs and outputs on the preamp and the option of upgrading to a fully active system with a further power amp (or two) and Densen's SAXO crossover.



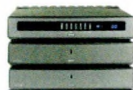
Electrocompaniet ECI 5 Mk II
£2,750 **P45**

Vast, but decidedly good-looking with it, this powerful integrated amp keeps things simple on the features front, but includes a couple of balanced inputs for good measure. We've had some good experiences with Electrocompaniet products in the past: can this one continue that tradition?



Moon 13.3 £3,000 **P47**

It's still quite a lot of money for an integrated amp, but Moon offers some very attractive options with this amp. Our sample came with an onboard multi-input DAC, while a phono stage and a balanced line input are further upgrade possibilities. The front-mounted 'music player' input is a nice thought, too.



Quad Elite Pre/Mono
£850/£650x2 **P49**

Quad's latest range of audio electronics comes in a unified case, which obviously gives a visually matched system. The Ampbus ribbon-cable link makes connecting up unusually straightforward, too, but you still have the option of traditional audio leads and cross-brand, matching if you prefer.



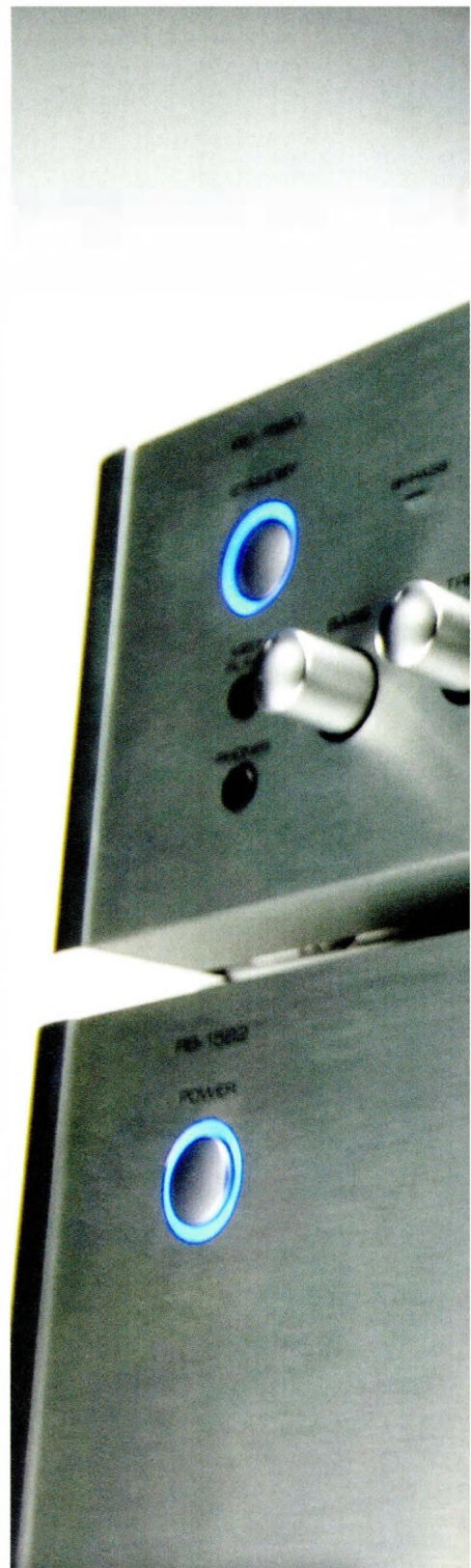
Rega Elicit £1,595 **P51**

Rega's latest incarnation of the popular amp, by now several stages removed from the original. Simply, but sensibly featured, it is upgradeable with an internal phono stage. We found some early Rega electronics iconoclastic, but recent models have impressed us considerably, so we're keen to include this one here.



Rotel RC-1580/RB1582
£995/£1,095 **P53**

Compared with the rest of the group, the preamp positively bristles with features and inputs. The power amp is unusually powerful and on paper this looks like a very promising combination. The big question, of course, is whether quality has been sacrificed to convenience and specifications.



ROTEL

PRE/POWER AMP INTEGRATEDS
£1,600-£3,000

BLIND-LISTENING
GROUP TEST



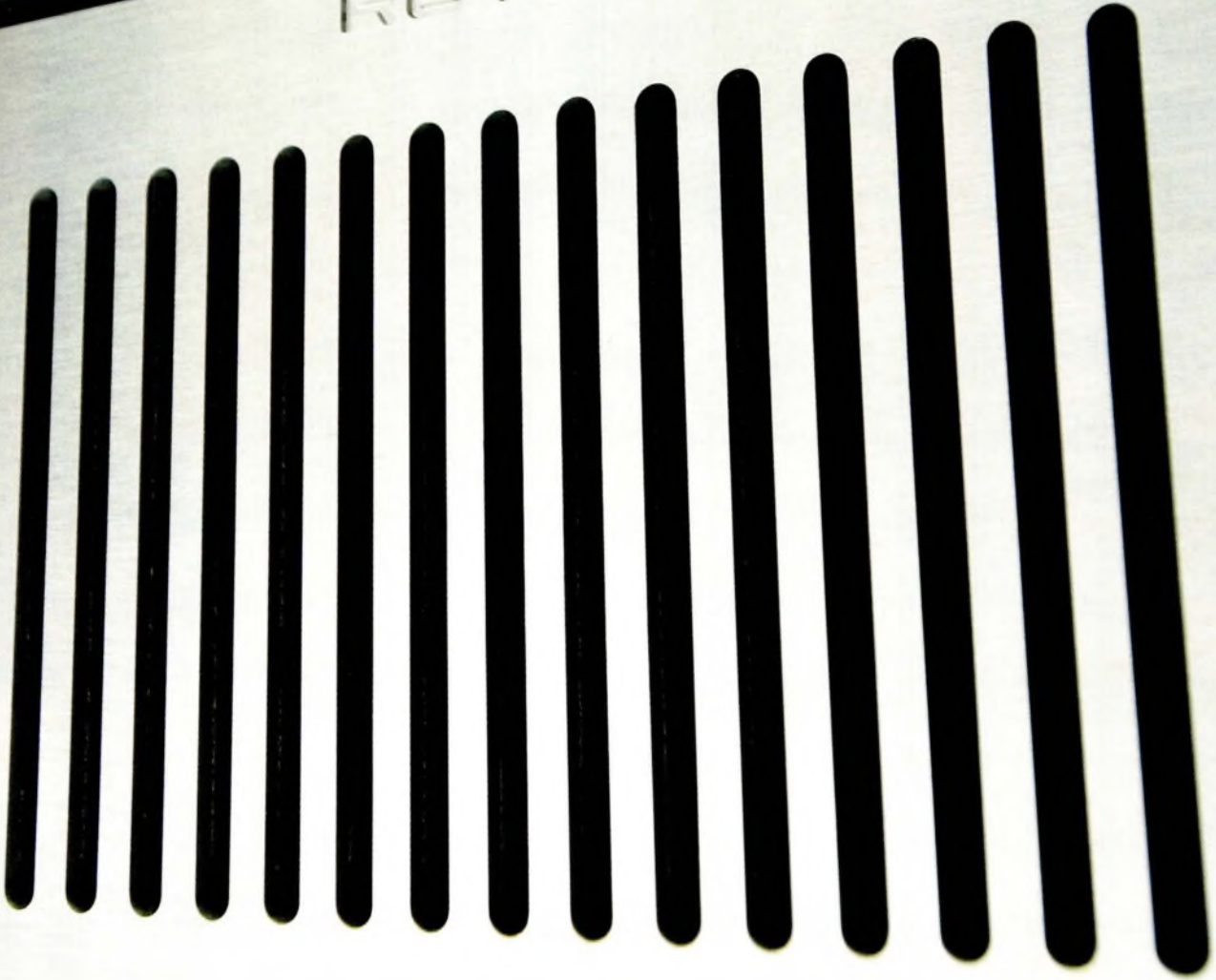
TONE BALANCE

PHONO

CD

TUNER

ROTEL





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Densen **B-200/B-310** £1,400/£1,450

Densen plays it cool, Scandinavian style, though very flexibly – but does the sound quite match?

DETAILS

- ORIGIN:** Denmark
WEIGHT: 8kg/12kg
DIMENSIONS: (WxHxD) 440x64x310mm each unit
FEATURES:
- Preamp: 6 line-level inputs
 - Processor in/out loop
 - Two record outputs
 - Four main outputs
 - Power amp:
 - Unbalanced input
 - Low/high gain
 - Single speaker outputs
 - Nominal output: 80 watts
- DISTRIBUTOR:** KOG Audio
TELEPHONE: 02477 220650
WEBSITE: densen.dk

There's no denying that these two units look uncommonly smart and timeless with their perfectly rectangular looks. And also worthy of honourable mention is the impressive remote control, all metal and streets ahead of most of its breed.

The basic specification isn't too unusual, the power amp putting out a notional 80 watts into the usual eight-ohm load, while the preamp has effectively six line inputs. There's an unusually prolific array of phono sockets, though, not least because there are no less than four preamp outputs. There are also two record outputs and a processor in/out loop. Vinyl lovers can add an internal phono stage, converting one line input to phono.

Pre-amplifying circuitry uses surface-mounted discrete transistors, arranged as neatly as soldiers on parade, with good-quality passive components and twin power transformers.

In the B-310 power amp, a large toroidal mains transformer dominates the case, while most active components are again surface-mounted. Large output transistors are thermally coupled to the base, relying on the case itself as a heatsink. Gain is switchable between high and low

settings, allowing for passive preamps. The unit is easily upgradeable to drive loudspeakers via Densen's 'SAXO' active crossover – the firm has long expounded the virtues of active driving.

Sound quality

Despite increasing similarities in technical performance between brands and models, it's still often possible to put a finger on a distinct sonic character in a piece of audio electronics. In this case, there's something about the treble that makes the sound large, crisp and just a little bright.

At best, it comes across as lively and attractive, making the most of musical dynamics and contrasts, with images that spread across the soundstage in a highly believable manner. It's easy to pick out details if one wants to, but the big picture is not sacrificed and there's plenty of opportunity to revel in the scale of a large orchestra or rock band. Voices do well, most notably when there are several of them, with good individual sounds clearly distinguishable one from another.

The downside of that treble character is that, for some listeners, it can cause something akin to a 'halo' around the sound; an aura of distortion or upper-harmonic ringing which significantly interferes with

musical enjoyment. Obviously it's not on anything like the scale of bad MP3 coding, for instance (which causes the same effect but in a thoroughly gross way), but it's the kind of thing that can be distracting even at very low levels.

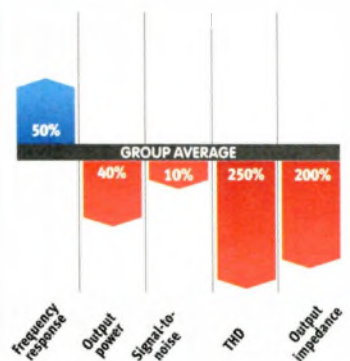
But most listeners seem to find the sound merely a shade bright. It's not always the most energetic rhythmically, but bass is solid and its pitch is clearly defined. We also found the combination notably adept at driving different speakers without changing character.

TECH LABS

The majority of the measured distortion was generated by the B-310 power amp; the B-200 in isolation is extremely clean. The system measured a pretty terrible Intermodulation distortion figure of only -32dB. A difference of nearly 15dB between the two output channels for the crosstalk (-61dB left and -74dB right) and just over 10dB difference (-81dB left and -93dB right) for the Signal-to-Noise measurements may relate to the IMD performance.

The Densen measured the highest output impedance, which may affect performance and will affect efficiency when used with loudspeakers with a low tolerance impedance characteristic of their own. The system was also the only unit that failed to meet its specified output power of 80W, only measuring 75W, an error of 6.25%. However, it did achieve the best overall phase integrity, drifting by only 0.03dB at the 10kHz mark, where the other models drifted significantly more.

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★
VALUE FOR MONEY ★★★★★
BUILD QUALITY ★★★★★
FEATURES ★★★★★
- LIKE:** Good sense of scale, with a well-judged balance; flexible preamp
- DISLIKE:** Treble character can be actively offputting for some
- WESAY:** Different visually from the run of the mill, but even more so sonically

OVERALL



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Electrocompaniet ECI 5 Mk II £2,750



Big and powerful, but calm and unfussed almost to a near-Buddhist extent

DETAILS

- ORIGIN:**
Norway
- WEIGHT:**
16kg
- DIMENSIONS:**
(WxHxD)
483x135x405mm
- FEATURES:**
- Inputs: Two balanced line inputs
 - Four unbalanced line inputs
 - Record output
 - Unbalanced preamp out
 - Balanced preamp out
 - Single speaker output
 - Nominal output: 120 watts
- DISTRIBUTOR:**
EC Distribution
- TELEPHONE:**
020 8893 5835
- WEBSITE:**
electrocompaniet.no

It's certainly imposing, and its non-standard width of 470mm may require some thought about siting it, but then maybe that's just indicative of the Electrocompaniet way of doing things – not by anyone else's book. The company has a long history of being original, going back to the days in the 1970s, when its genesis lay in Matti Ojala's documenting of TID: Transient Intermodulation Distortion. TID is now largely water under the bridge, component and design developments having ensured its demise as an issue in any decent audio amp, but Electrocompaniet continues to take an individual line on audio electronics and has a strong following as a result.

Control of the unit is individual, too. Volume is controlled by up and down buttons, not remarkable in itself but unique to Electrocompaniet in employing an internal potentiometer which can only be operated by electric motor. Input selection is electronic, the inputs running to two balanced and four unbalanced line inputs, of which the 'HT' one bypasses the volume control. Selection is indicated clearly by the particularly nice display. Components are mostly surface-mount but there are quite a few through-hole ones too, including,

of course, the twin pairs of output transistors, mounted on an internal heatsink. Although that should cope with most day-to-day use, fans are also included to dump extra heat under very heavy driving.

Sound quality

It's probably easiest to outline the listener for whom this amp won't work wonders – anyone who likes their sounds fast and furious. It's not the most laid-back amp ever, but it's not far behind. But the ECI 5 is more than capable of following, for instance, the madder excesses of avant-garde jazz. What it won't do is add any excitement of its own and so it can seem a little pipe-and-slippers in comparative demonstrations.

As our listeners found out, it does many good things very well, especially dynamics. Indeed, as one pointed out, it is outstandingly good at that particular feat, managing swings from very soft to very loud effortlessly and unfussily. In fact, the ECI 5 can reach a mighty climax without one having been directly conscious that one was approaching, even though volume might have been building for a minute or more.

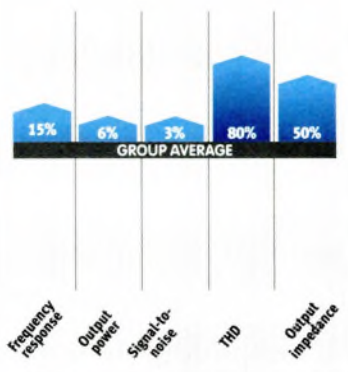
That's an admirable and desirable quality and it's made only more attractive by the amp's general sense of calm balance – tonal balance

and also spatial, giving no undue preference to instruments or voices by pitch or placement within the image. What this all adds up to is beautifully graded and shaded sound that conveys heaps of information but never intrudes rudely on one's consciousness. If you want to hear detail, it's there. If you don't, enjoy the big wash of sound. Bass is deep and clean, treble very sweet, and there's a surprising amount of kick ready for heavily rhythmic music. We loved it, but we can still see why it won't suit all tastes.

TECH LABS

The ECI 5 Mk II gave an excellent IMD measurement of -78dB. Both channels were very well matched, less than 1% difference across virtually all of our tests. We struggled to set the distortion reference point we use to compare certain measurements, as the amplifier was impeccably clean up until very high gain, where the signal very suddenly saturates. The unit achieved 10W above its stated 120W output power, although we measured this with an input level slightly above 0dBu. The digital volume control is too coarse to set the output quite as high ensuring the distortion is maintained at 0.1% or below. The ECI 5 Mk II distortion characteristic showed a difference of 20dB from the second harmonic to the next loudest third. At higher distortion levels the output remains subjectively very clean and only under high saturation do the higher harmonics introduce audible artefacts. Overall the ECI 5 Mk II sets a very high standard.

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY**
★★★★★
- VALUE FOR MONEY**
★★★★★
- BUILD QUALITY**
★★★★★
- FEATURES**
★★★☆☆
- LIKE:** Excellent tonal balance and a lovely way with detail
- DISLIKE:** Presentation can sometimes seem too much on the laid-back side for some
- WE SAY:** Admirable and nonetheless so for its slightly unusual character

OVERALL



Finally... our definitive answer to the audio cable debate

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How can one metre or so of cable between the socket and your Hi-Fi possibly make any difference to its sound? Well, in our opinion, based on years of detailed research and listening, it can make a huge difference – indeed, in many cases, we believe it can bring about a greater improvement than actually upgrading the piece of hardware itself.

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Classic
PowerKord™

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Moon I3.3 £3,000



Lots of upgrade options, great build and we liked the internal DAC, but a little expensive taken just as an amp

DETAILS

- ORIGIN:** Canada
WEIGHT: 10kg
DIMENSIONS: (WxHxD) 430x88x375mm
FEATURES:
- Inputs: Four unbalanced (one optionally phono)
 - One mini-jack (front panel)
 - Optional digital inputs (2x elec, 1x opt, 1x USB)
 - Outputs: Record
 - Preamp out
 - Single speaker outputs
 - Nominal output: 100 watts
- DISTRIBUTOR:** Renaissance
TELEPHONE: 0131 555 3922
WEBSITE: simaudio.com

This is one of a growing number of integrated amps to include a digital input, either as standard or, as in this case, as an optional extra. It makes a lot of sense: you don't need a huge amount of circuitry to make a pretty decent DAC and if you've got a case and power supply already it's quite a simple addition. Electrical, optical and USB connections are provided, with the actual conversion being done by a good-quality, recent DAC chip supported by good passive components and onboard supply regulation. Sample rates up to 192kHz are supported (48kHz on USB).

The features are simple, with just four analogue inputs at the rear and one (mini-jack) at the front, next to the headphone socket. Output is rated at 100 watts per channel, the output current conveyed via two pairs of transistors marked with Moon's own part code. The inside of the amp is quite busy, with circuits surrounding the mains transformer. Components are a mix of through-hole and surface-mount and also a mix of discrete transistors and integrated circuits.

Input switching is electronic, but the volume control is a motorised potentiometer. Basically this is a fully traditional integrated amp plus digital input, but it is a very solidly built one and little touches like very high-quality output terminals add to the appeal.

Sound quality

Looking at our listeners' notes and also taking into account our sighted listening, we're drawn to the conclusion that this amp attempts to do everything. As a result, the I3.3 is a good all-rounder: its only problem, in a group test comparison like this, is that it doesn't excel in any one area so risks being damned with faint praise. It manages longer-term dynamics rather well, with nice swells over a period of a few seconds or more, but it can be a little underwhelming with sudden drum hits, unexpected piano chords and the like. Conversely, it does very well with voices, which are natural and very communicative.

Tonal balance is mostly good, though there can sometimes seem to be a little restriction of both frequency extremes. In the treble it's really only the very highest frequencies that are affected, so most of the time one is not aware of anything amiss: it's only with exceptionally treble-rich instruments that one notices (a trumpet solo alerted one of our listeners, for instance). Bass is a touch soft in the lowest octave or so, with a slight lack of extension and also of focus.

Pace and rhythm work well, despite the dynamics limitations, with music moving along quite energetically and even urgently. Stereo imaging is a little disconcerting, as it seems good in terms of extension in both dimensions, but lacks some precision in the

placing of individual instruments. With large groups of players, though, the sense of specific bodies of instruments is impressive and adds beneficially to the overall effect.

One aspect that does slightly concern us about this amp is its lack of consistency. Usually there's some continuity of character between different pieces of music, but in this case our listeners ended up making some contrasting comments in different excerpts. Nevertheless the general trend sense is of musical involvement.

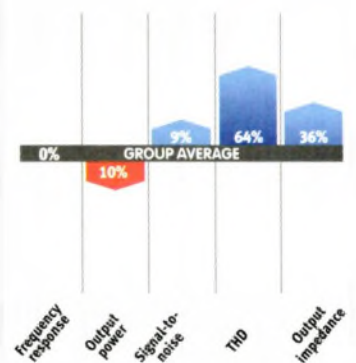
TECH LABS

With eight watts difference (106W left and 114W right) the two channels were offset in power, but achieved very similar relative performance. Phase was maintained very well in the low and middle band.

We measure the Signal-to-Noise ratio with a 0dB and then a -60dB tone. This is claimed by the I3.3 manual to be able to achieve 101dB at full power, which we confirmed, but with just under 400mVrms as our 0dB input and 0.05%THD+N, and with the volume set around two-thirds. With 1Vrms we managed 104dB S/N, although that measured 20% THD+N. This equated to 65W with 105dB S/N (0.05%THD+N @ 0dB) and 190W with 104dB S/N (but 20% THD+N at 0dB).

Finally, quoted as 10Hz-100kHz +/-0.3dB, we measured the frequency response into these higher frequencies and saw minor drift above 0dB, but -2.6dB at 80kHz so -3dB at 100kHz is an ambitious claim, but still an impressive result.

RESULTS AT A GLANCE



Hi-Fi Choice

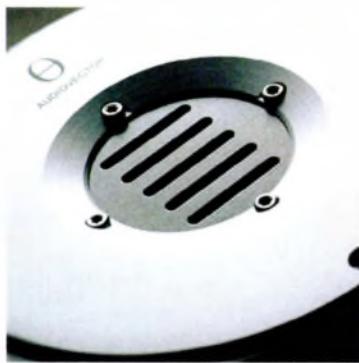
OUR VERDICT

- SOUND QUALITY** ★★★★★
VALUE FOR MONEY ★★★★★
BUILD QUALITY ★★★★★
FEATURES ★★★★★
- LIKE:** Lively and lifelike voices; good sense of rhythm
DISLIKE: Dynamics can seem a little lacklustre, lacking in surprise
WE SAY: Generally good performance, though not outstanding in any one area

OVERALL



- ANTHONY GALLO ACOUSTICS
- ARCAM
- ATLAS Cables
- audiolab
- AUDIOVECTOR
- Audioaudio
- B&W
- Bluesound
- CHORD
- CHORD
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- GENELEC
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- IMAGE
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- JVC
- KEF
- kuos
- LINN
- Lumagen
- marantz
- MOBILE ENGINEERING
- monon
- MUSICAL FIDELITY
- NAD
- naim
- neat
- ONKYO
- Panasonic
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Quad Elite Pre/Mono **£850/£650**



Quad's new Elite series may appeal strongly on visuals and simplicity, but we found lots to like sonically too

DETAILS

- ORIGIN:**
UK/China
- WEIGHT:**
4.5/6.5kg
- DIMENSIONS:**
(WxHxD)
321x70x310mm
each unit
- FEATURES:**
- Preamp: Inputs: Phono (MM/MC)
 - Four line level
 - Ampbus
 - Record output
 - Line output
 - Power amp: Phono input
 - Nominal output: 150 watts
- DISTRIBUTOR:**
IAG
- TELEPHONE:**
01480 447700
- WEBSITE:**
quad-hifi.co.uk

With its track record in audio now exceeding three-score years and ten, Quad remains true to its original aims in offering unique audio products that are immediately recognisable. The Elite range, which over the last year or so has replaced the respected 99 Series, aims to incorporate audiophile design in small, smart and easily connected matching units, with source and amplification components sharing a basic case design. They can all be connected with the usual phono sockets, but Quad's default hookup is the 'Ampbus', a 15-way D socket on the back of each unit which is connected to the next unit in the chain with a supplied ribbon connector, carrying balanced audio (and control) signals.

There is a stereo power amp in the range, but for this test we chose a pair of mono amps, each rated at 150 watts output. There are few things simpler than a mono power amp, but these have one unusual feature in the rear-mounted switch which selects their channel from the six potentially available on Ampbus – you need to set one to '1' and one to '2' for stereo

or you'll get mono sound. (Or use the phono input.)

The preamp features three phono-socket line inputs, as well as Ampbus, plus an RIAA phono input. Internally it's very well filled with high-performance op-amps and electronic switching and attenuating components, the complexity partly due to the inclusion of tone controls (defeatable, of course) as well as the comprehensive in and out options. Both pre and power amps are neatly built with entirely through-hole components of good quality.

Sound quality

This is another amplifying ensemble where subjective performance seems to be dominated by perceived minor irregularities in the treble. In unusually analytical vein, one listener suggested that there is, paradoxically, less edge and bite to the sound, but slightly more sibilance. Impossible? Perhaps not, if one accepts that the treble is actually quite a broad band and 'edge' and 'sibilance' belong to different parts of it.

Our experience is that sibilance is a function of the octave below the very top one, while the highest octave of hearing can often manifest as subjective 'edge' – and also, on some occasions, very much further down the spectrum, having a knock-on effect on bass.

If there is any effect on the bass here, then it's clearly very minor. There's an unfussy approach to bass that works well. When we made a point of listening for low-frequency sounds, we found they were invariably strong, clearly focused and well-pitched, too when appropriate, but they never leap out.

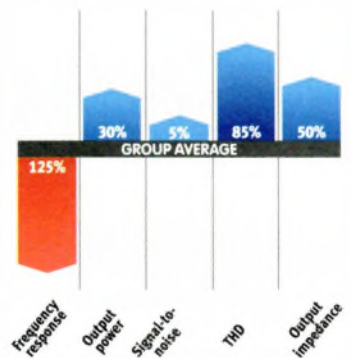
Midrange is also very well balanced, while imaging is wide, deep and well defined. And then there's the question of dynamics, which is complicated by the treble character noted above. Longer-term dynamics work very well and low percussion fares best in this regard, but sudden loud sounds from bright melodic instruments do seem a little polite by comparison with more overtly dynamic amps. The sound has good detail, though and overall this is a pleasing and rewarding combination for long-term listening.

TECH LABS

Considering the output stages for two channels in the Quad Elite system are discrete modules, the channels were very well matched. Our frequency response plotted only a 0.003dB difference between them. IMD measured -76dB (with only 0.6dB difference) and crosstalk measured -82dB left and -77dB right. Signal-to-Noise measured within 0.4dB between the two stages and our THD+N matched the channels with 0.03% THD+N difference. Power output also measured only 3W difference and between 164W and 161W. Output impedance is 0.02 ohms out, which was no more than any of the other products in the group. Admirable measurements.

It's a shame that the frequency response failed to stand up to that of the other amplifiers in the group. With a drop by 20kHz of only 0.3dB the plot was still very good, but with the other units securing even stronger frequency response plots, it failed to stand out as an all-rounder.

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY**
★★★★★ **LIKE:** Clear and well focused bass which never becomes excessive
- VALUE FOR MONEY**
★★★★★ **DISLIKE:** Slight sibilance which may bother some listeners
- BUILD QUALITY**
★★★★★ **WE SAY:** Sound isn't always the most exciting, but it has a high degree of simple honesty
- FEATURES**
★★★★★

OVERALL



Guildford Audio

Astintrew
Audio Analogue
Audio Research
Audiophile Base
Copland
Crystal Cable
Dartzeel
Dream Vision
EAT
Gamut
Grado

Heed Audio
Isotek
Jadis
Koetsu
Krell
Lavardin
Magnepan
Martin Logan
Micromega
Mimetism
Musical Fidelity

Nordost
Oriyko
Plinius
Pragma
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Rega Elicit £1,595



The latest amp under this name is a sophisticated performer with singularly purposeful rhythmic flow

DETAILS

- ORIGIN:** UK
WEIGHT: 10kg
DIMENSIONS: (WxHxD) 430x85x315mm
FEATURES:
- Inputs: Five unbalanced line level (one optionally phono)
 - One direct
 - Outputs: Record
 - Preamp out
 - Single speaker terminals
 - Nominal output: 80 watts
- DISTRIBUTOR:** Rega
TELEPHONE: 01702 333071
WEBSITE: rega.co.uk

The original Elicit, we were astonished to be reminded, appeared in 1990. Any resemblance to the current amp is superficial at most, as this design is new in concept, specification and design. It's an 80-watt-rated amp built into a familiar-looking Rega case.

In common with most current Rega electronics, it incorporates a heatsink on the underside: but since that's not adequate in that position for two 80-watt channels there are also internal heatsinks at each side of the chassis. All around the centrally mounted mains transformer are the components, mostly surface-mounted, that do the controlling and amplifying. It's not a lineup of everyone's favourite parts, and there's plenty of evidence that the design is unique in several ways, though some features are familiar enough. Inputs are switched by relays and volume is adjusted via a Wolfson electronic control, while output is handled by modern bipolar transistors with onboard temperature-sensing. The six regular inputs are line-level by default, but an internal phono stage is an option. There's also a power amp input for future expansion or upgrading.

One area where Rega is very much in line with a lot of audiophile thinking is power supplies and there is extensive regulation of supplies for

different stages of the amp. On the other hand, the mains transformer, while perfectly capable of supporting the output power rating, is not as over-sized as some. To a large extent, good regulation will compensate for this and if cost is in any sense an issue it's not always the most efficient route to put in a huge transformer.

Sound quality

One of our listeners just didn't quite click with this amp, though he acknowledged that it has many strengths, especially soundstage and scale. Despite that, he missed some clarity and insight in the sound. That's a shame, because according to his colleagues he was missing some full-bodied, red-blooded music-making of considerable emotional power. The fact is that the individual concerned is one of our fussiest regulars about dynamics and pace, from which it appears that this isn't the most dynamic amp ever.

But it's far from the least and in many ways it has a very good line in dynamics, it just lacks the last word in 'kick'. It also has very fine bass, some of the best of this group. As one would certainly hope at this kind of price, it's extended, but it is also exceptionally clear and well tuned, making low melodic instruments unusually easy to follow. This same quality provides a great underpinning for multi-layered music and sounds

like symphony orchestra benefit with excellent clarity and tonal differentiation between the instrumental groups.

Meanwhile the excellent imaging helps maintain a sense of precision which proved especially useful in our track of unaccompanied voices. Just occasionally the sound can seem a little too bright, but on the whole treble is well balanced and midrange is nicely neutral. And despite our observation above about dynamics, the rhythmic flow of a piece of music is well presented, with an unhurried but vigorous sense of purpose.

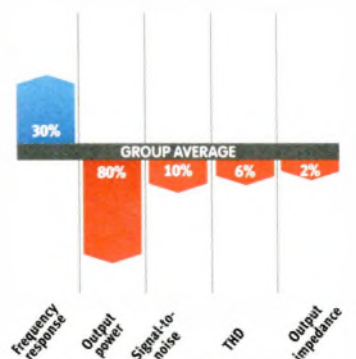
TECH LABS

An impressive frequency plot by the Rega, with both channels plotting similar relative levels. They start to drift from about 100Hz down and are 0.02dB different by 20Hz. Claimed 10Hz (-0.9dB) to 62kHz (-3dB), we measured marginally worse low end and better high-end performance; -1.7dB @ 10Hz, -1.2dB @ 60kHz. Against the claimed 82W, the Elicit achieved 75W with 1% THD+N.

The Rega achieved a rather disappointing Signal-to-Noise ratio of 86dB, where some of the other amplifiers were measuring 100dB. But with less than 1dB difference, the channels were well matched, although as higher definition audio becomes more prevalent an audiophile might hope for a higher dynamic performance from their amp.

Fair intermodulation distortion figure of -60dB, but measurable mains hum concerned us and is, no doubt, responsible for lifting the noise floor of the system.

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★
VALUE FOR MONEY ★★★★★
BUILD QUALITY ★★★★★
FEATURES ★★★★★
- LIKE:** Very good bass, extended and clear, excellent imaging
DISLIKE: Dynamics and attack not quite the best
WE SAY: Good bass, imaging and detail make for an involving and enjoyable listen

OVERALL



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Rotel RC-1580/RB-1582 £995/£1,095

Lots of power, lots of features – but also plenty of good quality sound to get worked up about

DETAILS

- ORIGIN:**
Japan/China
- WEIGHT:**
10kg/18kg
- DIMENSIONS:**
(WxHxD)
431x99x337mm
431x140x406mm
- FEATURES:**
- Preamp: Inputs: Phono (MM/MC)
 - Seven line-level (unbalanced)
 - Music player (front-mounted mini-jack)
 - Outputs: two record outputs
 - Twin preamp outputs
 - Headphone output
 - Power amp: single unbalanced input
 - Twin-speaker terminals (not switched)
 - Nominal output: 200 watts
- DISTRIBUTOR:**
Rotel Europe
- TELEPHONE:**
01903221500
- WEBSITE:**
rotel.com

Of this test were principally about specifications, the other manufacturers might as well not have bothered submitting kit at all. The RB-1582 puts out nearly twice as much power as most of the other amps in the group, while the RC-1580 offers more inputs, more sophisticated switching, tone controls, MM and MC phono as standard, headphone output... no digital input though!

We're not unappreciative of all this functionality. The thing is, though, that one doesn't necessarily need it. 200-watt capability isn't worth much if you aren't even stretching a 50-watt amp. Indeed, it could in principle be counterproductive: a hugely powerful amp must include a transformer, which requires a robust chassis to support it, all of which could end up robbing budget from other areas that might have benefitted.

Then again, an output stage incorporating four pairs of output transistors, as this one does, is likely to contribute to a low-output impedance, something of benefit in controlling loudspeakers accurately at any level. The versatile phono stage may come in handy if you

upgrade from MM to MC cartridge one day. And so on. As usual, there's no slick answer. These amps are well built, if not quite as smart internally as some, with more loose wiring than most and a few components showing obvious signs of hasty manual insertion. Component quality is good, though (especially in the phono stage) and physical build is smart and sturdy with thick metal front panels.

Sound quality

Last time we reviewed this pair of amps (HFC 323), they were extremely well liked. This time the praise was a little more qualified, probably due as much as anything to the context provided by a generally strong group. All the same, lots of good things were said about most areas of performance. Above all, the foot-tapping qualities of Rotel's sound were greatly admired, the sound here matching all comers in this group. In any style of music, from early classical to rock, there's a lively rhythmic drive at work, full of conviction and energy.

By contrast, detail and precision are not quite so assured. In music for small forces it's easy enough to follow each part, but the really thick textures can leave these amps a little unsure and the subtler insights elude them. Imaging is decent, rather than stunning and image depth is a little variable depending on the loudness of music – the back of the image seems to move forwards sometimes as things get louder and more complex.

Indeed there is a general slightly forward feeling to the presentation, with performers a little 'in your face'. At times that can be exciting and we found it just the thing with a few

high-energy rock tracks. In gentler music, though, it's not so well suited. Tonal balance seems good over most of the range, with just a shade of tailing-off in the lowest bass allied to the brightness already noted.

The considerable reserves of power do add attraction if you like to turn things up to 11 occasionally and we'd be remiss if we didn't mention the unusually fine performance of the phono stage, for once capable of doing justice to a decent moving-coil cartridge as well as the more common moving-magnet.

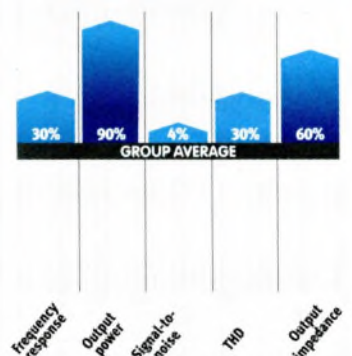
TECH LABS

We measured the lowest output impedance of 0.3ohms, very lowTHD, a very tight frequency plot and a comfortable 98-100dB Signal-to-Noise ratio. Our output power measurement was also in excess of the stated figure of 200W in the device specification at 235W and with only 0.05% THD+N. Intermodulation distortion also achieved a solid -80dB.

Phase again was of the highest standard within an already impressive group. We measured roughly -50dB, which may introduce noticeable artefacts, especially in higher listening levels. The left channel also measured significantly worse in places than the right which achieved lower distortion, marginally better frequency response and intermodulation Distortion, and slightly improved crosstalk.

Driving four ohms delivered under 390W output power, as well as a frequency response plot which was less smooth than when the unit is connected to eight ohms.

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY**
★★★★★ **LIKE:** Excellent rhythmic energy; very good phono stage
- VALUE FOR MONEY**
★★★★★ **DISLIKE:** Detail is not outstanding and imaging lacks depth
- BUILD QUALITY**
★★★★★ **WESAY:** Sound doesn't quite have the all-round appeal we'd like
- FEATURES**
★★★★★

OVERALL



Lab conclusions

Battle lines were drawn and the technical results can finally be revealed, but is performance better with one box, two or even three? asks **James Waldron**

TECH LABS

Within this selection of modular and integrated pre and power amp stages, we are afforded some insight into the considerations of the design engineers when they approach each paradigm.

The Quad Elite, for example, has discrete power stages for each channel and so measured good crosstalk. However, keeping the pre/power stages separate still requires compromises. The Quad system measured the worst frequency response of the selection, while the Densen B-200/B-310 power stage introduced almost all of our measured distortion.

A fully integrated system such as the Moon i3.3 introduces design

constraints that need to be accommodated. Cross talk becomes a more obvious concern and the i3.3 compensated to measure the lowest of the group at -85dB. Similarly the Electrocompaniet ECI 5 MKII integrated amplifier measured the lowest distortion. The best frequency response was plotted by the modular Densen.

Input sensitivity seems to be becoming a factor in differentiating between product performance. We adjust our signal level and use distortion as our reference for some of our tests. In some of these products we need to deliver nearly 2Vrms in order to achieve our reference distortion of 0.05 per cent

THD+N. This means that adjusting the unit's own volume control introduces too much distortion and so we increase the input signal level.

An interesting characteristic became evident with the units using digital volume controls, where they maintained exceptional distortion measurements up until a point where the very next notch increased THD ten-fold. Any further gain is surely redundant, although it does allow manufacturers to claim some stunning signal-to-noise figures. Our S/N measurements are given relative to our reference 0.05 per cent THD+N for a 0dB signal, compared to a -60dB signal and are surely impressive enough.



WE'VE MENTIONED the possibility of siting power amps – especially monoblocks – remote from the main electronics stack, probably nearer the speakers. We also feel that speaker cables are liable to have a more pronounced effect on sound than interconnects and keeping them short is no bad thing. You might have to hunt a little for long interconnects as typically their price goes up relatively slowly with length.

RESULTS AT A GLANCE

Make/model	Densen B-200/B-310	Electrocompaniet ECI 5 Mk II	Moon i3.3	Quad Elite Pre/Mono	Rega Elicit	Rotel RC-1580/RB-1582
Price	£1,400/£1,450	£2,750	£3,000	£850/£650x2	£1,595	£995/£1,095
Sound	★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Value	★★★	★★★★★	★★★★	★★★★★	★★★★★	★★★★★
Build	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Features	★★★★★	★★★	★★★★★	★★★★★	★★★★★	★★★★★
Overall	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Conclusion	Different visually from the run of the mill, but even more so sonically. Audition with care!	Admirable in very many ways and nonetheless so for its slightly unusual character	A good performance, but not outstanding. An amp that might inspire more respect than love	Good value. Sound isn't always the most exciting, but it has a high degree of simple honesty	A likeable amp whose vitality never verges into aggression. Good bass, imaging and detail	Value is enhanced by high power, but the sound doesn't have the appeal we'd like

Key features

	Densen	Electrocompaniet	Moon	Quad	Rega	Rotel
Line inputs	6	6	5	4+ Ampbus	5	7
Phono input?	Option	No	Option	MM/MC	Option	MM/MC
Headphone output?	No	No	Yes	No	No	Yes
Remote control	Yes	Yes	Yes	Yes	Yes	Yes
Notional output	80W	120W	100W	150W	80W	200W

Lab conclusions E = Excellent | AA = Above average | A = average | BA = average | P = poor

	Densen	Electrocompaniet	Moon	Quad	Rega	Rotel
Frequency response	+/-0.061dB E	+/-0.1dB E	+/-0.122dB AA	+/-2.7dB A	+/-0.08dB E	+/-0.082dB E
Output power	75W BA	130W AA	110W AA	160W AA	26W P	235W E
Signal-to-noise	87dB AA	98.6dB A	105dB E	100dB E	86dB A	100dB E
THD	0.1% A	0.006% E	0.01% E	0.004% AA	0.03% AA	0.02% AA
Output impedance	0.23 ohms BA	0.03 ohms AA	0.05 ohms AA	0.04 ohms AA	0.08 ohms A	0.03 ohms E

Blind-listening verdicts

Each amp or system has its place, says **Richard Black**, but the overall merits seem quite independent of the number of boxes employed

IT'S QUITE CLEAR from our recent experiences during this *Blind-listening Group Test* that there is nothing sacred about either integrated or separate amps. Our blind listeners showed absolutely no pattern of comments for either category and indeed never even felt moved to try to guess which they were listening to.

Quite simply, the choice now comes down to the sound of an individual amp or combination, plus of course practical considerations – the separates option does, at least, give one the chance to hide relatively large power amps out of direct line of sight.

As has been the way in many recent amp groups, total marks are quite tightly grouped. With a good baseline performance very much the norm, it's harder for one product to stand out by miles and it's a while since we felt any really bombed.

On aggregate, Densen scored lowest, missing out most significantly on value because the performance, we felt, failed to excel that of the competition at several hundred

pounds less. They're still nice amps with plenty of potential, but these are tough times.

Rotel's combo also slipped a point here and there, in this case because no one scoring criterion seemed quite excellent, though all were good. Some listeners might be moved by the sheer power available and we'd stand by our recommendation of the preamp's phono stage in the face of some quite stiff competition: all the same, the system didn't quite seem to press the right buttons.

We weren't surprised to find we'd scored Electrocompaniet, Moon and Quad the same overall, though they are very different products from every point of view. Indeed, as a question of personal taste many purchasers might find the choice between them a no-brainer. That doesn't detract from the fact that they all offer lots of good features and performance – Electrocompaniet's laid-back detail, Moon's all-round assurance and good rhythm, Quad's firm bass, precision and attractive feature set. Same landscape, different views! ●

THE WINNER IS...

IT'S NOT SO OFTEN that the winner is the outright cheapest in a group and, in fact, on purely sonic grounds the result might not have been the same. We do take value into account though (realistically, how could one not?) and overall the Rega Elicit succeeds by doing lots of things well (some very well) and all at a sensible and attractive price.

It offers a good range of features, including the option of upgrading with what we know to be a good internal phono stage and has a perfectly adequate power output. It's not bleeding-edge in any sense, but as a long-term purchase we doubt that's what many people want. What it can do is give great musical enjoyment time and again, across a wide range of music. We'll settle for that.



A choice of high-performance hi-fi kit to enhance the potential of our recommended amps this month

TURNTABLE: Clearaudio Concept £1,050

Setting up a turntable can be kind of fun if you're that way inclined, but to many owners it's simply a drag that they worry they've got wrong. Enter the Concept: a ready-configured turntable that basically just needs unpacking and parking somewhere suitable; no more effort than a new CD player! More to the point, it's a very good performer. It may not have the ultimate knack of digging information from the vinyl, but it manages better than one could reasonably demand of such a simple and affordable device. It is invariably lively and presents music with plenty of scale and good dynamic contrasts. The included cartridge is, of course, replaceable if you get the upgrade bug and it's a fine way to enjoy a treasured LP collection.



NETWORK MUSIC PLAYER: Yamaha NP-S2000 £1,429

We could easily have recommended a CD player here but the attractions of computer-based audio are getting harder to resist by the month. Yes, most sound on the internet is rubbish, but lossless CD rips to hard disc should sound indistinguishable from the original and it's getting easier to find full- and high-resolution downloads, which are the way forward. Not to mention internet radio, which in many ways is the free source *par excellence*. Yamaha has really pushed the boat out with this player, giving it audiophile performance through careful design and features like the latest DAC chips and even balanced analogue outputs. If you're really fussy, you can use its digital outputs via your DAC of choice.



LOUDSPEAKERS: PMC GB1i £1,525

Winning a recommendation in a recent *Blind-listening Group Test* (HFC 347), this tall but otherwise compact speaker uses transmission line loading to maximise its bass performance from a relatively small drive unit. It's not just that the bass is extended, more that it is notably well controlled and defined. Stereo imaging is good, too, helped by the narrow front panel, while the speaker's grasp of dynamics is firm and unfussy. It's not the most obviously rhythmic performer at first acquaintance, but it succeeds by stealth in this department and, in the longer term, turns out to be a very compulsive listen.





Precious metal



Monitor Audio's new Gold GX series incorporates many of the refinements pioneered by the more costly Platinum range, says **Paul Messenger**

Monitor Audio began operations nearly forty years ago, but is probably best known for introducing and proselytising metal diaphragm drive units, initially for its tweeter domes and soon afterwards for the cones used in its bass and midrange drivers. Add in some very classily veneered enclosures that were manufactured in its own cabinet shop and the company established a template that still holds good today.

Twenty years down the line, plenty has changed of course, but the same core values remain at the heart of Monitor Audio's more upmarket ranges. The first Platinum series models appeared some four years ago and have been covered extensively in *Hi-Fi Choice* in recent times: PL100 (HFC 343); PL200 (HFC 330) and PL300 (HFC 301).

A number of the advanced design techniques that were first introduced in those models have now 'trickled down' into the new and rather less costly Gold GX series tested here and it's these design 'luxuries' that we're most interested in with the GX200, the model that Monitor Audio's representative thought showcased the strengths of the new range best.

New Gold

Not that these £2,300 GX200s can be considered inexpensive by most standards, but they're certainly aimed at a competitive sector of the serious loudspeaker sector. The complete Gold GX range is very extensive, consisting of four stereo pairs plus several models specifically intended for multichannel home cinema. This GX200 is the smaller of two floorstanders, and is a genuine three-way design, using twin bass drivers to keep the front view fashionably slim.

Narrow floorstanders like this are potentially physically unstable, all too easily knocked over by unwary

passing children, for example. Supplying a proper plinth arrangement to counter this possibility shouldn't be the tricky task that some brands seem to encounter, though fortunately Monitor Audio has thought this through carefully and clearly and come up with a rather clever arrangement, which is not only highly effective but also quite attractive style-wise. Two substantial cast alloy pieces are bolted to each speaker, each accommodating two feet located well outside the footprint of the loudspeaker itself. Though the arrangement is mostly positive, the actual spike-locking arrangements are not ideal.

The requirements for an ideal cone diaphragm are very complex, inasmuch as they have to achieve a compromise between several conflicting variables. Low mass is one vital ingredient, in order to maximise sensitivity and ensure rapid responsiveness. However, rigidity is important to maintain piston behaviour across as wide a bandwidth as possible and it's also important that potential resonances within the cone are well damped.

Monitor Audio has long opted for a deep-anodised aluminium/magnesium alloy as a cone material; the deep-anodising process converting the surface to an oxide that considerably improves the stiffness. Whereas the Platinum series also added 'dimples' to the surface further to increase the stiffness, alongside a costly honeycomb sandwich construction to provide damping, the simpler cones used in the Gold GX series stick to a metal/oxide diaphragm but have replaced the dimples with more pronounced ridges – a ring around the location where the voice-coil former terminates, plus a series of radial arms reaching out towards the cone edge.

► DETAILS

PRODUCT:
Monitor Audio Gold GX200

ORIGIN:
UK/China

TYPE:
Three-way floorstanding loudspeaker

WEIGHT:
22.2kg

DIMENSIONS:
(WxHxD)
170x990x300mm

FEATURES:
• C-CAM ribbon tweeter

• 100mm anodised alloy midrange driver

• 2x140mm anodised alloy bass drivers

• Port on rear near base

• Finished in three real wood veneers or piano gloss black or white

DISTRIBUTOR:
Monitor Audio

TELEPHONE:
01268 740580

WEBSITE:
monitoraudio.co.uk

By adding a degree of depth dimension, extra stiffness is achieved, while finite element analysis (FEA) has also been used to create an optimum parabolic profile. The twin 140mm bass drivers each have 100mm diameter cones and operate up to a nominal 400Hz, crossing over to the 100mm anodised alloy midrange unit that has a 95mm cone.

That in turn operates up to the 2.6kHz crossover point to the tweeter, which is a vertically oriented ribbon-type device, similar but not

“a number of design techniques introduced in the Platinum models have now trickled down”

identical to that used throughout the Platinum range. The ultra-light (18mg) diaphragm is roughly 55x8.5mm and is energised by neodymium magnets and loaded by a modest horn. The delicate diaphragm is protected under a wide-spaced metal mesh.

All four drive units are secured by substantial through-bolts that clamp their motors to the back of the



Twin terminal pairs, allowing bi-amping or bi-wiring, are fitted, attached to a vertical cast-alloy panel

Q&A...

WE SPOKE WITH DEAN HARTLEY, MONITOR AUDIO'S TECHNICAL DIRECTOR



HFC: *Apart from the surface finish and trim, this Gold model seems to have a great deal in common with the Platinum's. Can you explain where other economies have been made?*

Gold GX does use a similar radial bracing system and of course the bolt through driver system, which we found to provide very good torsional rigidity. The drivers are actually more conventional in design and build compared to the Platinum. The cones are simple, more conventional C-CAM metal cones as opposed to the very expensive RDT honeycomb sandwich cone design on PL. Wherever possible we have tried to maintain the PL driver topology, such as the under-hung motor design for mid-range drivers, but in this case we use a ferrite magnet, rather than Neo rings. (typically now 20-30 times the price.... and increasing on a daily basis) There are economies right through the GX compared to PL in terms of drivers, crossover and to a lesser degree the cabinet. Of course there are also the economies of manufacturing scale.

My recollection of the original Monitor Gold series was that relatively heavy metal cones somewhat compromised the sensitivity. Judging by the specification, that doesn't seem to be the case now. How have you achieved this?

We have managed to make the cones lighter and stiffer. New material sourcing has enabled us to obtain higher stiffness and deeper anodising process can be facilitated. The cone design is now a one piece parabolic profile. The lack of centre hole (where the voice coil normally terminates) increases the cone stiffness by a significant amount. We designed and refined the cone geometry using our Comsol multi-Physics FEA system, something we didn't have available to us when we designed the previous GX series. So, that has enabled us to simulate the cone design and try a different approach.

I notice the GX200 cones have ridges rather than dimples, presumably to improve performance. Can you quantify this?

Again this is a direct result of our research using Comsol. The rib design provides increased stiffness in certain areas, but the combination of the circular rib in the middle is certainly the key. This provides good rigidity in the centre part of the cone and also allows centralisation for the build ring. The cone then gets gradually less stiff toward the outer edge as an intentional part of the design theory

How critical is the tension on the rear driver mounting bolts? Does this unusual technique make manufacturing more difficult?

There is a window of tension where the driver bolt through technique is useful. We do tension the bolts in the factory to a specific torque. This should normally allow enough natural release and still be within the effective range.

enclosure, adding to the overall bracing but also enabling a measure of gasket-decoupling between the driver frames and the front panel.

Bending the Box

In another nod towards the Platinum models, the enclosure is created by building up and bonding together multiple layers of thin MDF. The end result is 20mm thick, but this technique allows the sides to form a gentle curve and avoid the focused-frequency standing waves that are generated by parallel faces. Tighter radii are then used to soften the appearance of the front and rear edges and the whole has additional internal bracing.

Five alternative finishes are listed in the brochure – three real wood veneers alongside black or white piano gloss. Our examples came in a dark brown 'dark walnut' veneer (pictured), which is probably the most understated amongst the light 'natural oak' and reddish 'bubinga' alternatives available.

The slim rear panel accommodates a modest diameter port and foam bungs are supplied as an option – probably worth trying if the speakers have to be mounted close to a wall. Twin terminal pairs are solidly attached to a vertically oriented cast-alloy panel; bi-wiring or bi-amping is therefore available (the terminal pairs separating the bass units from the mid and treble), though as supplied the speakers are fitted with proper wire 'jumper' links.

MA's own silver-plated cabling called Pureflow Silver is used internally, along with high-quality crossover components that include air-core and laminated-core inductors and polypropylene capacitors. Metal mesh grilles are supplied for those who prefer to keep their drivers hidden and attach via hidden sub-veneer magnets, so that unsightly mounting arrangements are avoided.

Position with Care

While the in-room measurements had suggested that output from the 43Hz-tuned port might interact with our 50Hz room mode and lead to significant mid-bass boom, this didn't really turn out to be a problem in practice. While inserting the port bungs did give a slightly more even bass alignment, it was also a little too dry and the overall sound balance, with the speakers sited well clear of walls, was definitely preferred with the ports actively contributing.

Using the bungs makes sense if the speakers have to be close to a wall, but they certainly sounded rather bass-light when located a metre or so out into the room with the bungs inserted in the ports. This might well be because the fundamental character of the Gold GX200 tends to be a little on the bright and light side of neutral, probably because the output of the ribbon tweeter is quite strong at the bottom end of its operating range.

This is not a bass-excavator of a speaker; while it sounds suitably agile and hangs on in pretty well, the bass end is not the part of the band that one particularly notices. Rather it leads with its upper midband, presence and lower treble, so that that voices are notably clear and open, ensuring fine intelligibility of lyrics and speech.

However, it should also be pointed out that the overall sound balance is just a little lacking in warmth and bass weight.

The Presence debate

If the top half of the audio band sounds a shade exposed, it's also quite clean and sweet with it and this does mean that plenty of fine detail is well projected, even when the system is playing at whisper-quiet levels. The

“it has a sweetness and detail projection that many rivals fail to match”

down side, of course, is that the sound can become a little aggressive when playing some recordings at high volumes.

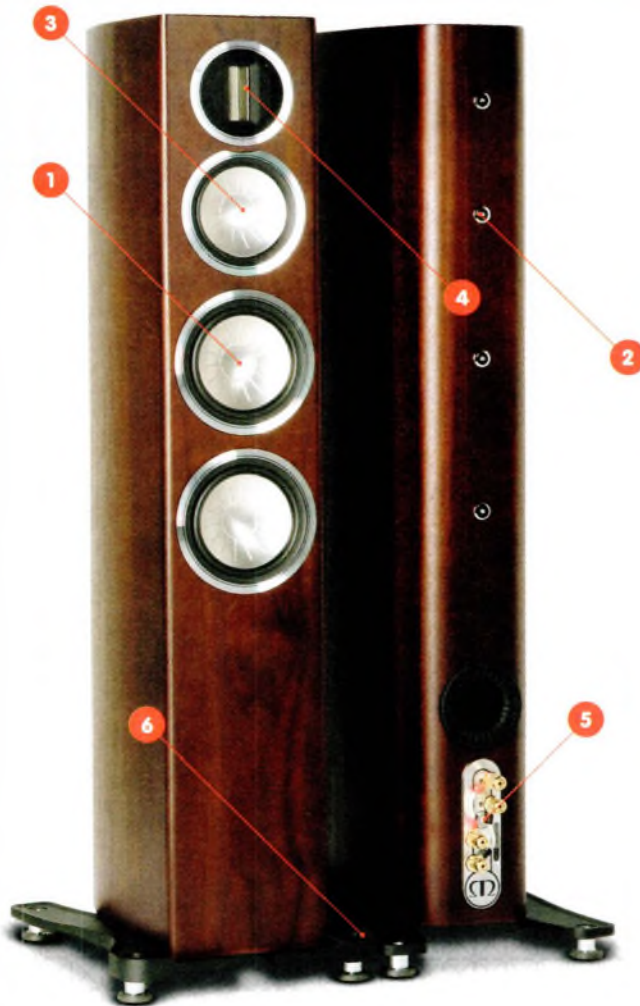
However, it's nice not to disturb the rest of the household when listening late at night, while still getting to hear plenty of vocal expression.

The efficacy of the enclosure shape and construction technique is evident enough in the way the sound is notably free from any boxy character. The stereo soundstage is always well detached from the speakers themselves, with precise central image focus, a well located lateral spread and a decent attempt at delivering appropriate depth perspectives, too even though the latter is mildly compromised by the slightly forward tonal balance.

Intelligibility

Although this speaker has a decidedly modern appearance, we did find that its tonal balance was

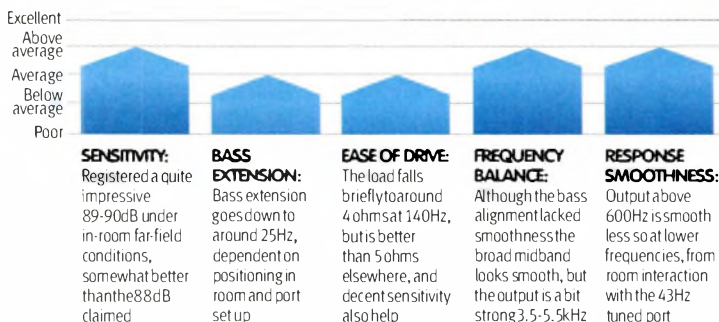
FEATURES



- 1** Twin bass drivers have 100mm anodised alloy diaphragms with stiffening ribs
- 2** 'Bolt-through' driver mounting from rear keeps front view clean, with or without the shiny silver trim
- 3** Midrange driver has 95mm deep-anodised aluminium/magnesium alloy diaphragm with stiffening ribs
- 4** Ribbon tweeter with ultra-light diaphragm gives superior high frequency extension
- 5** Twin terminal pairs feed a crossover network with high quality components
- 6** Procast plinths enhance appearance and ensure good physical stability

TECH LABS

RESULTS AT A GLANCE



BUILDING A SYSTEM

BY THEIR VERY nature, three-way designs tend to have an impedance minimum in the upper bass region, and the GX200 is no exception. However, the load here never falls below 4 ohms, so it's not going to make life difficult for any competent modern amplifier, especially as the sensitivity is quite generous. The overall tonal balance is a little bright and forward, however, which means that this speaker might well suit source components and amplification with an essentially 'kind' character. Vinyl might well be preferred to CD, and it works particularly well when voice intelligibility is important, which is often the case with radio and TV sound.

TALKING POINT

IT'S QUITE DIFFICULT to assess fairly the competitiveness of a given loudspeaker design when some are made in Europe and others are sourced from Far East countries with much lower labour costs. On balance the Gold GX200's high standards of finish and cabinetwork and smooth overall balance are its major plus points, but it does cost considerably more than obvious competitors like the Bowers & Wilkins CM8 and Rega RS7, two three-way designs that did well in recent *Hi-Fi Choice* reviews. The GX200 is a good loudspeaker; smoother than most and exceedingly good looking too, but it's not necessarily the best value for money around.

very well suited to replaying old-fashioned vinyl discs, as this medium tends to have a sweeter and slightly more restrained presence than CD in general and the more compressed examples of modern recording practices in particular. We also found the GX200s very satisfactory on day-to-day TV and radio viewing and listening, as these sources in particular require the superior voice band intelligibility that goes part and parcel with the Monitor Audio.

Many designs today tend to pull down the presence band deliberately, as this can be helpful in allowing the volume to be turned up high without the overall sound becoming unpleasantly aggressive. But with such loudspeakers one then often has to turn up the volume somewhat higher than desirable simply in order to understand what's going on.

The much more costly speakers that we were using prior to installing these GX200s did indeed have significantly less relative output through the presence and top end. Although moving to the smaller and much less expensive GX200s did require some adjustment in terms of low end authority, clarity and overall warmth, their extra top end energy often proved welcome, especially when listening to dialogue on a movie soundtrack.

Every loudspeaker design represents a collection of compromises, which is why the responsible review should always recommend personal audition prior to purchase. This, of course, is becoming harder as the number of hi-fi stores contract nationwide, but remains critical, especially for speakers.

The GX200 does somewhat favour the upper half of the audio band, but it does this rather well, with a sweetness and detail projection that many rivals fail to match. ●

Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Unboxy with wide dynamics and good imaging
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Can sound bright, lacks some bass authority and warmth
- BUILD QUALITY** ★★★★★
- EASE OF DRIVE** ★★★★★ **WE SAY:** A stylish speaker free from boxiness with wide dynamic range, but the bass can lack weight

OVERALL





Chip off the old block

The long-awaited successor to the legendary 8000A is here: **Richard Black** finds out how it compares to the class of 2011

Audiolab: the brand that launched a thousand hi-fis. Many thousand, indeed. For many years towards the end of the 20th century, the Audiolab 8000A was the integrated amp to own as part of a decent-to-aspirational system and indeed plenty are still doing sterling service. After the success of the 8200CD (see *HFC* 340), we were even more keen to meet the successor to the 8000A; the 8200A.

This char-ming amp

In many ways it is strongly reminiscent of the hallowed original. The front panel is similar, the proportions are not far off and one strongly distinguishing feature remains in the central internal heatsink, cleverly arranged to vent

through top and bottom of the case without allowing too much dust into the amp's innards. Internal heatsinks like this are common now, but in the 1980s this was just about the first to dispense with finger-ripping external heatsinks.

Features differ significantly from the 8000A. There's no phono stage, for a start, which is a shame as that in the 8000A was always one of its big attractions. Audiolab doesn't currently have a single phono-capable product, but there are plenty of decent standalone phono stages around so it's hardly the end of the world.

The switch routine

On the other hand, there is an unusually sophisticated set of mode-switching options. The separate listen and record selectors

DETAILS

PRODUCT: Audiolab 8200A
ORIGIN: UK/China
TYPE: Integrated amp
WEIGHT: 7.4kg
DIMENSIONS: (WxHxD) 445x74x335mm
FEATURES:
• 6 line inputs
• Three record outputs
• Power amp direct input
• Twin preamp outputs
• Twin speaker outputs (unswitched)
• Headphone output
• Notional output power 60 watts per channel
• Full mode control
DISTRIBUTOR: IAG
TELEPHONE: 01480 447700
WEBSITE: audiolab.co.uk

are always welcome, but the 'Mode' switch provides options which other amps either don't offer, or at best offer with some rewiring and/or reaching round the back. Some of these modes aren't entirely obvious but with thought it's clear they all have their use. 'Mute' is simple enough and 'Pre-Power AV' separates the pre and power sections, giving the option of connecting a processor between them. But why do we need separate modes for 'Pre', 'Integrated' and 'Pre-power'? In the last, pre and power sections are connected internally anyway, while instead of having a 'Pre' mode one could simply ignore the power stage.

The clever part is that in Integrated mode the preamp outputs are disabled, while Pre-power activates them. Pre disconnects signals to the power amp section. This means that one can have a remote power amp connected which is only active when one wants it to be, while the 8200A's power section can be disabled when one doesn't want to use local loudspeakers. Yes, some of this could have been done with speaker output switches, but the main thing is that it gives exceptionally flexible control over the amp's constituent parts.

Three line inputs at the rear are joined by three input/output pairs, rather quaintly marked 'Tape 1', 'Tape 2' and 'Video'. Well, recording outputs and associated monitoring



inputs, anyway and, of course, you can use any of them for perfectly ordinary line inputs. The preamp output appears on two pairs of phono plugs and speaker terminals are likewise dualled, for bi-wiring and so on. A full-size headphone socket sits at the front.

The same, but different

In terms of amplifying circuits, the 8200A clearly bears some resemblance to the 8000A though there are changes – among specific points mentioned to us by the designers, the input transistors have been changed to a completely

“This amp is just as capable of giving musical pleasure as its predecessor was.”

different type, while input switching is managed by relays. Despite that, the main input selector is a motorised mechanical switch, which may seem bizarre but means that the positive and direct manual input of a front-panel switch is retained while adding the benefit of switching right beside the input sockets, plus remote control. The volume control is also

motorised, naturally. Rated output matches the original exactly at 60 watts. The circuit of the power amplifier section is unusual in the way it applies feedback (see *Talking Point* right for more details).

So the 8000A was well liked in its day. But that was then... and it's very much our experience that the baseline of audio electronics performance has risen markedly over the last 20 years. We never expected to find the 8200A a poor amplifier, but we were a little nervous as to how it would fare against modern competition. In the event, we had plenty of opportunity to try it out



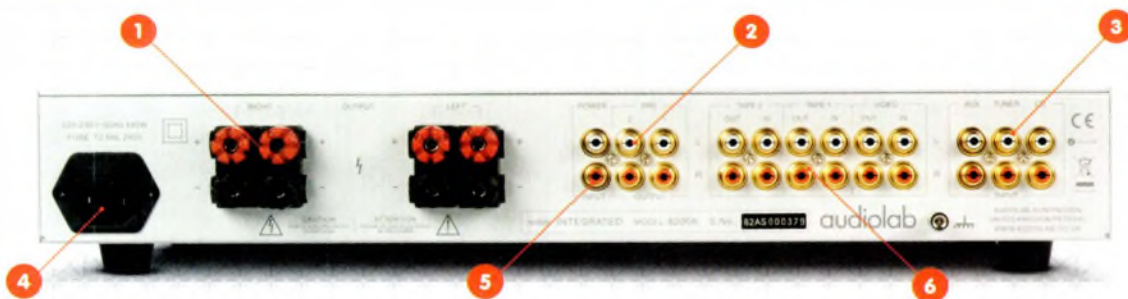
TALKING POINT

ONE OF THE MOST discussed features of amplifying circuits is feedback. Practically all amplifiers use this trick, which is an ingenious way of stabilising gain, reducing distortion, lowering output impedance and widening frequency response.

Audiolab mentions that the circuit has defined gain before feedback is applied, something that's not so common. The detailed implications of this are beyond the scope of this review, but it's worth emphasising that this kind of attention to detail is really what marks out exceptional audio components from the run of the mill.

We're not saying it's the sole cause of the good performance we witnessed, but it has doubtless contributed and it shows how original thinking and design can help make a timeless classic.

CONNECTIONS



1 Twin outputs for biwiring

2 Twin preamp outputs for remote system, biamping etc.

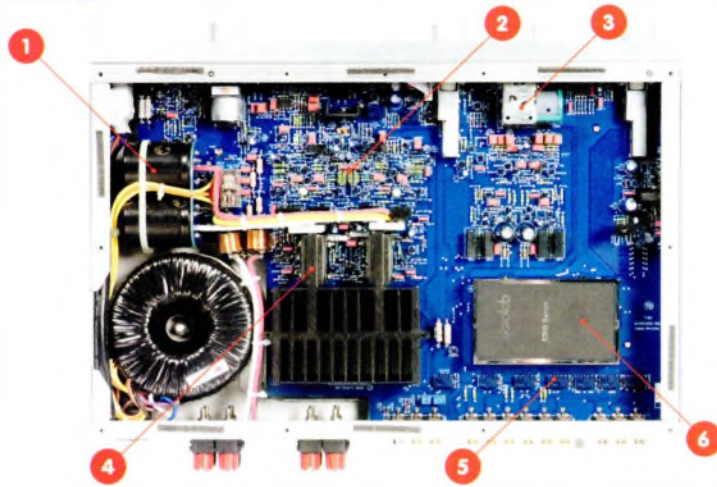
3 Main inputs

4 No earth connection on mains socket reduces chance of hum loops

5 Power amp input for biamping or other later upgrades

6 Three record/monitor pairs bump input count up to six

HIDDEN TECH



- 1** Power supply capacitors mounted sideways-on to facilitate casing
- 2** Audio circuitry uses mostly discrete transistors
- 3** Main selector switch is motorised for remote control
- 4** Large output transistors on internal heatsink
- 5** Input switching relays
- 6** Screening cover conceals and protects sensitive preamp circuitry

alongside amps of all sorts at similar prices and indeed a good deal more, covering various approaches to the sound/features/power balance.

As assured as ever

The short-form result is that the 8200A holds its own. It offers good, solid bass, well extended treble, lively dynamics, detail and all that sort of stuff and while it may not offer them in the sort of style you'd expect of £10,000-worth of pre/power separates, it follows the general 21st-century trend of coming uncomfortably close. Uncomfortably, that is, for anyone who's just parted with £10,000!

Where we really have to hand it to Audiolab's designers past and present, though, is to do with the way that this amp manages all that and still continues to retain some genuine character of its own. Yes,

'character' can mean inaccuracy, but like many potentially risky things, in very small doses it's a very useful thing. Basically, this is a very neutral amp. Listen to it for a while, though, and you start to realise that the sound has just a trace of charm that's all Audiolab's own. We first realised this with a familiar orchestral recording, in which we suddenly found our attention drawn in a slightly different direction from usual, more towards the middle-register instruments rather than the melodic violins and flutes or the low strings and heavy brass.

Having noticed that, we then found ourselves appreciating a similar phenomenon in other styles of music. Male vocals certainly benefit, but since in most music the middle registers are very much home to the 'backing', the commonest effect is to make that backing clearer and very



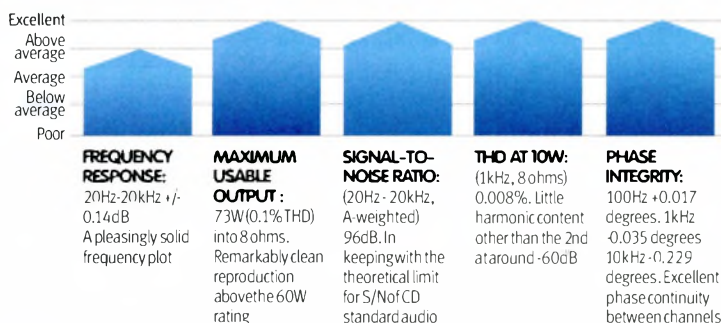
THERE ARE QUITE a few amps floating around the £750 price point, many of them from well respected names. We had an opportunity to compare the 8200A with a Roksan Kandy K2, which was interesting because it gave some insight into how two products can both be good and yet quite unlike each other.

With the 8200A it was more the detail, imaging and low midrange that caught our attention, while the Kandy K2 was more inclined to impress via its rhythmic vitality and immediate communication on vocals.

If anything, this just goes to show how important it is to listen for more than just the initial impression of a piece of kit. It's mostly about presentation here: the Roksan is more extrovert, the Audiolab a touch more laid back.

TECH LABS

RESULTS AT A GLANCE



slightly more present than before. That wouldn't be so good if it meant the melody and rhythm sections were being sacrificed, but we never felt that to be the case. What does sometimes happen is that the melody becomes just a shade mellow, less bright and strident and, perhaps, that won't always be to everyone's liking. Bass, by contrast, is consistently rich and full-featured through this amp, well extended and with good rhythmic drive and an almost palpable texture.

But that lower midrange thing is intriguing and was what really had us coming back for more after a few evenings with the 8200A. It brought home to us just how much information, in how many recordings, exists in that register and gave us renewed pleasure in several familiar discs. Superficially it seems like a tonal aberration, but (apart from the fact that there's no kink in the frequency response to support that) it's more to do with retrieval of detail. Imaging, too, is particularly fine around that part of the frequency range and that's not to say it's noticeably lacking elsewhere as it's good to very good across the board.

High-resolution digital sources seemed to benefit even more than CD, if our rather small sample of them is anything to go by, while LPs (via an external phono stage, of course) were less affected. Rather usefully, MP3 downloads are typically a touch sweetened up by it, though we wouldn't go quite so far as to call them redeemed. What's clear, though, is that this amp is just as capable of giving musical pleasure and excitement as its esteemed predecessor was back in the 1980s.

Standards in general may have risen, but Audiolab got it basically right in the first place and the new revision merely tweaks performance in line with current products. ●

Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Detailed sound with good extension and unusually assured midrange
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** No phono stage; slight mellowness
- BUILD QUALITY** ★★★★★ **WE SAY:** This amp maintains a consistently high sonic standard; to be distinctive, a delight
- FEATURES** ★★★★★

OVERALL





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amp up and running,
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Hi-Fi Choice, July 2011

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hi-fi+ Review, Issue 80, Alan Sircom

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Hi-Fi Choice Review, June 2011, Richard Black

"Near faultlessly neutral in the midband...precise and stable images with very good depth definition... we were delighted to hear excellent dynamics on offer; swinging from loud to soft effortlessly without compression or exaggeration."

"They are both rather characterless; that is, they don't impose themselves on the music. Unless you are of the mindset that likes to regard cables as tuning devices, that's very much a point in their favour; neutrality being a hi-fi Holy Grail".

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Code Red



Triangle's new Color range sees a lower price of entry for the French marque. **Ed Selley** reckons the future's bright for the popular brand

Triangle speakers rarely look anything other than distinctive – it's a range that usually manages at least one quirky styling feature in any given model.

The Color range is the new entry level to Triangle ownership and at this price point, distinctive styling touches are a little harder to achieve. Triangle's solution is simple enough; the Color is available in three gloss finishes including the eye-catching fire-engine red (pictured). Black and white are also available and if your home decor is compatible, then yellow is apparently in the works.

Relatively conventional

The £899 'Color Floorstander' tested here is the larger of the two stereo options available. The range also comprises a standmount and a centre speaker for AV duties. The technology is relatively conventional, with a pair of 160mm mid-bass drivers paired with a titanium tweeter. Triangle claims a sensitivity of 90dB/w from the design at six ohms and they do seem sensitive in practice. One interesting feature is that the Color cannot be bi-wired, Triangle only fits a single (sturdy) pair of terminals and apparently prefer the results obtained.

Flawless lacquer

The fit and finish of the Color is very good indeed. The lacquer is flawless, the cabinet feels solid and well-designed and the screen-printed Triangle logo looks very smart. Individual grilles are supplied for each driver and the tweeter has a permanent protective cover.

Unusually, the Color has no plinth at the base. Instead the spikes attach directly to the bottom. This results in a visually elegant speaker, but one that is a bit less stable than some of the competition at a similar price, if health and safety is a concern.

Placement-wise, the speaker is a whisker under a metre high and will work happily in a typical UK living room or bedroom. It's front-ported and seems to work well enough close to rear walls, but will benefit from being slightly away from them with a little toe-in. No form of bass tuning is supplied, but the port seems relatively benign in its behaviour and unobtrusive.

We obtained good results with both the 70-watt Electrocompaniet EC13 and 500-watt Musical Fidelity M6 500i, so we cannot see them providing too much of a challenge to a £500 or upwards amp.



DETAILS

PRODUCT: Triangle Color Floorstander
ORIGIN: France
TYPE: Floorstanding loudspeaker
WEIGHT: 15.50kg
DIMENSIONS: (WxHxD) 188 x 965 x 275mm
FEATURES
 • 2.5-way
 • Titanium tweeter
 • 2x 160mm mid/bass drivers
 • Choice of different coloured lacquers
DISTRIBUTOR: Triangle
TELEPHONE: +33 323 753 820
WEBSITE: triangle-fr.com/en

Although sounding slightly lively out of the box, a few hours running-in soon eliminated this. And what remains is a very confident and full-sounding loudspeaker. We were especially taken with the tonality that it offers. Voices and instruments, particularly those handled by the titanium tweeter, are detailed and beautifully defined. There is a very real sense of presence and decay to the top end, which greatly aids the sense of realism.

Considerable aplomb

The sweet, expansive top end is paired with a strong and detailed bass response. The speaker follows complex bass lines with considerable aplomb and the sense of life and excitement that it brings to up-tempo music is especially pleasing.

Compared to the excellent Epos Epic 5 (HFC 347), the Triangle sounds very slightly muddled in the lower frequencies, but equally goes lower and smoother than the Epic, so it is quite easy to see why some listeners might prefer the Triangle.

The soundstage the speaker presents is detailed and expansive. It does a very creditable job of conveying the scale of larger pieces without overblowing smaller ones, although we feel that it's definitely happier given an orchestra than a string quartet. In many ways, the more the Color is given to do, the better it sounds.

Rather startling

The Color is both even-handed and musical. In fact, it's very easy to spend hours in its company without ever finding the sound fatiguing or dull. It would be easy to start banding around phrases to the effect that the Color sounds as vivid as it looks, but that would be slightly unfair. But what we do have is a speaker in a startling outfit that gets an awful lot right most of the time. ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY ★★★★★	LIKE: Excellent build, with strong and even-handed sonics
VALUE FOR MONEY ★★★★★	DISLIKE: Slightly cluttered bass response
BUILD QUALITY ★★★★★	WE SAY: Well built, attractive speaker with a very likeable sonic performance
EASE OF DRIVE ★★★★★	

OVERALL





Net-work made easy

Cambridge Audio has finally finished its first streamer, the Sonata NP30. At just £400 **Jason Kennedy** reckons it's a hard act to beat

At Munich's High End 2010 show, Cambridge announced the NP30 network streamer. By the time the same event came around this year it had just about finished it. Cambridge's excuse for this extraordinary tardiness is that network audio is a fast-moving business and things change every day; its engineers wanted to get the first streamer right and this took time.

Built into the half-width Sonata casework, the NP30 is a neat unit

with a host of features and apps for large and small touchscreens, as well as a traditional remote. It offers the delights of several streaming services as well as Cambridge's own UuVol net radio portal.

Man machine

One reason why the NP30 took so long is that Cambridge did a lot of the work in-house, which with streaming systems is pretty rare due to the man hours required in programming. The advantage is that it gives the company more control

DETAILS

PRODUCT: Cambridge Audio Sonata NP30
ORIGIN: UK/China
TYPE: Network audio player
WEIGHT: 2.1kg
DIMENSIONS: (WxHxD) 270x670x285mm
FEATURES:
 • DAC: Wolfson WM8728 24-bit/96kHz
 • WAV, FLAC up to 24-bit/96kHz,
 • AIFF up to 16-bit/48kHz,
 • WMA, MP3, AAC, Ogg Vorbis 32-320kbps,
 • Inputs: USB, Ethernet
 • Outputs: optical, coaxial and RCA phono analogue
DISTRIBUTOR: Cambridge Audio
TELEPHONE: 08709 001000
WEBSITE: cambridgeaudio.com

over the end product and allows it to make updates as and when they are required. Perhaps this is why it had trouble in finalising the design; there's always another tweak!

The NP30 has ended up being a 24-bit/96kHz-capable player that will play all the key formats with the exception of iTunes' Apple Lossless and one particular flavour of FLAC. It has a wireless antenna, but you are encouraged to use the RJ45 socket for an Ethernet connection direct to your network. Like the Cyrus Stream XP (HFC 346) it's designed to be used with a UPnP NAS drive, but if you have Twonky Media on your computer it can play files from that source as well.

Its back panel is equipped with analogue and digital outputs, plus the Ethernet port and a USB input for 'local media' material stored on a USB drive, so long as it's a FAT-formatted drive (as per PC drives rather than Mac).

It's probably possible to get around your music collection using the front panel keys, but as these are duped and enhanced on the remote it's an unlikely pursuit. The display is big



enough to be read a couple or so metres away and once you remember that you can't go back a page with the navigation ring but have to use the return button things get a bit easier.

The sexier option is the Uuvol app, which can be downloaded gratis onto

your Apple touchscreen device. This is a lot easier to use and doesn't require any squinting, in fact in its Touch/iPhone form it's a very nice interface. Scrolling through lists is initially jerky, but quickly smoothes out once it's got a grip on the full

track listing. The app also lets you find radio shows both live and on-demand and gives you the option to save them to the list of 20 presets.

The BBC iPlayer is a treasure trove, but you have to delve down through no end of screens to get to the music. This is not entirely Cambridge's fault, of course, and it's great to be able to find so much from the comfort of your armchair.

Its other streaming services consist of Aupeo, Live365 and MP3Tunes, but none of the bigger ones like Last.fm or Spotify. Aupeo is quite interesting, playing music like a radio station without the links you can select by genre and it displays artwork as well as bit rate in surprisingly specific terms.

Mystery control

Cambridge packs an awful lot of networking technology into the NP30 and at £400 you're never going

“The NP30 looks a bargain for those taking their first steps in high-quality streaming.”

to get fancy casework, rather you get solid build that's in much the same vein as the rest of Cambridge's dedicated audio products, except smaller. The handset is a variation on the usual theme and works well enough, albeit with some counter-intuitive tendencies that become familiar fairly swiftly.

One thing that initially fooled us is the volume buttons, which had a



TALKING POINT

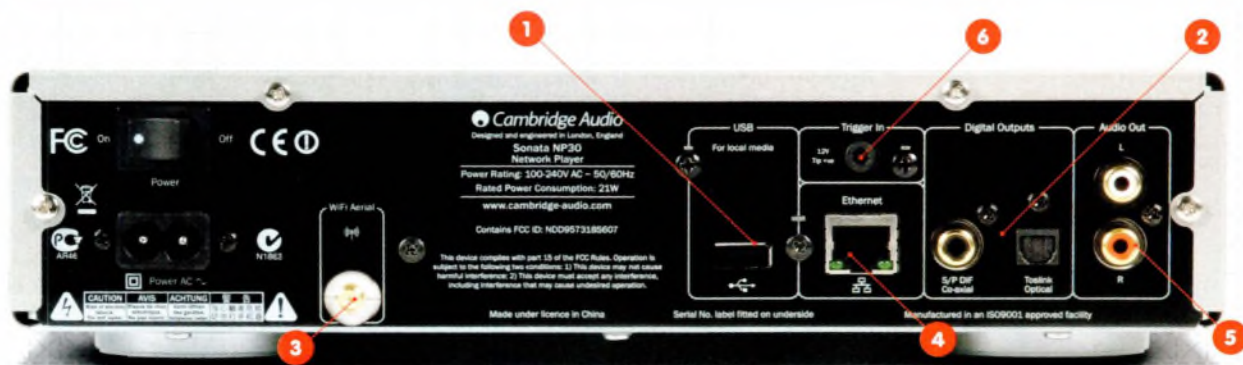
STREAMING SERVICES such as last.fm and Spotify are increasingly popular sources of music for many network player users with the best offering a massive catalogue of tracks to choose from.

These services can be accessed from any computer, but dedicated network players such as the NP30 need software that's specific to each provider in order for you to be able to use them.

In the case of Spotify this software has to be custom made for each manufacturer, as well as being licensed and approved by the provider so the process of introducing it to a product can be protracted.

Cambridge tells us that it is working with various service providers to add the capacity to stream its material to the NP30 and that firmware updates will be made available when these are ready. The unit automatically searches for updates every time it's switched on and these are easily installed via the settings menu.

CONNECTIONS



1 Digital input for USB drives

2 S/PDIF coax and TOSLINK digital outputs

3 Threaded socket for supplied wi-fi aerial

4 RJ45 Ethernet input for connection to a router or NAS drive

5 Line level analogue output

6 IR trigger for system control

HIDDEN TECH



- 1** Proprietary low-jitter audio re-clocking circuitry
- 2** Linear regulators for analogue power supplies
- 3** Wolfson WM8728 24-bit DAC
- 4** Control module
- 5** Universal switch mode power supply

distinct effect despite the unit supposedly having a fixed output. It turns out that the remote can also drive this aspect of our ATC preamp.

There is competition at this price level from Logitech's Squeezebox Touch and Duet network players, which can play a good range of formats including Apple Lossless and support 24-bit/96kHz streaming, but are less geared toward NAS drives, although some models do work.

There is also a well-priced network player from Marantz: the NA7004 (HFC 344) has access to services including Napster and Last.fm and the Mac-friendly AirPlay facility. It also comes in a big box with a Marantz D/A convertor and output stage for under £600 if you shop around.

Scrolling away

Finding the tune of your choice on the NP30 is significantly easier using the app than with the remote and front panel display. This is because there is no means of jumping to songs or artists using an initial letter. Something that the Squeezebox and Cyrus let you do, but what the latter can't do is to stream wirelessly up to CD's 16/44.1 bit rate and this makes a decent fist of the end result as well.

We put it up against a Squeezebox Touch, via both digital and analogue outputs and in both instances the Cambridge made a strong case for the extra asking price with a rich, detailed and refined sound that makes the Touch sound basic, which it ain't.



WE SPOKE TO Ben Beaumont of Cambridge Audio about the NP30.

WF: Do you have apps for non-Apple devices such as Android phones?

BB: We are actively working on an Android app. However, there are various Android platforms for both hardware and software at the moment which are not backward/forward compatible with one another.

WF: Why no support for 24/88.2 sample rates?

BB: We didn't include a clock for 88.2 sample rate as there is very little content and it would have added cost.

WF: Why limit AIFF support to 16/48?

BB: We could, perhaps, overcome a limitation in the playback engine with some software work if enough customers were using AIFF.

Using its digital output, via the Resolution Audio Cantata DAC/preamp, reveals the NP30 to be a very capable and entertaining player with an appealingly open, detailed presentation that holds up to the exposure of a high-resolution system.

The 24-bit/96kHz version of Peter Gabriel's *Boy in the Bubble* is very strong on atmosphere, his voice seems present in the room but the space in the studio is clearly an alien construct. We had difficulty playing a favourite hi-res track however, because the unit's clocking system can't cope with 88.2kHz sampled material, such as you find on HDtracks.com (see *Question Time* for more detail).

Listening to internet radio proved most gratifying: Radio 3's high bit-rate AAC stream is particularly impressive, as is the ease with which you can track down on-demand programmes from the BBC. Aupeo is quite fun, too and we found at least one new artist that we'd like to hear more from on the jazz fusion stream. It seemed more like post-rock, but what do these names mean anyway!

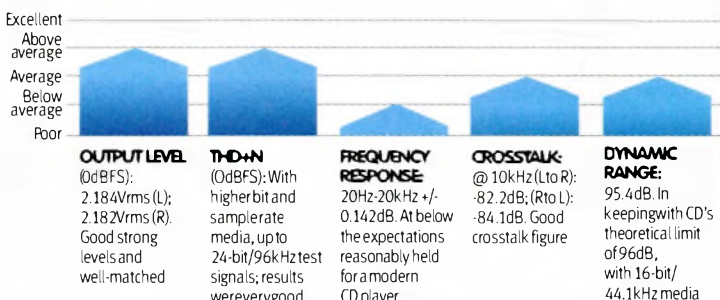
Net radio

This new network player brings with it a lot of features and an open sound for a very competitive price. The interface using the front panel display has its limitations however; you really need the app and a suitable touchscreen device to be able to enjoy the product.

Wireless streaming is very effective, more so than both the Cyrus and Naim entry-level products, while set up of both web radio, streaming services and stored file access is pretty straight forward. We particularly like the Uuvol net radio system because it gives so much information. All-in-all the NP30 looks like a bargain for those taking their first steps in high-quality streaming. ●

TECH LABS

RESULTS AT A GLANCE



Hi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Well featured and easy to use
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Less easy to use without app; doesn't support 88.2kHz material
- BUILD QUALITY** ★★★★★ **WE SAY:** A fully featured streamer that sounds remarkably open and works well wirelessly; a hard act to beat
- FEATURES** ★★★★★

OVERALL



Sound - Innovation - Reliability - Service



PASS

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www.passlabs.com

Neo Matrix



Richard Black discovers a small, inexpensive DAC from newcomer Matrix that offers much for the audiophile for very little outlay

Diminutive DACs are very much the flavour of the moment – just look at the widely varying models from Cambridge Audio, Arcam, Lavry, Benchmark and so on. Many of these are aimed fair and square at the computer audio world, with hi-fi-flavour inputs (S/PDIF etc.) almost an afterthought and indeed the idea of adding quality to computer audio via a USB digital audio interface is thoroughly sensible. This unit is no different.

Not the same old

Except that in some ways it is. It takes audiophile details unusually seriously, with pro-style AES/EBU digital input and also balanced audio outputs alongside the usual phono sockets. It also features a headphone output and a volume control, operative on headphone and line outputs. And a digital output. And... (drum roll) a remote control! This puts it in a class of about one: granted, a remote is not the most essential accessory for a DAC, but it has its uses and as such is astonishingly rare. It's a rather sexy metal remote control too, a very nice touch.

No sign of scrimping

If you use the 'traditional' digital inputs you can take advantage of the Mini-i's 24-bit/192kHz capability. Via USB it's limited to 48kHz

sampling. The electrical S/PDIF input is on a BNC socket, while the output is on a phono – at least that reduces the chances of mixing them up. Inside the case there's a generous helping of circuitry including a good quality modern DAC chip (in fact two of them) and decent op-amps. The mains transformer is internal so there's no 'wall wart' needed. Operation is straightforward thanks to the informative display and intelligent push'n'twist control – twiddle for volume, press briefly to change input, press and hold to switch off.

There's quite a bit of circuitry inside the case, including two high-performance DAC chips (each capable of stereo operation, so presumably operating in tandem to lower noise and distortion). Op-amps are good parts too and in general there's no obvious sign of scrimping anywhere.

A spring in its step

We've had some impressive audiophile results from a few budget DACs recently, so our expectations of the Mini-i were high. For reasons of convenience as much as anything else, we began our listening with a CD player as source, connected via electrical S/PDIF and this turned out to give very good results. What we most enjoyed about the sound was the light and agile character that this DAC seems to manage so well: it's

► DETAILS

PRODUCT:
Matrix Mini-i

ORIGIN:
TYPE: DAC/head amp

WEIGHT:
1.2kg

DIMENSIONS:
(WxHxD)
205x48x155mm

FEATURES:
• Inputs: S/PDIF electrical (BNC) and optical (Toslink)

• AES/EBU (XLR) USB

• Outputs: S/PDIF (phono)

• Unbalanced analogue (phono)

• Balanced analogue (XLR)

DISTRIBUTOR:
AmpCity

TELEPHONE:
020 3384 6392

WEBSITE:
matrixelectronics.net

not short of bass when needed, but it has great energy and clarity in the midrange and treble which can really make music skip along with joy and verve. In prosaic technical terms, this is basically down to its good resolution and extended treble – possibly ever so slightly bright, but certainly not in a disturbing way.

We felt that USB sounds a touch less assured, with slightly less insight in the upper octaves and also a bass register that could use a touch more precision. This is being picky, though, and had the S/PDIF performance not provided such a classy comparison we would doubtless have been quite impressed by USB. There's no question, but that it will provide a clear and obvious upgrade over most onboard computer analogue outputs.

Great with 'phones too

The headphone output deserves special praise. It is capable of driving headphones loud very cleanly, but at any volume level there is a real sense of assurance that makes the whole experience very involving. Headphones may not need as much hard driving as loudspeakers, but a good source like this makes one realise that a tight rein is still beneficial.

Given that digital volume controls still have a dodgy reputation in some quarters, it's also worth mentioning that we were never aware of this one having any adverse effect. Using it as an alternative to the traditional control on our day-to-day amp produced no audible side effects that we could hear.

For ultimate sound quality with a USB source, this may not quite beat the Cambridge DacMagic, but it is certainly a very capable DAC and the flexibility of remote, headphone output and volume control make it exceptionally attractive value. ●



Hi-Fi Choice

OUR VERDICT

SOUND QUALITY



LIKE: Agile, lively and detailed sound with clear and full-bodied bass

VALUE FOR MONEY



DISLIKE: Slightly less impressive via USB than S/PDIF, though that's a high bar to reach!

BUILD QUALITY



FEATURES



WE SAY: It scores unusually highly for features

OVERALL





Masterful multitasker

The new UD7006 universal from Marantz plays just about every digital disc you could name.

Richard Black asks if more means merrier

The term 'universal', as applied to pretty much anything in home electronics, is generally only valid for a few minutes these days. No sooner is a 'universal' player on the market than some new format, specification or system is launched which is beyond its ken.

That said, we can't actually think of anything this player won't do. The big news, the thing that makes it more universal than last year's crop, is 3D video support. Maybe that'll take off, maybe it won't: we're more interested in audio performance. But it does a very decent job of handling anything else you can throw at it. Blu-ray audio and video discs, every flavour of DVD we can recall encountering, SACD, CD, photo

discs, all the various data disc formats with all the various compressed file formats. Oh, OK, it won't play OGG or any losslessly compressed file formats, which isn't a huge blow since few (if any) competitors will. It does support AAC, though, which isn't so common and gets a tick from us as we would love to see this superior system replace MP3.

Silver discs and more

On the other hand, it's not limited just to playing discs. It has a USB socket on the front (which handles uncompressed files, hurrah, as well as the usual compressed formats) and an Ethernet socket at the rear through which it can talk to your home network, allowing it to play

DETAILS

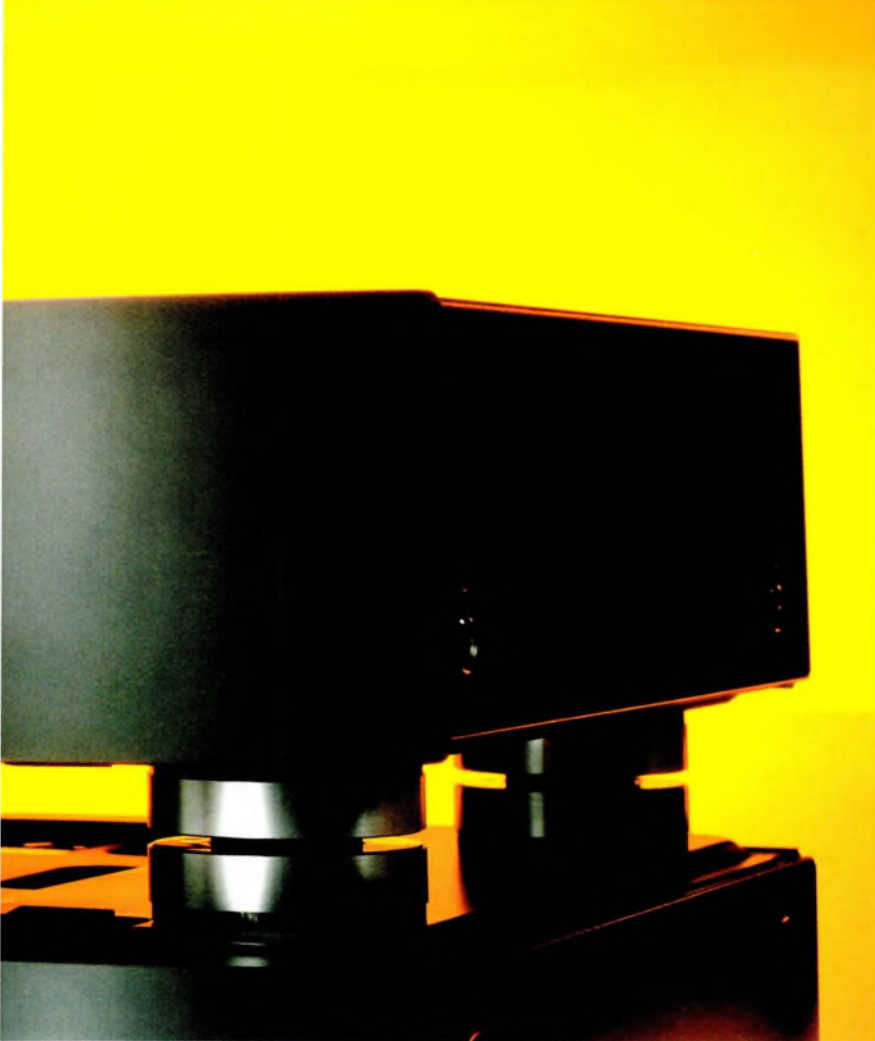
PRODUCT: Marantz UD7006
ORIGIN: Japan/China
TYPE: Universal disc player
WEIGHT: 5kg
DIMENSIONS: (WxHxD) 440x110x330mm
FEATURES:
 • Supported disc types: Blu-ray, DVD-A, DVD, SACD, CD
 • Audio file formats: MP3, WMA, AAC/M4A, WAV
 • Outputs: analogue 7.1channel, analogue stereo, digital (electrical S/PDIF), HDMI, component video, composite video.
 • Inputs: USB-A (front panel), Ethernet
DISTRIBUTOR: Marantz
TELEPHONE: 02890 279830
WEBSITE: marantz.com

files from on your computer or Network Attached Storage and also play files on YouTube. There's no option to play internet radio, so that's something for the next generation to add, and we can't see any way to play wax cylinders... Pardon? Ah, yes, thank you.

When CD was launched it was a very simple system that stored audio in a fixed format. You put a disc in, it was recognised, you played it. Subsequent generations have added functionality because the boffins could and the marketing bods could sell it. Functions are great, but they make things complex. You can't set this player up fully without a TV screen attached (fair enough, it is marketed as an AV unit first and foremost so it is likely to live near a screen in most applications) and even then it's a little bewildering. The instruction manual is heavy enough to use as an offensive weapon and isn't the best we've seen by a long way – frankly some of it is as clear as mud, but the information's in there somewhere.

Knock twice for 'Play'

But in most situations you can still plonk a disc in the tray, press 'Play' and simply listen. Marantz has taken the issue of loading time seriously and it's down below 10s for all the disc types we tried, which is an



improvement on the 12-15s we've seen from several recent machines. But there are some bizarre operational details. Not the least of these is that pressing 'Play' doesn't necessarily make the machine play. If it's been idle for more than about a minute, the transport spins down (like most new-format transports, it keeps spinning for a while after one presses 'stop'), after which pressing any control button simply brings it

"It does a very decent job of handling anything thrown at it"

back awake. One must then press the button again to make it actually do something useful. Annoying? Very much so!

Another detail which we bet most users will miss is that the downsampling applied by default to

the digital output seems to affect the analogue output, too. It's understandable that the digital output is converted down to 48kHz when high-sampling sources are played, because if this is connected to a typical AV receiver the latter probably won't accept high sampling rates. But surely the stereo audio output (at least) should derive the benefits of extended bandwidth? In practice, if the default settings are not changed, the analogue output is limited to 24kHz bandwidth – and the downsampling filter has rather poor performance, too, with deviations from a flat response (technically referred to as 'ripple') that are about the worst we can remember seeing from any digital equipment ever.

Inside the case are five stereo DAC chips, necessitated by the 7.1 channels of surround sound plus the stereo pair. The DAC in question is described as a '32-bit' part and indeed its manufacturer uses the same term in the data sheet. Yes, it accepts 32-bit data but in no meaningful sense does its performance approach 32 bits of genuine analogue precision – not even 24, indeed, though it is one of the closest to that. Each DAC channel feeds a neatly laid-out array of analogue filter and buffer components, the whole 10 channels-worth taking up very little space.

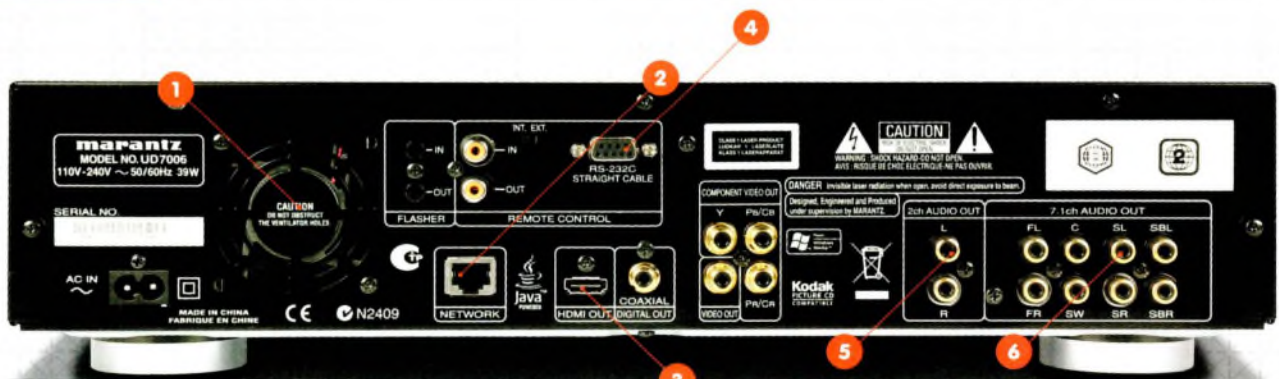
Advantage audiophile?

Video processing stuff takes up even less space and is distinguished by an impressively large heatsink sitting on top of the main processing chip.



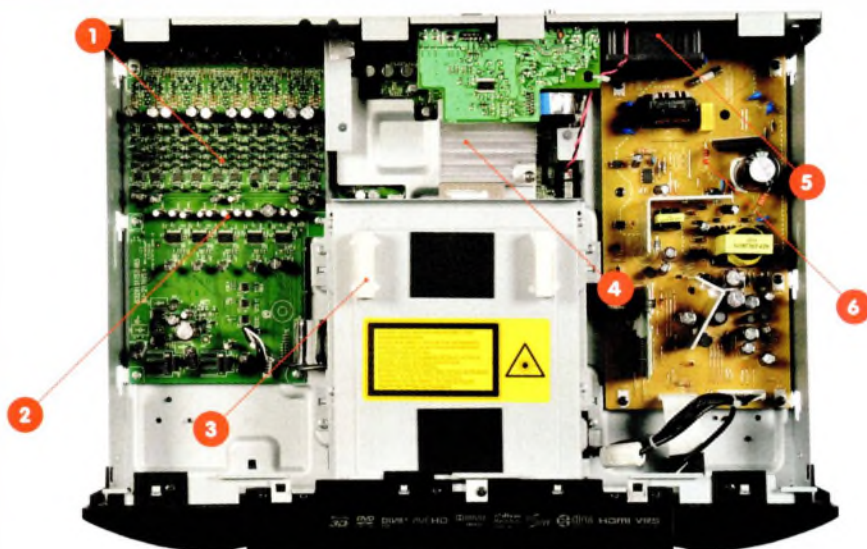
TECHNICALLY, THERE ISN'T a Blu-ray audio-only format, but as happened long ago with DVD, the video format includes scope for high-quality audio-only discs. Blu-ray supports a very high data rate and in audio terms, allows up to nearly 28Mbps (mega-bits per second), which is sufficient for six channels of 192kHz-sampled, 24-bit audio, or eight channels at a lower sample rate, all completely uncompressed. This specification is fundamental to Blu-ray, so any player should be able to decode such data streams, yielding potentially very tasty sound. Playing time, even with a full 6 channels of 192/24, would be around 2 hours for a standard 25GB disc. DVD-A supports 6 channels at 96/24, or two at 192/24. Given how little interest audiophiles continue to show in multichannel audio, Blu-ray doesn't necessarily add any new capabilities, in stereo terms at least.

CONNECTIONS



- 1 Cooling fan intake
- 2 Ethernet connection for network audio replay
- 3 HDMI output for audio and video transmission
- 4 RS232 connection for multiroom control
- 5 Stereo output over RCA
- 6 Multichannel audio output over RCA

HIDDEN TECH



- 1** Ten separate channels of analogue outputs
- 2** Five stereo DAC chips
- 3** Pads for electrical and mechanical grounding to the top plate
- 4** Heatsink over main video processing chip
- 5** Cooling fan
- 6** Switch mode PSU

Between that, the rest of the circuits and the (switch-mode) power supply, quite a lot of heat is generated and it is dispersed by a fan, which runs at all times. It's fairly quiet but by no means silent, and simply adds to a growing list of reasons why we don't expect this machine to appeal to many audio purists.

The disc transport makes a moderate amount of noise, mostly an indistinct whooshing sound and we were rather disappointed to find that ours rattled like anything when playing Blu-ray discs. We soon shut it up with a judiciously placed cotton wool bud, but we really hope that doesn't affect more than this one sample.

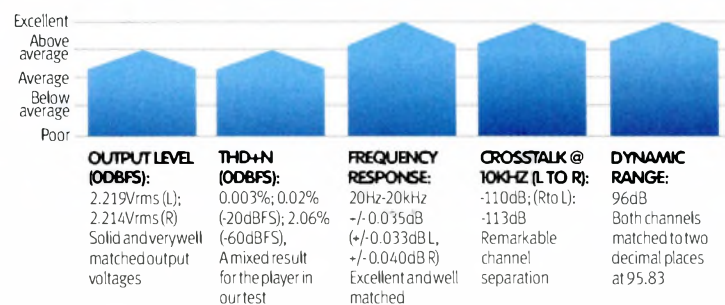
Now that we've painted a slightly gloomy picture of this machine's audiophile potential, what does it actually sound like? Thankfully, it's not half-bad. We spent quite a lot of time playing CD on it, simply because the vast majority of the world's digital music discs are CD. It's got a good sense of timing, good detail and plenty of extension in both bass and treble. You can find a slightly more solid bass, perhaps, in a few mid-range CD players and the higher frequencies don't quite have the crystalline purity of that in some of the better dedicated players around, but we enjoyed our time with it nonetheless, once we had put it in a place where its fan and transport noise were (just about) inaudible.

HOW IT COMPARES

IT MIGHT SEEM obvious to compare this player with another universal spinner, but instead we would rather consider it against a simple SACD/CD yardstick, also from the Marantz stable. The SA-KI Pearl Lite doesn't play Blu-ray or DVD-A discs, but from an audio-only perspective, though, it plays practically anything you might want to put in the UD7006, simply because there are so few Blu-ray and DVD-A discs around. It doesn't have multi-channel outputs either: but do you care? Instead, it is highly optimised for stereo sound quality and as such it offers considerably more refinement than its multi-format sibling.

TECH LABS

RESULTS AT A GLANCE



Stereo still the best?

With SACD and DVD-A discs, once we had set things up correctly, we felt the sound was just a shade more open and detailed, with better depth and greater precision in stereo images. The sample Blu-ray music disc we tried (hey, how many have you got?) was encouraging in some ways, with excellent definition, but was also somewhat frustrating in offering only a 48kHz sampling rate. 96/24 DVD-A recordings, including a couple of in-house productions, made more of an impression.

Of course, one of the big attractions of this player is the comprehensive multichannel output. 7.1-channel audio is rare going on non-existent, but some 5.1-channel productions sound impressive in a rather classy AV-based system. But 'impressive' is rather the key word here: not many surround recordings seem to have been made with natural spatial qualities in mind and it's probably not an accident that most audiophile-oriented high-resolution players are stereo-only. Bluntly put, we had the most convincingly musical experiences exclusively from stereo discs, in any format. We did appreciate some very fine video images, too!

The USB input seems to match disc-sourced sound, given that its maximum sampling rate is 48kHz. Data-compressed (MP3 etc.) files from USB or disc sound about as good as they ever do, and in fact we admit that some AAC-encoded files at higher data rates had us fooled that we were listening to perfectly respectable CD sound.

From an audiophile perspective, there are plenty of disc players around which at least match the UD7006 for sound, but in a mixed audio/video playback environment, the UD7006 makes a lot of sense and is actually very good value. ●

HifiChoice

OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Exceptionally versatile; good video performance; surprisingly good audio, too
- VALUE FOR MONEY** ★★★★★ **DISLIKE:** Annoying to use; fan and transport noise; poor default settings
- BUILD QUALITY** ★★★
- FEATURES** ★★★★★ **WE SAY:** Bang-up-to-date video player that does a decent job with audio

OVERALL



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2003 Hi-Fi News Category Winner IsoTek Mini Sub [Mk1]	2004 What Hi-Fi? IsoTek GII Vision	2004 Hi-Fi Choice Category Winner IsoTek GII Mini Sub	2004 What Hi-Fi? Category Winner IsoTek GII Vision
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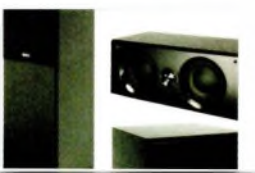
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Plastic fantastic

SRM Tech scooped up the *HFC* accolades back in 2009, so **Jason Kennedy** decided it was time to find out what's new for 2011

We first encountered SRM Tech when the company sent its Arrezo deck in for review. It won a Best Buy Award (*HFC* 325) and went on to win Best Turntable up to £1,000 in our 2009 *Awards* issue. The new Athena tested here is also built from transparent acrylic and has seen a number of revisions in recent times. This attractive turntable is very well finished and comes complete with a modified Rega RB251 arm for a very competitive price considering its handmade nature.

Well-damped

The Athena is made from a slab of 10mm acrylic that sits on three spiked feet and holds the motor and three Sorbothane isolators, these support the top slab which incorporates the platter bearing and tonearm. It's a simple, but well conceived design that uses the resonance-damping properties of acrylic and Sorbothane to minimise energy transfer from the supporting surface to the platter.

The platter is 10mm acrylic and this sits on a damping layer, then a vinyl polymer subplatter, which is driven by twin belts from an aluminium pulley. Putting the belts on is a little fiddly and this would make changing speed a bit slow but it's an interesting approach. Another unusual feature is

that the on/off switch is a separate item that links to a wallwart power supply and the motor via fairly long cables – you could almost put the switch a couple of metres from the deck if you wanted.

The EL-1 arm has three small mods: the counterweight has a ring of synthetic polymer to dampen it; the counterweight stub is filled with sorbothane and the finger-lift on the headshell has a shrink fit covering for a bit more damping.

Competitive package

This is a well-built and finished turntable for the asking price; the polished chrome spikes and top caps, plus the decent-quality motor and bearing all confer a degree of confidence in its reliability and longevity. The free range on/off switching is a little untidy, but doesn't slide around as you might expect and if you add the Athena Isolation Platform (£69), it can sit underneath this and the wires won't show.

This platform is very good value and its polished black form looks great under the turntable. The EL-1 arm mods are simple and, in the case of the polymer ring, a little inelegant but undoubtedly worthwhile. All-in-all it adds up to a competitive package that should hold its own against the big names in the budget turntable market.

▶ DETAILS

PRODUCT:
SRM Athena
ORIGIN:
UK
TYPE:
Turntable and arm
WEIGHT:
3.6kg
DIMENSIONS:
WxHxD
390x80x340mm
FEATURES:
• Tonearm: EL-1 modified Rega RB251
• Speeds: 33/45rpm manual
• Platter: 10mm acrylic with foam mat
• Sorbothane isolation
DISTRIBUTOR:
SRM TECH
TELEPHONE:
01767 313691
WEBSITE:
srm-tech.co.uk

The right match

All that resonance damping pays off with a calm and resolute sound that's almost at odds with the turntable's light weight and physical transparency. One tends to expect lighter turntables to have a busy, exciting if not necessarily relaxed sound, but the Athena is commendably even-handed.

It's particularly strong on texture, which to an extent is because there is an emphasis on the midband. Adding the Isolation Platform goes a long way to addressing this by beefing up the bass and adding real gravitas, the mid also improves thanks to stronger contrast and better dynamics.

Personal audio

We were pleasantly surprised by the Athena, it has an assurance that belies its appearance and a degree of detail resolution that puts it among the front-runners in this price range. There is a hint of the acrylic sound in its balance, but less so than with many alternatives thanks to the careful use of damping. It times well, too and can reproduce the scale of a recording with little difficulty.

This keenly priced Athena should do a lot to establish the company in the turntable market, because it looks and sounds remarkably good for the money. ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY
★★★★★
VALUE FOR MONEY
★★★★★
BUILD QUALITY
★★★★★
FEATURES
★★★★★

LIKE: Calm, relaxed and revealing sound and high build quality for the price
DISLIKE: Free range on/off switch lets down the looks
WE SAY: A welcome addition to the affordable end of the market this is an engaging turntable

OVERALL



INTRODUCING:

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Ken goes to Boston

Boston Acoustics' new range has been tuned by Marantz's Ken Ishiwata for European ears. **Ed Selley** goes hunting for the 'signature' sound

Boston Acoustics are one of the major players in the American speaker market, producing a full range of conventional box loudspeakers, custom install products and car audio. Since the company was acquired by D&M holdings – which oversees Denon, Marantz and McIntosh amongst others – it has been raising its UK profile. The A Series speakers are the new entry-level range and made its low key debut at Bristol this year.

Rear surprise

The flagship A 360 combines a number of design features that are relatively conventional with others that are relatively distinctive. On the conventional side, it mounts a pair of 6.5-inch graphite-injected plastic woofers (a technology Boston calls Deep Channel Design or DCD for short) paired with a one-inch soft-dome tweeter.

There is also a three-inch DCD driver aiding the transition between the larger drivers and the tweeter. This is not unusual in itself, but the small size of the driver is less common and most designs at this price point do without it. Boston claims a sensitivity of 90dB at eight ohms and they need an amp of reasonable output to show their best.

Around the back, the mix of the expected and unexpected continues. A large bass port is normal enough, but we were surprised to find only a single set of speaker terminals rather than the more usual biwire capable set. That said, many of our favourite speakers also favour a single-cable connection, so we don't regard this as an impediment, more something to be aware of if your existing speaker cable is for biwiring.

Sonic guru

The most interesting aspect of the development of the A Series is that Ken Ishiwata, the longstanding sonic

guru of Marantz was involved in its voicing. While Ishiwata is better known for his work in electronics rather than loudspeakers, his input is rarely going to be unwelcome. Ken's stated intention has been to voice the A Series to be better suited to European tastes (and in this context, the UK is defined as 'European').

In appearance terms, the Boston is still rather American. The gloss-black finish is smart enough, but we aren't entirely convinced by the leatherette baffle around the drivers. At slightly over a metre tall, they are relatively large, but not unmanageably so and we obtained good results with them just over two metres apart and about twenty centimetres from the wall.



► DETAILS

PRODUCT:
Boston Acoustics A 360
ORIGIN:
US/China
TYPE:
Floorstanding loudspeaker
WEIGHT:
20kg
DIMENSIONS (WxHxD):
345x1,060x274mm
FEATURES:
• 3.5-way floorstanding speaker
• Soft-dome tweeter
• 2x DCD carbon/plastic mid bass drivers
• Kortec soft-dome tweeter
DISTRIBUTOR:
D&M UK
TELEPHONE:
02990 279830
WEBSITE:
bostona.eu



Solid ground

Deciding whether the Boston sounds 'European', or whether Ken's input has been worthwhile, is secondary to whether it sounds good full-stop and on this count, the speaker's on solid ground. This is one of the most cohesive and lifelike speakers you can buy under £1,500. It has a tonality that is rich, full and utterly believable and, while the three-inch driver might be a bit of a design oddity, the payoff appears to be an excellent cohesion from top to bottom.

Voices and instruments are extremely well handled and always sound convincing. This means that although they have plenty of detail, they are never artificially placed forward in the context of the piece as a whole. Instead they present a finely detailed soundstage that grows and shrinks with the music in question.

This is partnered with a bass response that is good, if not the most seismic around – despite a larger cabinet it will not go as low as the Triangle Color we tested on p65. This is, in the purest sense of the word, a musical speaker that places no particular emphasis on any part of a performance; simply producing a fabulously entertaining whole that makes the Boston incredibly easy to listen to for long periods.

European sound

If this fantastic performance is the manifestation of 'European sound' and the result of some KI magic, we are all for it. The A 360 needs to be in contention for anyone making the decision on sub-£1,000 floorstanders.

It doesn't have the top-of-the-tree to itself, the Epos Epic 5 (we tested in HFC 347) is more forceful, exciting and subjectively better looking, but it still has to give ground to one of the most tonally excellent designs we have heard at anything like this price. This is a very fine loudspeaker indeed. ●

Hi-Fi Choice

OUR VERDICT

SOUND QUALITY



LIKE: Wonderfully musical and tonally even performance

VALUE FOR MONEY



DISLIKE: Not the prettiest or easiest to drive

BUILD QUALITY



WESAY: A very cohesive and entertaining speaker

EASE OF DRIVE



OVERALL





Audiophile Airplay

The first integrated amp to work with Apple Airplay is the claim, but is it audiophile?
Jason Kennedy fires up his iTunes to find out

Streaming digital music from your computer is a great idea, but it's also a challenging one for the non-technical. Setting up such systems is getting a lot easier, but Apple's Airplay is about as easy as streaming can be. All you need is an Apple touchscreen device or computer and an Airplay receiver, then you can play whatever is on the source wirelessly through the receiver. By combining the interface with the source cuts out a whole stage from regular wi-fi streaming systems. Micromega clearly likes the concept and is the first audiophile brand to make an Airplay-compatible integrated amplifier.

Library of titles

Micromega makes this distinction because Denon and Marantz both have Airplay-ready receivers and

Bowers and Wilkins' latest Zeppelin Air is also in on the action. Make no mistake Airplay could be very big indeed. Micromega's system is dubbed 'Airstream' for licensing reasons, but it's not exclusively designed for Apple sources; any computer using software called Airfoil (£15) from Rogue Amoeba can stream content to the AS-400.

The company incorporated Airstream into its WM-10, which has been around for over a year and is also based on an Airport Express module, but it doesn't have a Micromega DAC and power supply like this integrated unit, nor is it an amplifier.

What is crucial about this system is ease of set up. You don't need a computer at all, nor a wireless network: all the transmission and reception is done by the amplifier and your player. As well as streaming

DETAILS

PRODUCT: Micromega AS-400

ORIGIN: France

TYPE: Streaming integrated amplifier

DIMENSIONS: (WxHxD) 430x95x375mm

WEIGHT: 13kg

FEATURES:
• Airstream sample rate 16/44.1

• Formats: AAC, AIFF, ALAC, MP3, WMA, WAV

• Power output: 400w/4 ohms

• MM phono input

• Inputs: 3x line, processor, sub, iPod

• Outputs: sub out, pre-out, headphone

DISTRIBUTOR: Absolute Sounds

TELEPHONE: 020 8971 3909

WEBSITE: micromega-hifi.com

from your music collection you can also send content from Deezer, Spotify and Pandora albeit only via using Airfoil software.

The AS-400 is a 400-watt (into four ohms) integrated with three line inputs, an MM phono input and the ability to operate as a preamp or power amp alone. It's included because this is a Micromega IA-400 integrated amp with Airstream added, an extra that increases the price by over a thousand pounds!

Both amps have Hypex class D switching power amplifiers, one per channel, which are fed by a power supply with an extremely heavy toroidal transformer and four very large 10,000µF capacitors. It runs surprisingly warm for a switcher, but it's a pretty powerful one with not a great deal of ventilation or obvious heat-sinking.

Control is via a selection of front-panel buttons and volume knob or a densely populated system remote, useful if you have other Micromega components we guess. Inputs can be named using a library of titles for the three line inputs but not for phono, Air or iPod. It's perhaps surprising that something oriented to Airplay should have the latter, but only the iPod Touch can transmit wirelessly.

We would also have liked to have seen a USB input for a digital output from an iPod or computer, but this is not included probably because it's all about streaming from such sources.



Set up is child's play, once you notice the little icon on the bottom of the iTunes window which allows you to select which network the computer/iDevice streams to. When you plug the AS-400 in its Airstream logo flashes red, while it boots up. You will then see MUSIC on your list of local networks and can join it with a default password. Then it's a matter of clicking on the box with a triangle at its base in iTunes and selecting the Micromega. Simple.

Zero-tolerance

In terms of build, the fact that the AS-400 is a variant on the IA-400

“What is most appealing is being able to sit down with an iPad and play whatever you like.”

means you get the construction and finish that Micromega can achieve in a £2,797 product, which is good but not outstanding for the money. It only has single-ended in and outputs, whereas many competitors offer balanced at this level and the remote is a fairly standard OEM type. Front and rear panels are machined out of aluminium and being able to change

input name is useful, more useful, however, would have been a USB input or digital inputs of some sort.

Primare's (non-Airplay) i32 integrated (£2,200) has more inputs and includes two balanced pairs among them. It also has a rather more distinctive facia, with chunky stainless control knobs. It's less powerful at 120 class D watts per channel, but seems like better value on the face of it.

There are a few high-power integrateds in the same fiscal ballpark as the AS-400 and the better examples include ATC's



TALKING POINT

ONE THING THAT we discovered late in the day is that the RJ45 socket marked 'service port' on the back of the AS-400 can also act as a conduit for music piped from a Mac via Ethernet. This is not mentioned in the manual presumably because it confuses the Airstream system, but it does provide distinctly improved sound quality if you hook it up to your router rather than using Airplay. The sound quality is more relaxed and it's easier to follow complex pieces; image width also increases.

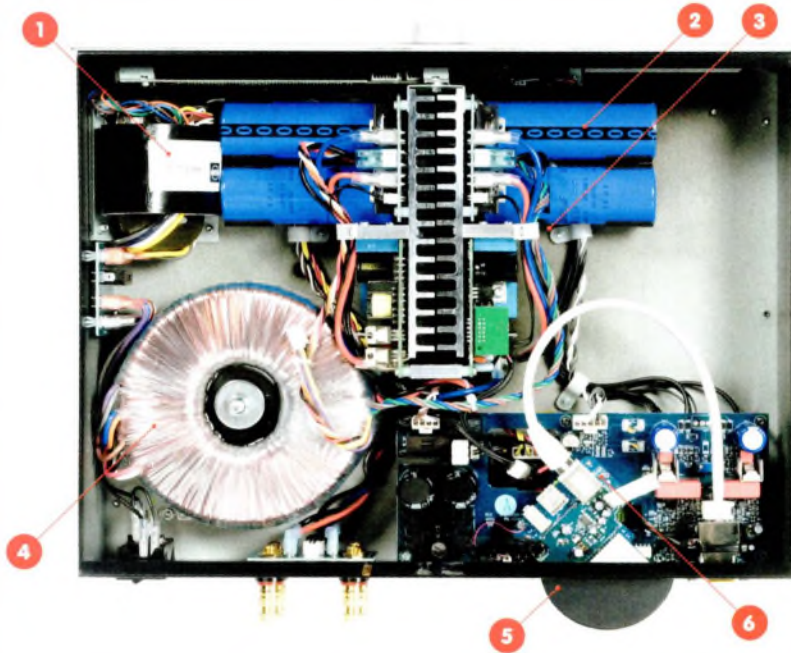
We asked Micromega why this is not covered in the manual and got the following reply "We don't mention this in the manual, as all the musical arguments and qualities are based on the fact there is no physical link between the source and the receiver (no interaction, no jitter, etc). When there is a cable, our WM10 or AS400 becomes 'only' a DAC."

CONNECTIONS



- 1 Loudspeaker cable terminals
- 2 Wi-fi antenna for Airplay reception
- 3 RJ45 socket acts as an Ethernet connection
- 4 In and outputs for use as a pre or power amp, as well as a dedicated sub out and monitor loop
- 5 RCA phono sockets for three line inputs
- 6 MM phono stage input

HIDDEN TECH



- 1 **R core transformer for preamplifier section**
- 2 **Power supply formed of 4x 10,000µF smoothing capacitors**
- 3 **2x Hypex 400-watt Class D amplifier modules back-to-back**
- 4 **1kVA toroidal mains transformer**
- 5 **Wi-fi antenna for Airplay reception**
- 6 **Airplay receiver module connected to wi-fi antenna**

150-watt SIA2-150 (£2,599), Leema's 150-watt Tucana II (£3,425) and Bryston's 100-watt B100 SST (£4,899). These are all class A/B designs which are usually more expensive to build than class D types and all but the ATC have balanced connections, as well as more substantial casework than the £3,898 AS-400.

Build and spec is not everything, of course – power figures are notoriously misleading and none of these amps has the ability to stream either wirelessly or otherwise. But it's more than likely that there will be plenty more appearing in the coming year.

Power play

What first grabbed us about this amplifier is its power, the result lives up to the spec in many respects. It's got a powerful, but smooth-edged grip that controls the bass in a muscular fashion; it makes up for the lack of balanced socketry and heavy machining the moment you put something with a bit of welly in the player. The immediacy and image-precision with a pair of ADN speakers is nothing short of gripping; this is a speaker that likes power. At this point we stuck a Primare i32 into the system to see if the price difference makes sonic sense. It does: the Micromega is considerably better at

revealing space, the acoustic of the recording, not to mention its dynamics and timing. There really isn't any contest; you clearly get more for your money.

On the all-important Airstream front we used a Macbook to make a direct comparison between the laptop's optical output via a Stello DA100 Signature DAC and an Airstream feed. The latter produces a considerably wider soundstage in the context of a more relaxed presentation when using iTunes alone as the player, however if you add the Pure Music player into the mix this gives the optical output a significant edge by adding improved dynamics to the mix. The Stello is a £750 convertor and Pure Music costs £80, so the combined cost approaches that of adding Airstream to the IA-400 when you take a decent optical lead into the equation.

As we also had Leema Acoustic's Tucana II to hand, this was brought into the fray to see how the AS-400 compared with something in the same price arena. It proved to be tonally richer and able to deliver greater depth and dynamics compared to the Leema, which produces a more solid, but less refined sound, which is a pretty good result.



WE SPOKE TO Alain Chouat at Micromega about the AS-400

HFC: Does Airfoil work with iTunes or is it a player?

AC: Airfoil is a bridge/link with all players (Apple iTunes, Windows Media Player and others). It will allow you to stream all kinds of files and also to connect to internet radio, or Spotify for instance. It is available for a free trial and is very affordable to buy.

What are the quality limits of Airplay – what bit/word rate will it support?

Our products are 24-bit/192kHz-ready. For the best results, we recommend streaming directly from a computer, because the iTunes software onboard a Mac or PC isn't the same as the 'iPod' app in an iPhone.

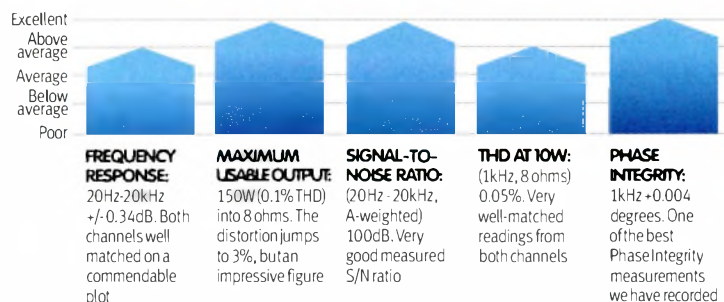
Apple at its core

What is most appealing about this amp is being able to sit down with an iPad and play whatever you like, it's a world-class interface and the sound produced is clearly superior to that available with an analogue connection.

At heart this is a rather good amplifier: its musical, dynamic and has bags of power. Input selection is a bit limited and the build quality could be better, but if it's sound you are after then this hits the mark. And thanks to the Airplay factor, it's a doddle to set up and start enjoying. ●

TECH LABS

RESULTS AT A GLANCE



Mi-Fi Choice

OUR VERDICT

- SOUND QUALITY** ★★★★★ **LIKE:** Airplay compatibility; smooth and revealing sound quality
- VALUE FOR MONEY** ★★★ **DISLIKE:** Build quality is not up to par for the price; needs more line inputs
- BUILD QUALITY** ★★★ **WE SAY:** Airplay could be the future of streaming and the AS-400 proves that it's got real audio potential
- FEATURES** ★★★★★

OVERALL



Bowers & Wilkins



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1975



SIMON BERKOVITCH
A music historian, ex-record shop guru and Production Editor on HFC's annual high-end celebration, *The Collection*, Simon not only knows music, he lives it though his love of vinyl and high-class hi-fi

WHAT DO YOU THINK?
Rock dinosaurs or rock pioneers? Share your memories of the seventies superstars. Email us now: hifichoice@futurenet.com

Big names and even bigger albums as we touch down in the mid-seventies to reassess the classic rock albums at the heart of your vinyl collection. **Simon Berkovitch** goes on safari with the rock dinosaurs

As the 1970s reached its mid point, the release of three particular albums were heralded as genuine events rather than just the latest pop releases. Sixties pop had given way to seventies rock, but it's telling that two of the trio were from groups that had their roots in the previous decade's cauldron of musical creativity – Pink Floyd and Led Zeppelin. The other was from a flamboyant group that had been struggling to make a lasting mark since the turn of the decade – Queen – but graduated to the rock hierarchy thanks to a massive hit single and a new-fangled thing called the video promo.

Wish You Were Here

The textbook image of light refracted through a prism (see Hip Priests box) was the unlikely symbol for one of the best-selling records of 1973 – and the record to catapult underground darlings Pink Floyd into the world of private jets and super-stadium gigs. Expectation for the follow up to *The Dark Side Of The Moon*, one of the most era-defining records of the '70s and one whose legacy stretches into the 21st century, was massive, but the group itself appeared at something of an impasse.

Released in September, recording sessions for this classic album took place between January and July at Abbey Road Studios. Unlike the material that comprised *The Dark Side Of The Moon*, none of the material that made up *Wish You Were Here* – with the exception of *Shine On You Crazy Diamond* – was tested and refined at gigs, instead written in the studio. Pressure was indeed on the band to come up with a suitable follow-up to the critically acclaimed predecessor.

The realisation that *The Dark Side Of The Moon* was a near-impossible act to follow was reinforced by the abandoned project *Household Objects*. Its concept was to create an album entirely from the sounds of domestic appliances and although the idea predates the now commonplace practice of

sampling by a substantial number of years, the project was abandoned. Instead, Roger Waters' themes of alienation as expressed on *The Dark Side Of The Moon* were developed still further with an album that broods on both absence and the music business itself.

Now that Pink Floyd had graduated to popular music's premier league, it's arguable that the period of reflection at pop's summit had made Waters realise what had been lost in the journey to success. The most profound absence was that of Syd Barrett, the group's original frontman and songwriter. Barrett may have left Pink Floyd in 1968 under a cloud of mental illness, but his formidable reputation – largely resting on being principal songwriter and innovator behind the group's debut album, 1967's *The Piper Of The Gates Of Dawn* and two cult solo albums – remained. Lyrically, the song *Shine On You Crazy Diamond part 1* is a homage to Barrett – who, to paraphrase the song's lyric, 'wore out his welcome with random precision' – and a meditation on those who retreat from modern life. Ironically, an ill, overweight Barrett appeared at Abbey Road during the album's recording, initially unrecognised by his former colleagues, reportedly offering his services again.

The classic *Shine On You Crazy Diamond (parts 1-5)* shifts into two critiques of the music business itself: *Welcome To The Machine* and *Have A Cigar*, featuring the distinctive vocals of labelmate Roy Harper. Gilmour returned the favour by lending his distinctive guitar work to Harper's more rock-oriented album *HQ* on the Harvest label the same year.

Flipping the vinyl album over, listeners were introduced to future busker's staple *Wish You Were Here*, before the second segment of *Wish You Were Here (parts 6-9)* closed the album in suitably lush, epic Floyd style.

Physical Graffiti

Led Zeppelin began 1975 in suitably record-breaking mood. Arguably at the



“The release of three particular albums were heralded as genuine events rather than just the latest pop releases. Sixties pop had given way to seventies rock.”



▶ **SAY HELLO, WAVE GOODBYE**

All change for big names in music – past, present and future – in 1975

Formed: Iron Maiden

Split: Faces

Quits: Peter Gabriel leaves Genesis

Split: Wizzard

Debut gig: Talking Heads

Split: Neu! and Faust

Quits: Richie Blackmore leaves Deep Purple

Split: Hatfield and the North

Debut gig: Ronnie Wood with The Rolling Stones

Signed: Ramones

Debut gig: Sex Pistols

Formed: The Undertones

Formed: Buzzcocks

Formed: Throbbing Gristle

Fired: Lemmy kicked out of Hawkwind

Formed: Motörhead

▶ **UP THE BRACKET**

The UK's number one singles – 1975 vintage. It appeared that lengthy song titles (with brackets) increased your chances of climbing to the Top Of The Pops this year

Mud 'Lonely This Christmas'

Status Quo 'Down Under'

The Tymes 'Ms Grace'

Pilot 'January'

Steve Harley & Cockney Rebel 'Make Me Smile (Come Up And See Me)'

Telly Savalas 'If'

Bay City Rollers 'Bye, Bye, Baby (Baby Goodbye)'

Mud 'Oh Boy'

Tammy Wynette 'Stand By Your Man'

Windsor Davies & Don Estelle 'Whispering Grass'

10cc 'I'm Not In Love'

Johnny Nash 'Tears On My Pillow (I Can't Take It)'

Bay City Rollers 'Give A Little Love'

Typically Tropical 'Barbados'

The Stylistics 'Can't Give You Anything (But My Love)'

Rod Stewart 'Sailing'

David Essex 'Hold Me Close'

Art Garfunkel 'I Only Have Eyes For You'

David Bowie 'Space Oddity'

Billy Connolly 'D.I.V.O.R.C.E.'

Queen 'Bohemian Rhapsody'



Queen
A Night At The Opera

peak of their US popularity, three February concerts at Madison Square Gardens sell-out in just four hours. Arguably the apex of the band's live career, the gigantic venue was also the location for 1973 concert sequences of the band's lavish film *The Song Remains The Same*, released at cinemas the following year.

Arguably one of rock's defining double albums, *Physical Graffiti* was released that February. In tune with the times, the album boasted a lavish sleeve, complete with 'night' and 'day' window cut-outs of the New York apartment block featured on the sleeve. The obligatory inserts provided the owner with track information. In the age of the download, such a lavish physical artefact is now almost unthinkable.

A diverse array of music propelled Led Zeppelin's sixth studio album, a broad overview of the group's work to date. Expanded to a double album, the extra grooves allowed the band to showcase the multiplicity of styles available to these super-competent and super-confident musicians.

The eastern-tinged hard rock of *Kashmir* rubbed shoulders against the propulsive funk rock of *Trampled Under Foot*. Beautiful acoustic guitar instrumental *Bron-Yr-Aur* occupies the same space as heavy blues-rocker *In My Time Of Dying*, reminiscent of one of The White Stripes' more intense workouts. For many, this was Led Zeppelin at their artistic peak.



Bohemian Rhapsody

The undeniably Led Zep-flavoured hard rock of the first two Queen albums held few clues to the group's total domination of the UK singles charts at the tail end of 1975. *Bohemian Rhapsody* rocketed to number one, where it remained for the last five weeks of 1975 and the first four of 1976, with no small thanks to one of the most innovative music videos ever devised. The airbrushed domination of MTV was a few years away, but *Bohemian Rhapsody* is the first fully formed example of the symbiotic relationship between video and hit music.

Like many a genre-defining statement, *Bohemian Rhapsody* has been parodied aplenty – can anyone now genuinely listen to the track without thinking of

“Bohemian Rhapsody is the first example of the symbiotic relationship between video and music.”

the car headbanging scene in *Wayne's World?* – but its musical components were a new combination of rock and roll's key components. The structure and movements of the song are a nod to the band's more progressive roots – at nearly six minutes, the single challengingly lengthy-for-commercial radio play. But, the combination of multi-tracked harmonies, Mercury's operatic vocal and strident piano and May's soaring rock guitar wowed radio DJs like Kenny Everett – another important part in the record's success, as he played the song to death on his high-profile Capital Radio show before the record was actually released – and seduced punters into buying the single in droves.



A Night at the Opera

The accompanying album, *A Night At The Opera*, released in November, contained more delights for Queen's new fanbase, demonstrating that more than one deft songwriter was in the ranks. As well as *Bohemian Rhapsody*, Freddy Mercury pens harsh-tongued album-opener *Death On Two Legs (Dedicated To...)*. Catchy, Wurlitzer-heavy number *You're My Best Friend* became bassist John Deacon's first single for the group (and Deacon would later be instrumental in the band achieving massive success in America with *Another One Bites The Dust*). Even drummer Roger Taylor makes a significant contribution to the Queen canon with *I'm In Love With My Car*, also the flipside of the massive *Bohemian Rhapsody* single. Brian May closes the album with a tongue-in-cheek homage to Jimi Hendrix's titanic reinterpretation of *The Star-Spangled Banner*, with his version of *God Save The Queen*, a showcase of the unique, layered sound of his trusty home-built electric guitar.

With four distinctive writers to draw on – and their distinctive vocal harmonies – Queen had finally arrived with *A Night At The Opera*. The new rock aristocrats seemed crowned. But, away from enormous venues like Earls Court and Hyde Park the following year, what was stirring in the miniscule environment of London's St Martin's School of Art? An unknown band by the eyebrow-raising moniker of Sex Pistols was sharpening its rock dinosaur-slaying arsenal. ●

▶ HIP PRIESTS

Hipnosis' most recognisable work is unquestionably the iconic sleeve of *The Dark Side Of The Moon*. But, the design team's work on Pink Floyd's follow up album, 1975's *Wish You Were Here* runs a close second.

Reflecting Roger Waters' lyrics of emptiness and alienation, images of absence abound in the design. The original vinyl album came shrink-wrapped in plain black (original, first pressing copies in excellent condition with this addition intact are now highly desirable). Removing this revealed a cover of two men shaking hands – while one burns, seemingly devoid of concern – and a rear sleeve of a suit in the desert – without its human occupant. The inner sleeve features a man diving into water that makes no ripple on contact (repeated on the additional postcard) and an empty veil blowing in the breeze.

With conceptual work like this, it's little surprise that a Hipnosis sleeve was highly prized by many bands during the decade and beyond as a potential leg up for success in increasingly bulging record racks.

Wish You Were Here
So so you think you can tell heaven from hell, blue skies from pain
Can you tell a green field from a cold steel rail? A smile from a veil
Do you think you can tell?
And did they get you to trade your heroes for ghosts? Hot ashes for trees?
Hot air for a cool breeze? Cold comfort for change?
And did you exchange a walk-on part in the war for a lead role in a cage?
How I wish, how I wish you were here
We're just two lost souls, swimming in a fish bowl, year after year
Running over the same old ground, what have we found? The same old fears
Wish you were here

Waters, Gilmour



99 of a kind

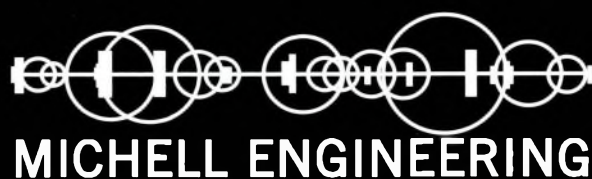


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ALPHA Line - 2

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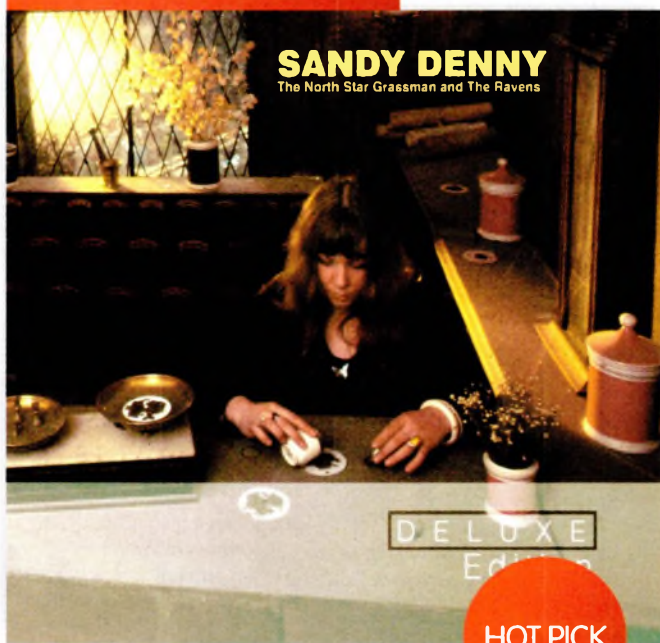


91 Kate and Anna McGarrigle
Tell My Sister

Music reviews

Hi-Fi Choice's pick of the latest high-quality music releases

ALBUM OF THE MONTH



Sandy Denny

The North Star Grassman And The Ravens

katebush.com

★★★★★

Universal

2-CD deluxe edition

WHEN SANDY DENNY bailed out of Fairport Convention in 1969, she had just recorded *Liege and Lief*, the high point of electric British folk-rock, with its cranked-up arrangements of centuries-old ballads such as *Matty Groves* and *Tam Lin*.

Having reached such heights, she felt there was nowhere left for her to go as a singer of traditional compositions and so, encouraged by producer Joe Boyd, she quit in order to sing more contemporary material and to develop her own songwriting.

After forming and disbanding the short-lived Fotheringay, she released her first solo album in autumn 1971, just as she had been voted 'best female singer' for the second year running by *Melody Maker*, in part due to her

brilliant duet with Robert Plant on *Led Zeppelin IV*.

The North Star Grassman And The Ravens should have been the start of a glittering solo career. Yet oddly, it failed to chart and when Denny died in 1978 at the tragically young age of 31, there was an undeniable feeling that her true potential had never quite been fulfilled. Today, of course, her stock has soared again and her solo debut is widely regarded as a classic, full of passionate singing and somewhat melancholic songwriting.

The reasons for the album's commercial failure at the time are complicated. Perhaps, it was a record that fell uncomfortably between two stools. Was she a string-

“On its release, the album’s cause was not helped by some dubious production.”

drenched mainstream diva or a rootsy folk singer? Her next album featured a glam cover by society photographer David Bailey. A couple of years later she was back slumming it in Fairport.

Yet it was a dichotomy which never really needed resolving. Listening again 40 years on, the brilliance of her solo debut lies in its very diversity, which shows Denny to be the most talented and multi-faceted female performer of her era.

On its original release, the album’s cause was not helped by some dubious production. Fortunately, any such issues have been fixed and the remastering has restored Denny’s voice to its rightful and prominent place.

Several tracks, including *Late November* and *John The Gun*,

have a classic English folk-rock ambience, enhanced by the accompaniment of former Fairport and Fotheringay colleagues. *Next Time Around* and *Wretched Wilbur* boast moody string arrangements by Harry Robinson, which add a jazzy sophistication to the folk purity of Denny’s voice.

The two covers, Dylan’s *Down In The Flood* and *Let’s Jump The Broomstick*, rock with a feral freedom. The one traditional song, *Blackwaterside*, matches her best work on *Liege And Lief* (voted ‘the most influential folk album of all time’ at the annual BBC Radio 2 Folk Awards a few years ago).

The bonus material further enhances our appreciation of Denny’s versatility, with some lovely, unadorned demos and a bunch of live performances and BBC sessions that show she was as potent on stage as she was in the studio. **NW**

Standout tracks: *Late November*; *Blackwaterside*; *John The Gun*; *The North Star Grassman And The Ravens*





Marvin Gaye
What's Going On
universalmusic.com

★★★★★ **Universal**
3-CD deluxe edition



ON ITS RELEASE IN 1971, *What's Going On* was revolutionary. It was the first album on Motown to deal explicitly with political and socially conscious subject matter. It was arguably the first soul LP to stand on its own as a coherent conception, rather than merely as a collection of hit singles. And thirdly, it was a masterpiece that saw Gaye cross over from pop-singing hit-machine to serious artist. Its impact today is still as impressive as it seemed 40 years ago.

Just as *What's Going On* found Gaye able to speak his mind for the first time, the album also freed Motown's in-house session crew (known as the Funk Brothers) from the dance beat straightjacket.

Sometimes dark, sometimes jubilant, the sound they produced was rooted in jazz as much as the demands of the dance floor. The demos and alternate takes here don't add much to our musical appreciation, but offer a fascinating insight into the creative process. **DO**
Standout tracks: Mercy Mercy Me (The Ecology); Inner City Blues (Make Me Wanna Holler); Save the Children; What's Going On



Christoph Eschenbach
The Early Recordings
brilliantclassics.com

★★★★★ **Brilliant Classics**
6-CDs

NOWADAYS, CHRISTOPH Eschenbach is best-known as a conductor. But, in the sixties and seventies he was a rising keyboard star, making many LPs for Deutsche Grammophon. This six-CD box brings together many hard-to-find performances.

Included are Beethoven's Concertos 3 and 5, and *Hammerklavier* Sonata, Chopin's Preludes, the last two Schubert sonatas and Schumann's *Kinderszenen* from his 1966 debut LP for DG.

In the solo works, there's plenty of interesting detail and DG's recordings sound well for their age. It's a pity his 1976 Schubert *Impromptus* were not included, but this is a very welcome survey at a nice low price. **JH**
Standout track: Chopin Preludes



Songs Of Old Catalonia
Montserrat Figueras
Orchestra
alia-vox.com

★★★★★ **Jordi Savall**
SACD (hybrid)

ALMOST 80 MINUTES of old Catalan songs probably doesn't seem that interesting, but don't be put off. The music on this disc creates a world in itself, exerting an almost hypnotic hold on the senses.

Listening to Montserrat Figueras sing these beautiful songs, time stands still, and through the magic of the music you're able to experience an age remote from ours.

The disc begins with the haunting *Song Of The Birds*, the tune of which was made world-famous by 'cellist Pablo Casals. Official Catalan anthem *Els Segadors* is another highlight, while the recording itself sounds both atmospheric and spacious, with a deceptively wide dynamic range. **JH**
Standout track: 11 Els Segadors



Freddie Hubbard
Open Sesame
audiowavemusic.com
★★★★★ **Blue Note/JVC**
CD

HUBBARD'S FIRST ALBUM finds him in the company of tenor sax player Tina Brooks. It wasn't obvious at the time which of these musicians would make history, because Hubbard's impressive playing had not yet fulfilled its potential.

This disc is a JVCXRCD24 by Audiowave, an audiophile company that uses 24-bit analogue-to-digital convertors to extract the maximum from the original tape and then goes to great lengths to ensure that quality is not compromised.

Combine this with a Rudy van Gelder original production and you have the best sound that a digital format can produce from this vintage session. It's in double-mono, but this does little to get in the way of superb tone from the key players. **JK**
Standout tracks: Open Sesame; Gypsy Blue

AUDIOPHILE VINYL

Ian Dury New Boots And Panties!! simplyvinyl.com



★★★★★ **Stiff/Simplyvinyl**
180g

IAN DURY'S FIRST ALBUM followed the success of *Sex 'n' Drugs 'n' Rock 'n' Roll*, but doesn't actually contain that stand-out (Stiff

Records even discontinued the single way before demand was supplied). Such was the proto punk way, but *New Boots* is a strong collection of Dury's inimitable songwriting and Chaz Jankel's funky grooves, with classic tracks including *Billericay Dickie* and *Wake Up And Make Love With Me* among eight others.

The playing is far too tight to be considered punk, but the attitude and style of the singing meant it fitted the zeitgeist and propelled Dury from obscurity to the charts. It's easy to dismiss these

HOT PICK

songs as base, but the best of them tell stories and would undoubtedly be held in higher esteem if the songs were more serious.

The sound is gritty and the bass often sounds superb, as does Edward Speight's 'Ballad guitar' which noodles away in charming fashion. It's hardly a polished production, but you can hear everything and only two tracks are obviously limited. If anything it's a little dry but that won't stop you turning it up. **JK**
Standout tracks: Wake Up And Make Love With Me; My Old Man



Kate and Anna McGarrigle Tell My Sister

nonesuch.com

★★★★★

Nonesuch

3-CDs

AS THE STORMCLOUDS of punk were gathering in 1976, a pair of Canadian sisters quietly slipped out an exquisite debut album of songs blessed with a parlour-like charm and backed by homely piano, squeezebox and clarinet.

It was followed a year later by the equally beguiling *Dancer With Bruised Knees* and yoking the two albums together on this reissue feels as natural and unforced as the music itself.

The thing about making timeless records that make no concession to the fads or fashions of the day is that decades on they still sound...well, timeless and this remastering enhances the unadorned honesty of the original recordings. **NW**
Standout tracks: Heart Like A Wheel; Kitty Come Home; Be My Baby



Donovan Sunshine Superman

emicatalogue.com

★★★

EMI

2-CD (special edition)

WHAT SHOULD HAVE been Donovan's finest hour was derailed by his record company's ineptness.

He started recording *Sunshine Superman* in late 1965, but by the time it was belatedly released, *Sgt Pepper's Lonely Hearts Club Band* had already appeared and Donovan once again looked like an imitator rather than an innovator.

A groundbreaking fusion of folk-rock, baroque arrangements, jazz tinges, Celtic mysticism and minstrel whimsy, the album is presented here in both mono and stereo mixes. Despite 21st century stereo remastering, Donovan reckons it sounds best in mono – and it's hard to disagree. **NW**

Standout tracks: Sunshine Superman; Season Of The Witch; The Trip; Fat Angel



R.E.M. Life's Rich Pageant

emicatalogue.com

★★★★

EMI

2-CD (expanded edition)

COMING AFTER the introspective *Fables Of The Reconstruction*, R.E.M.'s fourth album, released in 1986, found the band in search of a more expansive sound.

Producer Don Gehman had made his name helming heartland rock albums by the likes of John Mellencamp and his influence is evident in the punchier production and a jangle that's almost brash by the standards of R.E.M.'s first three albums.

Digitally remastered, the instrumental textures are uncluttered, confident and accessible as Stipe's voice rings clear and strong over the top. A second disc of demos shows just how they burnished the songs in their pursuit. **NW**
Standout tracks: I Believe; Fall On Me; Begin The Begin; Cuyahoga

HIGH-RESOLUTION DOWNLOADS

Tom Petty and The Heartbreakers

Damn The Torpedoes

hdtracks.com

★★★★★

Geffen Records

24-bit/96kHz



THIS DOUBLE DELUXE Edition features 18 songs rather than the nine of the widely acclaimed

original 1970's release and includes live and alternative takes of tracks such as *Refugee*.

The Heartbreakers were a band that truly understood playing as a band. Lead guitarist, Mike Campbell was a particular example of a player who contributed to the music and not waste notes on virtuoso aggrandisement.

This 24-bit recording ably demonstrates the straightforwardness and basic honesty of Petty's music along with the sheer quality of The Heartbreakers' slick, thoughtful playing. **MS**

Standout track: Here Comes My Girl

George Thorogood And The Destroyers

George Thorogood And The Destroyers

hdtracks.com

★★★★★

Rounder Records

24-bit/88kHz



THIS 1977 debut album helped catapult Delaware-born slide player George Thorogood and his Gibson

ES-125 out of obscurity and into the realms of guitar stardom. It is one of those albums that is genuinely worth having for just one of its songs, the slam-rhythm-driven, disarmingly spartan mash-up of *One Bourbon, One Scotch, One Beer*. This best shows off GT's unpolished approach to the guitar and gruff, muscular vocal style.

The dynamic qualities of the recording truly emphasise Thorogood's adroit and poignant phrasing and adds considerably to the high energy performance. **MS**

Standout tracks: One Bourbon, One Scotch, One Beer; Madison Blues

BLU-RAY DVD

Primal Scream Screamadelica Live eagle-rock.com



★★★★

Eagle Rock

Blu-ray LPCM stereo, Dolby Digital 5.1, DTS HD Master Audio

THIS LIVE CONCERT OF the *Screamadelica* album was made at London Olympia last November to mark just

such a date for the best Stones tribute act of the nineties. It's a full-scale production with a brass section, choir and elaborate light show and, at least half the band still look young. The album performance is extremely polished and possibly a little bit smooth-sounding, the mastering seems to have extracted some of the vitality in order to present a muscular and evenly balanced result.

Fortunately there is a second 'rock and roll set' which has the sort of raw energy that one expects of this band, the

guitars have some edge and the band seem a bit more relaxed. It's here that most of the best music is to be found, the guitar sound on *Jailbird* is superb and their tribute to the Velvet Underground *Shoot Speed/Kill Light* builds a glorious wall of noise. What's the point of three guitars if you don't do that?

The box includes a CD of *Screamadelica Live* and a *Classic Albums* documentary on the same topic. Seems like good value. **JK**
Standout tracks: Jailbird; Inner Flight

United nations

Danish, American and Italian hi-fi combine to deliver something greater than the sum of the parts says *Jimmy Hughes*

Imposing; authoritative; commanding; solid; engaging; just a few of the adjectives that passed through our minds as this month's *Beautiful System* settled down and began to weave its spell. It certainly delivers a big bold sound that has amazing weight and presence. Nor do you need 'golden ears' to appreciate what's on offer; it's something that hits home as soon as you listen in.

If anyone mistakenly thinks high-end audio can only be appreciated by cognoscenti, a few minutes with this system should demonstrate otherwise. There's a sense of scale and drama that isn't often encountered. The sound has gravitas that is palpable – and not just on large-scale music. Even quiet solo instruments (and voices) display a vivid presence that creates holographic three-dimensional soundstaging.

We'd say the amplifier is largely responsible for this – though, of course, each component plays its part. Audio Research electronics are renowned for delivering a full-blooded sort of sound and the SP17/VS115 does not disappoint. But what about the Copland CD player; how does it differ from an Audio Research front end? We had to find out...

The all-important source

So, before getting the full system up and running, we separately auditioned Copland's CDA825 in our own set-up. And what we heard immediately convinced us that this player is of the first rank. It delivers a crisp, lucid sound that is very transparent. The top end has a beautifully open quality that lacks the slightly closed-in hardness one

often seems to get with CD, while the bass offers outstanding depth and power.

The CDA825 seems slightly more airy and open-sounding than (say) ARC's DAC 8; though not necessarily better or worse, just different. The ARC delivers a darker, slightly richer tonality, with strong midband and a full bass. Not that the Copland lacks bass heft; on the contrary, it proved exceptionally good at lower frequencies, delivering some of the deepest, fullest bass we've ever heard from CD.

Playing a disc of Britten's *Courtly Dances* from *Gloriana*, we were impressed by the effortlessly breathy weight of low-frequency instruments like bass drum and massed double basses – the sound seems to waft out

“An exceptional system – one that offers a winning combination of musical involvement.”

of the speakers in a manner one doesn't often encounter with CD. At the same time, the music sounded very natural and tonally realistic – smooth, open and well-balanced.

Copland claims its upsampling network was developed using psycho-acoustic modelling, with extra care taken to eliminate noise. A Philips CD Pro 2 transport is featured, with twin sets of Woolfson D/A converters used in dual-differential mono mode, plus 24-bit/192kHz processing from a low-jitter master clock. The DAC reads data from a large RAM data-memory buffer to reduce low-frequency jitter.

COMPONENTS



1 COPLAND CDA825 CD PLAYER £4,289

Airy and spacious, yet focused and crisply detailed, Copland's CDA825 is an impressive-sounding player that lets you experience Red Book CD at its best. Features include balanced and unbalanced outputs and a bomb-proof Philips Pro mechanism.



2 AUDIO RESEARCH SP17 SOLID-STATE/TUBE PREAMP £3,319

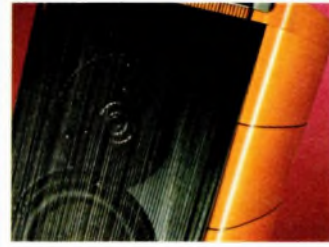
The SP17 builds on the solid foundation established by the popular SP16 and delivers the kind of results expected from Audio Research. For vinyl-lovers, there's a built-in phono stage, but a line-only version is also available.



3 AUDIO RESEARCH VS115 TUBE STEREO POWER AMP £6,299

This big-sounding tube power amp is what Audio Research is all about. It offers a huge soundstage, plus a rich tonality you can almost touch. Smooth and clean, the presentation is bold and seems almost infinitely powerful.

COMPONENTS CONT.



4 SONUS FABER
CREMONA M
LOUDSPEAKER £7,090

Sonus faber loudspeakers almost sell on looks alone. The cabinets are beautifully styled and superbly finished. But more than just a pretty face, the Cremona M delivers a winning combination of smooth unforced naturalness and wide bandwidth, with impressive dynamics.

2

1

3

4



LEFT: The Cremona M's integral grille plays a big part in the unique visuals
RIGHT: Toploader: adding that extra layer of interactivity
BELOW: The SP17 has a good-quality phono stage for users with large vinyl collections

bigger, more 'dimensional' sound – though when you listen to the results produced by the SP17, you might well think such a thing is impossible!

Welcome to the big school

The SP17 is an updated version of ARC's popular SP16. It's available in a line-only version (LS17L), or with built-in low-noise phono stage. Although the externals of the SP17 are close to those of the SP16, internally there are many changes. The new preamp offers a much improved specification and the manufacturers claim it sounds significantly better than the older one.

Bandwidth is wider on the new preamp (stretching from 0.3Hz to 120kHz -3dB) and the line-level overload point has increased from 3.5V to 9V. Overall, the new preamp is also quieter; the phono stage by an impressive 9dB and the line stage by 2dB. The SP17 shares the LS17's 103-step electronic volume control (the SP16 had just 70 steps), giving finer control over volume, especially at low levels.

The SP17 is a tube/transistor hybrid. A JFET input stage is employed, along with two 6530 tubes. During use, a modest amount of heat is produced, albeit nothing much. Certainly it's unlike the impressive VS115 power amp, which

Because of this, there's a four- or five-second delay between seeing the time counter start and actually hearing the music play. Press Stop and the sound carries on for a few seconds, even after the disc has stopped spinning! This is very similar to some of Chord Electronic's digital products (DAC 64, QBD 76) which also make use of a buffer. It's slightly disconcerting at first, but you soon get used to it.

The player itself is an aesthetically attractive top-loader, with a svelte swing disc-drawer cover. The design itself is simple and understated. It looks both stylish and unusual – the epitome of cool Scandinavian chic – with clean lines and no clutter. The use of red LEDs (and a red illuminated display) is quite eye-catching, as is the red inside of the disc drawer.

The CDA825 offers the option of balanced and unbalanced (single-ended) operation, as does the V115. However, the SP17 is single-ended only – so, if you want to exploit the advantages of balanced cabling, consider replacing the SP17 with an LS17. This should result in an even





features a total of 12 tubes – four 6H30 triodes and eight 6550C pentodes – and, therefore, puts out quite a bit of heat. Power output is a healthy 120 watts per channel.

The magic of tubes

Historically, tube gear has something of a reputation for sounding smooth, rich and warm. And true to form, the SP17/VS115 combination is beautifully clean and free from edginess. But it's not the least bit warm or rosy-sounding – quite the opposite, actually. The musical presentation is lean, taut, and businesslike, offering a solid, powerful driving quality that sounds assertive and dynamic.

Rhythmically, the amplifier delivers a taut forward-moving quality; it's smooth and clean, but not lazy or relaxed. The music has an almost hair-trigger immediacy that makes the performance sound alert and committed. Bass is especially good – full, deep, solid and surprisingly powerful. At the same time, bass and treble extremes are well balanced and the entire musical presentation is very integrated.

Subjectively, the VS115 sounds far more powerful than its paper specifications would indicate. It offers awesome dynamics, with a presentation that is big-boned and imposing, yet refined and smooth. The output transformer has taps for both four and eight-ohm loudspeakers and the 'correct' choice is whichever sounds loudest with your particular set of speakers.

None of this impressive fire-power would be of much consequence if the speakers did not translate this energy

into sound. Fortunately, Sonus faber's Cremona M delivers a winning combination of smooth refinement and crisp dynamics. It's a very well-balanced loudspeaker that's beautifully integrated and natural-sounding, while offering plenty of impact and immediacy.

The M stands for 'Modified', and points to the fact that this speaker borrows from Sonus faber's more expensive Elipsa model. The cabinets are beautifully finished; they're made from solid maple wood, which feels dense and inert. Black leather-covered baffles add a discreet touch of luxury. A Graphite grey finish is also available – giving the speaker a slightly more modern 'techy' look.

A three-way design featuring four drive units, the Cremona M is a four-ohm-ported design offering around 91dB/W sensitivity. It weighs in at a substantial 73kg. Low frequencies are handled by two 110mm aluminium/magnesium-coned drivers, while the midrange is covered by a special 120mm black wood-fibre drive unit with a symmetric drive motor and a vented acoustic chamber.

The high frequencies are delivered by a superb 25mm ultra-dynamic ring-radiator tweeter that sounds crisp and ultra-clean. The crossover is a non-resonant second-order design, with optimised phase characteristics for correct space/time performance. Frequency response is quoted from 40Hz to 20kHz, but there's decent output down to 20Hz.

The Cremona M images precisely and sounds very integrated – despite the relatively large number of drive units. Even when you sit close to the



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TELEPHONE:
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 copland.dk
 audioresearch.com
 sonusfaber.com

speakers, the overall presentation is very homogenous – you're hardly aware of the individual drive units themselves – the total sound being extremely coherent. A single set of terminals are provided – so bi/tri/quad wiring is not possible.

Impressive results

This is a highly capable system that does justice to a wide range of music – from delicate solo vocals, to heavy rock. Tonally, the presentation is very transparent and neutral, but the amplifier ensures plenty of bite and drive should the need arise. There's a welcome absence of cabinet coloration and the wide dispersion of the amazing Ring Radiator tweeter ensures impressive lack of directionality.

Although imaging is precise, the presentation has an almost holographic see-through quality that places voices and instruments in a space between, behind and beyond the enclosures. As a result, the speakers seem to 'disappear' as sources of sound, while the VS115 is well up to the task of driving them.

If you like the basic sound of this combination, then we'd definitely suggest auditioning the LS17 with balanced cabling in place of the single-ended SP17. Not that the SP17 is lacking – far from it. It's a truly superb preamp that delivers ARC quality in spades – and we loved it.

By any standards, this is an exceptional system – one that offers a winning combination of smoothness, dynamics, detail, control and musical involvement. Agreed, it's not inexpensive. But you get what you pay for – superb, lifelike sound reproduction that never fails to hit the spot. ●

Help & advice

We've got the answers to everything you've ever wanted to know about hi-fi and weren't afraid to ask. Email us now at hifichoice@futurenet.com or write to: **Hi-Fi Choice Q&A, Future Publishing Ltd, 2 Balcombe Street, London NW1 6NW**

YOUR EXPERTS



PAUL MESSENGER

EXPERTISE: LOUDSPEAKERS

HAVING WORKED on both sides of the audio industry for over 30 years, as loudspeaker designer and reviewer, Paul is ideally placed to offer thorough, in-depth analysis of every speaker reviewed, as well as cutting-edge developments in the field.



JIMMY HUGHES

EXPERTISE: SYSTEM OPTIMISATION

AS EVERY audiophile knows, there's so much more to getting a system to sing than merely throwing components together. Jimmy Hughes has spent 40 years tweaking and optimising systems, as well as voraciously collecting records.



RICHARD BLACK

EXPERTISE: TECHNOLOGY

WRITING EXCLUSIVELY for HFC, Richard brings his experience as a successful musician and recording engineer to bear in our rigorous *Blind-Listening Group Test*. As our technical consultant, Richard is the authority on HFC's test and measurement.



ED SELLEY

EXPERTISE: DIGITAL AUDIO

RESIDENT IN the audio industry for over a decade, Ed has considerable experience of both CD and SACD formats on disc, as well as an increasing personal interest in streamed high-resolution audio and network based systems.



MALCOLM STEWARD

EXPERTISE: COMPUTER AUDIO

WITH DECADES OF experience in audiophile journalism, Malcolm now combines his legendary status as an ex-editor and writer on all things hi-fi, with his unquestionable expertise on streaming, networking and computer audio.



JASON KENNEDY

EXPERTISE: TURNTABLES

ANOTHER EDITOR, Jason opted to become a freelance contributor when he relinquished the helm of HFC after 17 years on the magazine. A hi-fi addict since his twenties, Jason fell for the beauty of vinyl and has never looked back.

ASK US A QUESTION TODAY!

Our experts are on hand to answer your questions. Whether you're looking for future-proof upgrades, advice or help with your current set-up, our two-channel Einsteins have all the necessary expertise and several hundred years of combined audio knowledge to slake your thirst and support your passion for perfect sound. Email your questions now: hifichoice@futurenet.com

QUESTION OF THE MONTH

Q I am taking a small system to university built around my laptop. From the recent strong reviews of the Musical Fidelity M1 DAC and Rega DAC, which one is the more suitable?

Julian Draper, via email

A You don't specify the rest of the system, but both of these DACs offer very strong performance and, in truth, we don't think you'll find either product to be a disappointment. Given that USB is likely to be your main input, the asynchronous solution on the Musical Fidelity is possibly going to be the more suitable choice, especially if you are looking at high-resolution files.



Deluxe disc-spinner

Q I am about to replace my temperamental NAD C542 CD player with an upmarket model. I have shortlisted either the Naim CD5iMk2 or the Rega Saturn. As public opinion is divided, I am wondering which of these two products you think has the edge.

I listen to mostly bass, guitar, drums and vocals with a bit of electronic stuff. My current system is a NAD C352 amp and Whafedale Diamond 9.1 – both of which will be upgraded in due time.

Logen Bharatham, via email

A There are very few CD players in this category that are anything other than good

performers. The Rega and the Naim are both strong performers, but different in character and which one you choose is likely to impact on your choice of amplifier. The Rega is tonally even-handed and the more relaxed of the pair. The Naim is still tonally excellent, but is a faster and more explicit player.

While many people will choose a single piece of Naim equipment and run it on its own for years, there is the likelihood that choosing this particular brand will lead to more Naim electronics, due to the very strong synergy between components. As such, we suspect the Rega will function better with your existing equipment and work well with a wider range of amplifiers when you choose to upgrade. If you like the Naim sound, however, you may as well start the journey with a CD5i!

We would also suggest trying some different CD players as well, especially if you are interested in a degree of future-proofing via digital inputs. Both the Audiolab 8200CD (HFC 338) and Musical Fidelity M1 CDT and DAC (HFC 346) are in the same price bracket as the two players you mention, offer excellent CD performance, as



The Musical Fidelity M1 DAC and transport – two boxes make one great player



XTZ's 99.26 loves being matched with pricier electronics

well as digital inputs and USB functionality; to better take advantage of streaming audio and other developments.

Small wonder

Q My system consists of a Cyrus CD8SE plus PSX-R, together with a Cyrus 8vs2 connected via a Cyrus interconnect. Space constraints prevent the purchase of a further PSX-R. Speakers are Quad 12Ls (circa 2004) and connected via Chord Carnival bi-wire. I am very happy with the sound (mainly blues, folk, bluegrass etc.) but am conscious of the cost differential between the electronics and the speakers. I am willing to spend £1,000 to £1,200, on new speakers if they will give any real audible improvement.

Both the ATC SCM11 and Spondor SA1 are liked for their small size. But will this affect the bass? I don't really want to go to the trouble of auditioning these speakers if there's no improvement. By the way, do dealers normally let you audition at home?

David Heddon, via email

A We think that it should be possible to make improvements on the Quad speakers for the budget you specify and without choosing any larger alternatives. The speakers you cite are excellent – the Spondor remains one of our favourites – but there will be limits to their bass extension, which we suspect will be less than that of the Quads.

We would suggest two relative newcomers to audition, with a view to improvements in clarity and extension. The first is the XTZ 99.26 (HFC 348). These are only

£680 and represent something of a bargain for someone like yourself with the electronics you already own.

The driver complement makes for an extremely insightful speaker and the bass response is excellent and easily tuned by a combination of large foam bung and a very clever adjustable crossover. It's no taller or wider than the Quad, although slightly deeper.

The other candidate is the £1,200 Canton Vento 820 (HFC 342). This is a confident and assured speaker with a clean and agile sound, outstanding imaging and bulletproof build. The dimensions are close to that of the Quad, so again there should not be a huge difficulty in room accommodation using the same stands as before.

Home demonstration is a service that some dealers offer and some do not. The best bet with any dealer is simply to ask nicely! It is worth pointing out that Audio Sanctum, which sells the XTZ, has a clearly stated home-demonstration policy on its website, which may be helpful if you decide to go down this route.

Slimming champion

Q I have a Harman/Kardon HD-990 CD player, partnered with an HK-980 amp, but feel that there must be more potential to this coupling.

However, I don't really want the bulk (I need a slim amplifier to fit in our rack) or the complexity of the HK-990.

I have read a little about the Arcam A18 and wondered what your opinion is as to system partnering? I also have a pair of T+A Tails-20 and would not consider changing them, as their acoustic ability and small footprint suits me well.

Any ideas you may have would be greatly appreciated. I have a budget of £600-£800 for the amp. **Robert Johnson, via email**

A The Arcam is a well-regarded product, but not one we have reviewed so we cannot pass final comment on it. We are also not hugely familiar with the speakers, but the specifications suggest that they don't have any alarming characteristics. One amp that we can pass opinion on (see p60), is the new Audiolab 8200A, which is within budget, as well as being slim and powerful enough to drive the speakers correctly.

If the Audiolab is a little laid back, then the Exposure 2010S2 we tested with partnering CD player in HFC 344 would also be worth a look. This has a more upfront and pacy sound and one that went down a storm with our listening panel. Like the Audiolab, the Exposure is slim and should have no difficulty driving your speakers.

Racking-up

Q I would like your advice on replacing my 15-year-old Sound Factory Tripod racks. At present, I have on the first rack a Naim CDS3, 252, Supercap and Superline. On the second rack I have two 135 power amps, 555 power supply for the CDS3 and, on the top shelf, a Stax headphone energiser.

I was thinking of either the Quadraspire Sunoko Vent, a Naim Fraim or, perhaps, Isoblue. I have a budget of around £3,000. I was very impressed with your review

of the Quadraspire, which is the most cost-effective. The Naim is the obvious choice – but at a price – and is it that much better than the other racks I am considering?

Paul Davies, via email

A The Sunoko Vent-T is a fantastic piece of equipment and a worthy award-winner. With eight units to accommodate, the SV2T 'double width' version might be more suitable than a single very tall rack in your case.

The only consideration against the automatic selection of the Quadraspire, is that with a system comprised of mostly Naim units, the Fraim equipment supports are designed specifically to support Naim products. However, we don't feel that either product would disappoint and it would certainly be worth seeing if the Quadraspire is able to bring the performance gains you are looking for.

The next step

Q I am about to move house and have, therefore, started thinking about my current system and what (if any) improvements I may be able to make.

I currently have a Primare CD31 and I30 pairing, with balanced Atlas Navigator interconnects, playing through Bowers and Wilkins' CM7 speakers, using Atlas Hyper 2 cable.

What advice would you give regarding any areas of relative weakness, or areas that should be looked at first? I am toying with replacing the speakers and have no preference for floorstanders or standmounts, but they would have to pass the family 'visual acceptance' test and probably be under £1,500.

However, if there is something better to spend the money on then I'm all ears!

Richard Stoodley, via email



Audiolab 8200A: very talented and very slim, see p60

There are essentially two different paths that you can take here. A speaker upgrade could offer both a performance improvement in the short term and allow for an electronics one in the fullness of time. The DALI IKON 7 Mk 2, that we reviewed in HFC 348, is slightly over budget at £1,699, but would represent a genuine step forward over the CM7, while still being easy enough for the Primare to be able to drive. There aren't many other speakers in the budget that are a really worthwhile step forward over the CM7.

The other option is to look at increasing the flexibility of the system and the formats and material it can handle. Something like the Rotel RDG-1520 (HFC 347) or the Marantz NA7004 (HFC 344) would give you the ability to stream files over a network and access the huge amount of material available on internet radio, as well as more conventional DAB and FM services.

Both of these units sport a pair of digital inputs, making the connection of an iPod transport possible as well – or directly via AirPlay in the Marantz. Something like this might not increase the absolute performance of the system, but means that it is used more often as it can access a wider range of material and services.

More than skin deep

I am currently using a system comprising a Naim CDX2, SUPERNAIT and Stageline phono, with a Linn Axis turntable. Speakers are ProAc Response D Two standmounts.

The Linn is the longest-serving part of the system, but has developed some problems with the power supply which are not cost effective to repair. I did briefly think about ditching vinyl, but I

enjoy it sufficiently to want another turntable. The Linn was good in many ways, but it was also pretty ugly.

My other electronics now live in a cabinet and only the turntable and speakers are still visible. I think my speakers look very nice indeed, so I am also looking for a turntable that is a performance step forward from the Linn and yet looks smart enough to be considered 'furniture'.

I have a budget of £1,500 for a 'complete' solution of deck, arm and cartridge. Incidentally, my Stageline supports moving-magnet cartridges and I do not wish to change this.

Craig Weir, via email

Beauty is in the eye of the beholder, but there are a number of decks that would be suitable for the task and (to us, at least) look rather smart.

First on the list has to be our Product of the Year 2010, the Pro-Ject 6 Perspex (HFC 338). This is a superb performer and looks pretty smart, too. The £1,300 price for turntable and arm would leave a sensible budget to buy a cartridge for it – the Ortofon 2M series are an excellent starting point. Also reviewed at the same time was the Roksan Radius 5.2. This is fractionally more expensive than the Pro-Ject, but is arguably one of the most attractive (and best built) turntables at this price point, while the Nima tonearm is very highly regarded.

The performance of the Radius has is more in keeping with Naim electronics and might be more to your liking. The £1,400 retail price of this combination would leave you tight, with regards to choosing a cartridge, but the Shure M97XE would be in budget and would provide perfectly reasonable performance.

Max Headroom

I have successfully completed a move to my new house, where my nearest neighbours are over a hundred metres away. I have paid my last instalment of university funding and it is time to attend to my audio. I have been into hi-fi for the last thirty-five years (I'm 51) and this will be the first time that I can genuinely take the opportunity to play music as loud as I want – and that is very loud indeed.

I am happy enough with my Roksan Caspian CD and Xerxes turntable, but I wish to attach them to new amplification and speakers that are able to give me the headroom and volume levels that I am looking for. I am aware that there is more than one way of going about this, so I am happy to consider high-sensitivity speakers and 'normal' amplification or powerful amplification and more conventional loudspeakers.

I have a budget of between £8,000-£10,000 and musically I am a rocker in the classic sense of the word (I generally listen to the heavier side of things). I want the system to be able to do finesse and detail, but not at the expense of being able to turn the wick up and going for it when I can.

John Cruess, via email

We think that although low-power and high-sensitivity systems can produce very high-listening levels, given your musical preferences, a combination of powerful amplifier and burlier speakers might be more suitable.

That said, our first suggestion is a halfway house between the two. A combination of the remarkable Onkyo P3000R and M5000R pre and power (HFC 345), for example, with the £5,000 Tannoy Definition DC10 (HFC 323) would have much to commend it.

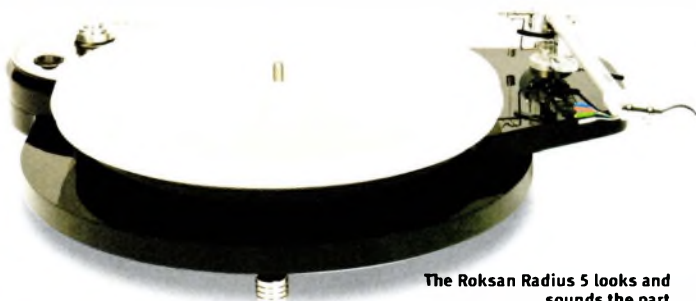
The Onkyo is only 80 watts, but showed it was capable of generating a huge and powerful sound. The Tannoys are also relatively sensitive

and the combination should be able to go extremely loud. Another 2010 Product of the Year: PMC's £4,600 fact.8, would also be a fine contender for a partnering speaker, as it is also fairly sensitive and makes full use of PMC's understanding of transmission lines.

If 80 watts isn't going to get the job done, the mighty Musical Fidelity M6 pre and power combination serves up well over 200 watts, has a lovely phono stage and should have no difficulty driving pretty much any speaker you can think of to the levels you need.

The PMC's would still work well with this combination, but if you could find a pair of the remarkable Jamo R907s (HFC 317) in budget, the results would be one of the most astonishingly dynamic (and loud) partnerships we could imagine.

DALI's IKON 7 Mk 2 is a grown-up speaker and a step-up over £1,000 designs



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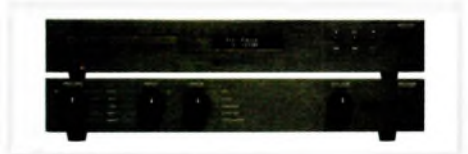
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MARANTZ NA7004 NETWORK AUDIO PLAYER
Connect to your favourite music whether it's from your PC, external hard disc, radio broadcast or via Internet Radio or music service.



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Access your digitized music from one centralized library. Everything from 16-bit converted CDs to 24-bit HD files will be at your fingertips along with the ability to play it all in any room of your home.



SOLO NEO NETWORK MUSIC SYSTEM
Combines superb music performance and network audio capabilities allowing it to play stored music in a multitude of formats, along with its internal CD player and radio tuner.

CYRUS MUSIC STREAMERS
The new streaming platform from Cyrus provides the perfect solution for all music lovers. These new streaming music players provide you with immediate access to your entire network music library. Plus you can listen to literally thousands of different internet radio stations from across the world, all in true hi-fi quality. With the n-remote you can quickly find specific albums, artists or tracks and it makes browsing your network music library a real pleasure. With its sleek body, full colour screen and two-way control, the n-remote is just one of the features that make the new Cyrus streaming music players very special.



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Minitest

Good hi-fi performance needs good cabling.
Richard Black hooks up four speaker wires

Black Rhodium T90 Diva

PRICE: £7.66 (PER METRE) CONTACT: 01332 342233
WEBSITE: BLACKRHODIUM.CO.UK

IN INTRODUCING THIS NEW cable to us, Black Rhodium proprietor Graham Nalty wrote: "This is the same cable as we use for the Illusion interconnect". OK ... but hang on a minute, how many interconnects are in any way suitable for speaker cable duty? Illusion is relatively unusual in being an unscreened interconnect, just two tightly twisted conductors and this, in turn, makes a relatively unusual (because of its thinness) speaker cable. Perfectly workable, though, the only potential drawback being the high-resistance inevitable in thin wire. Each PTFE-insulated solid strand is 1.3mm overall in diameter, making for an exceptionally discreet cable which is easily bent into shape, too.

It's notoriously hard to generalise about the effects of specific electrical qualities in cables on sound, but thin cables are often thought to be a little bass-shy. We wouldn't say that's the case here, but despite good extension we were slightly troubled by the quality of the bass. It is only moderately well controlled and we felt it lacks some precision and kick at times. It also tends to become reclusive when the midrange and treble are busy. High treble is clean, if not remarkably extended and we really enjoyed the lightness of string quartets, guitar ballads and suchlike. Detail is fair for a cable at this price and imaging is sharp and precise laterally, though it lacks some depth.

VERDICT NOT A TRUE ALL-ROUNDER, this cable is let down by its low-frequency performance. Higher up the band it can help a system sound lively and energetic



Kimber 4PR

PRICE: £65 (2.5M PAIR) CONTACT: 0845 345 1550
WEBSITE: KIMBER.COM

OUTWARDLY, THERE'S NOT a huge amount of difference between many of Kimber's cables. They tend to use multiple, individually insulated conductors twisted together in a special weave, with low-loss insulation. In this case, there are four conductors per side and insulation is simply polythene – a recipe apparently unchanged since the earliest days of *Hi-Fi Choice* back in the 1970s! This is the cheapest of Kimber's speaker cables and dearer models have fancier materials, including 'vari-strand' conductors and Teflon insulation. The basic electrical characteristics are very similar, though and one might expect performance not to vary vastly. Termination is a tiresome job and distributor Russ Andrews tends to sell pre-terminated cable sets, fitted with simple, but high-quality 4mm plugs.

4PR impressed us in a very positive way with its combination of detail, bass extension and sweetness. It has a very convincing way with deep bass, keeping it under tight rein while allowing it to blossom when needed and maintaining precise pitch and duration in a way few budget cables can match. Treble is extended, but never shrill, while the midrange is mainly characterised by the ease with which one can hear into and through it. Imaging has very good depth to it as well as width. If we have a reservation it's over rhythm, which is not always as convincing as one might wish for, but for sheer musical enjoyment we reckon this cable is hard to beat.

VERDICT MANY HIGH-END virtues at a budget price, including lovely detail and very well-judged bass, plus sweetly extended treble



Monkey Cable Silverback

PRICE: £6 (PER METRE) CONTACT: 07827 328288
WEBSITE: MONKEYCABLE.COM

A NEW CABLE BRAND with a strong emphasis in the manufacturer's literature on AV cables (especially HDMI), but the range also includes several dedicated audio cables. There are two speaker cables, of which this is the cheaper one, priced per metre but available terminated in Monkey's own 4mm plugs at £6 per pair including fitting. It's a simple, classic figure-eight design with two identical conductors, each 4mm in diameter overall, zipped together in a clear plastic insulation. The conductors are made of silver-plated copper, quite deluxe at this price, which is braided together in three separate layers over a non-conducting core, something we've seen once or twice before, most memorably in the QED 'X-Tube' series.

We found this cable quite exciting in terms of both rhythm and bass, the latter having plenty of extension and very good attack indeed. The rhythmic aspect is helped by a lively sound, but this seems to come at some expense of subtlety and precision and at times this cable can make a system sound almost coarse. It's a classic budget-cable compromise, in fact, with sound that's out-of-class with respect to pace and timing, but lacking insight. The latter is most obviously a drawback if your tastes run to multi-layered music: we found some music for choir and orchestra rather hard to follow because of minor but perceptible smudging and smearing between strands, but with energetic rock tracks we just loved the

VERDICT **RATHER THAN A BROAD SPREAD** of decent performance, Silverback has excellent pace and rhythm, but less-assured detail and insight

★★★★



Wireworld Stream

PRICE: £6 (PER METRE) CONTACT: 020 8991 9200
WEBSITE: WIREWORLDCABLE.CO.UK

AT FIRST SIGHT just another 8mm circular cable, Stream has some very clever design under its jacket. The main clue are the tails leading out to 4mm plugs – they're flat. And, in fact, these flat conductors (several strands laid side-by-side and insulated overall in polythene) run right through the length, gently twisted together. To some extent this construction brings the best of several worlds, with flat conductors sitting face-to-face keeping inductance low, while twisting them together helps keep interference at bay. Inductance isn't quite the lowest on the market, but it's a step in the right direction and this cable is a lot easier to strip and terminate than some!

We found the most impressive areas of this cable's sound to be the extremes. It seemed to add a small, but consistent extension to both bass and treble: or rather, we realised after prolonged listening, it is very clean and clear at both extremes. In fact, the bass is neither remarkably weighty nor quite as tuneful as some, but its good control makes for satisfying long-term listening and the odd surprise when a sudden dramatic moment comes along in the music and proves that there's no lack of body. This kind of understated subtlety is rare in cheaper cables. Something similar happens in the treble, which is never overtly bright or shrill. Occasionally, we would have liked a little more insight in the midrange, but in general detail is good and imaging clear and stable. ●

VERDICT **WELL-CONTROLLED FREQUENCY** extremes can seem underplayed at first but pack a punch when needed. Detail good, if not outstanding

★★★★



If cables make a small, but perceptible difference to a decent system, how about the plugs or other terminations one uses? If connections get loose or corroded, sound can go quite rapidly downhill.

Practically all amps and speakers come with 4mm 'banana' sockets which will also accept bare wires. Our preference is for good-quality 4mm plugs, properly fitted on the cables with solder, welding

or crimping. Screw-down terminals on bare wire, or spade lugs are fine as long as one remembers to tighten them occasionally. A touch of contact enhancer now and then doesn't hurt either.

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REGA Kyte speakers (black). In good working order, but with some damage around rear terminals. £65. Wharfedale SW150 subwoofer (black), hardly used, £110. Offers welcome. joshjefferyjeff@hotmail.com (London).

SPECTRAL MITinterconnects MI330 1.5m x2 £210. Handmade equipment support in oak, six-tier, offers. Audio Source, six-way conditioning block (£350) £210. All mint, all ono. **0115 9126424** (Notts).

MARANTZ CD-63MkII CD player, Thorens TD280 MkIV turntable, Kenwood stereo cassette deck KX-5060S, Kenwood AV stereo receiver KR-V5570, pair of Castle Severn speakers. Sensible offers, will split if necessary. **01422 354995** or email b.d.heyhoe@talktalk.net (West Yorkshire).

MARANTZ CD10 CD player, boxed with remote. Datasheet available as PDF. £300 **07771 776877** (Herts).

KORD Tornado speakers, as seen and heard at the Scafold Hall show 2011, classic eight-inch mid-bass monitors. Bargain at £300, including Atacama SL stands. **07814 556915** (Oxfordshire).

CYRUS CDXT SE+ transport. (black). Purchased new Dec 2010 (£1,550) £1,050. 2 x Cyrus Smartpower Plus power amps (black). (£700) £275. **07970 096244** (Bucks).

CRYSTAL CABLE Piccolo RCA interconnects 0.5m pair. Multi-award winning cables in immaculate condition. Very light use, complete with presentation box. £115 ono. **07725 072878** (Leics).

MONITOR AUDIO silver MX1 speakers in natural oak. Boxed with only 12 hours use. Bargain at £299. **01702 556116** (Essex).

REGA Exon-3 monoblock amps (pair) in black, hardly used, £625. Bang & Olufsen Beolab 6000 active speakers £525. **01782 596470** (Staffordshire).

RUSS ANDREWS silver mains powerkords; 1x signature, three feet £1,000 and reference, four feet £700. Cash only, buyer collects. **074111 388152** (Herts).

AVI Nu Neutrons for sale. Punchy little speaker in good condition and cherry finish. £150. **01484 427426** (West Yorks).

PRIMARE I30 amp, new condition, boxed £900ono. **01225 706783** (Wilts).

Q ACOUSTICS 1020i speakers with stands, £60. Buyer collects. **01482 563883** (Hull).

AUDIO TECHNICA AT-F5/OCC moving coil cartridge. Hardly used, £65. Grado SR80i headphones £50 Sale due to upgrade **024 76 711668** (Coventry).

UNISON RESEARCH Seconda amplifier. Very good condition. Boxed. Instructions. £450. **01255 675115** (Essex).

NAIM SBL speakers, upgraded bass drivers, 14 years old and excellent



A useful £500 saving on a Cyrus CDXT to be had this month

condition, £550. Naim SNAXO active crossover for SBLs £250. Mana SBL bases £100. Phonefor package price. **01376 331712** (Essex).

QUAD system 99 pre, CD, 909 amp various ages, plus 2905 speakers. All very good condition. Must collect. No boxes. Will demo. £3,750 ono. **01773856828** (Derbyshire).

LINN LP12/Beautiful Fluted Afrosia fully upgraded with Akito/Grado Platinum cartridge Cirkus Bearing/Trampoline2 £1,500. Project Phono Box SE11 £120. NakamichiCR4, near mint/full service history from 1986. £300. **07875 719136** (South Wales).

ATACAMA Uropa 8SE, four-shelf hifi/AV rack (£520) £225. o.n.o. **01634 842874** or email: p.evans11@live.co.uk (Kent).

MARTIN LOGAN Clarity electrostatic speakers in excellent condition. Finished in black and silver, wonderful open sound, £1,250. **02380 224003** (Southampton).

BOWERS & WILKINS CM8 speakers (black) £895. B&W PV1-subwoofer black £575. Mint. New buyer collects **020 8951 3178** (Middlesex).

PRO-JECT record deck and Pro-Ject phono amp/Musical FidelityXA-1 preamp/Arcam Alpha 9 CD player/Arcam P60 power amp/Rogers Studio 5 speakers. Includes all power cords (Russ Andrews) and cables/speaker stands and

equipment stand. (£3,700) £1,300 ono. Must be heard. **+00353 87 637 6623** (Ireland).

OPTIMIUM equipment rack, eight glass shelves, brushed steel spacers, 52cm x 61cm, £100 TQ4 5AT **07905 472293** or email: rodneymoorhouse@btconnect.com (Devon).

MUSICAL FIDELITY A1 CD Pro in immaculate condition. Comes with original box, manual, receipt and remote. **07814 468747** (North London).

FOCAL Mezzo Utopia loudspeakers. Cherry and black piano finish. As new, boxed, manuals. Light use, (£8,700), accept £3,500. Currently in Naim system, can demonstrate **07747 620856** (London).

HARBETH p3esr speakers, special edition, mint condition, rosewood finish. £850. **02920 419226** or email: frankbush@ntlworld.com (South Wales).

ARCAM FMJ CD33T (Silver) CD player, very good condition, boxed with original manual and remote. £350 ono. Buyer collects. **01482 865162** or **07760 407871** (East Yorkshire).

EPOS ES22 speakers (cherry) £500. Audiolab 8000Q preamp £250. 8000M power amps pair £400. 8000C preamp £200. Arcam Alpha 9 CD player £250. All in excellent condition. **01590 674 669** (Hampshire).

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!

GRADOPS1000 headphones. As new and boxed, won in competition, £900. **01332 233011 or 07796 912295 (Derby).**

PS AUDIO 4.6 preamp with separate p/s, inputs, phono MC, MM, tape x2, tuner, CD, speaker outputs x2, straight wire or high-gain output, plus mono, £285. **01923 855359 or email wombat.jr@talktalk.net (Hertfordshire).**

VECTEUR I4-2 integrated amp, 80 watts. Excellent condition, including remote and original power cable, (£1,200) £475. Can demo. **07748 652009 (Portsmouth).**

NAIM SXPS burny cable for connecting power supply to CD player etc. Excellent condition, £250. **01933 405875 (Northamptonshire).**

MARANTZ CD10 CD player, boxed with remote. Datasheet available as PDF, £300. **07771 776877 (Herts).**

MUSICAL FIDELITY A5 CD V2.5. Box, manual, remote, valve output stage, optical and coaxial digital outputs, £650. **07812 935242 or email dubmaster@talktalk.net-email (Croydon).**

PRIMARE Pre30 preamplifier and matching A30.2 power amplifier. As new condition (black), boxed with manuals, remote etc. Preferably for sale as a pair, but will split. If bought together, will include a pair of MIT Proline XLR interconnects, £1,500 ono. **07725 525001 or email alan.strudwick@googlegmail.com (South Wales).**

SONY SCD1 SACD/CD player, as new condition. £2,000 of Audiocom modifications including Ultralock, (£5,000) £1,850 ono. **01462 670786 or email jr812@hotmail.com (North Herts).**

NUFORCE P9 preamp. One-year old and a true audio bargain, (£2,200) £1,400 obo. **01296 437334 or email jes35@btinternet.com (Bucks).**

MARANTZ SA-7S1 CD/SACD. Owned from new. Stunning sound quality and build quality, (£5,199) £2,900. **01296 437314 or email jez35@btinternet.com (Bucks).**

ROKSAN Kandy LIII amp and CD £240 each, Rega P3 turntable £120. Epos M5

speakers £120. All boxed with manuals. **01279 465521 (Herts).**

NAIM Uniti amp/CD/FM/DAB all-in-one system. Immaculate condition with latest specification. Only 14 month's old, with box and accessories, £1,600. **02380 738935 (Southampton).**

KIMBER KCAG interconnect 0.5m -14dB attenuation, (£438) £200. Kimber D-60 interconnect 1m, (£335) £190. Other items, filters mains cables etc, half price. **01902884694 (West Midlands).**

NAIM NAIT2 £400, Pioneer A300R Precision amp £200, Pioneer PDS505 Precision CD £200, Rogers Cadet 3 £300, Cambridge CD4SE £80. **07818026427 (Yorkshire).**

BRYSTON SST9B 5-channel power amplifier (silver) and Bryston SP2 preamp/processor (silver). Excellent condition £1,500 (each) or £2,500 less shipping, if purchased together. Grado S1000 headphones, immaculate condition. Brilliant-sounding and comparable to Stax Omega headphones. £750 less than half the new price. **00353 18373490 (Dublin).**

SONOS Z90 and c100 controller with cradle, booklet and install CD, fully working. Good intro for streamer, £220 including postage. **07736 773830 (Yorkshire).**

BOWERS & WILKINS 703 (cherry) '90s model, £2,900, Primare SPA21 surround amp £950. Other items also available, please call. Offers welcome. **01707 392743 or email scotk421@hotmail.co.uk (Herts).**

SONY BDP-S5000ES Blu-ray player, three weeks' old with UK dealer invoice, £495. **0208951 3178 (London).**

CREEK 4140 integrated amp, Linn Index speakers plus stands (black ash), Arcam Alpha Plus CD player. £50 each item or £130 for all. **07900 273612 (West London).**

ARCAM FMJ CD17 (black) with user guide/remote, light use from new, can demonstrate, (£600) £350. Cash, no offers. **01606 79032 (Cheshire).**

ROTEL RA-05 amplifier (black), with remote, hardly used (£495) £200. Acoustic Energy Radiance 2, £625 as new, could deliver by arrangement. TCI Viper interconnect 1-metre long, £27. **07979 151445 (West Sussex).**

MARTINLOGAN SL3 electrostatics, (black), mint condition (£3,400) £1,150. Living Voice speaker cable 4.2m pair (£1,000) £300. Audio Synthesis Silverblue interconnects from £50. New and s/h vinyl from £3. **01453 519700 (Gloucs).**

WANTED: Revox 260S tuner, in very good cosmetic condition and fully functional. Would wish to have working demo in West Midlands/ Warwickshire. Please contact with details and price. **01789842336 (West Midlands).**

BOWERS & WILKINS 803D (rosenut). 4 year's old, still under 5-year warranty. Excellent condition. Boxed and complete with all accessories, £3,700, no offers. Any trial welcome, prefer buyer to collect. **077255 78792, or email sme1203@tiscali.co.uk (West Midlands).**

GRADO PS1000 professional headphones. 1-year old, original packaging, inclusive 5m Grado extension, plus 3.5mm to 6.3mm mini-jack adaptor cable, (£1,795) £1,495. **01179688543 (Bristol).**

NAD T585 universal player in titanium, plays DVD, CD/SACD. In very good condition with remote and box, £130. **0121 7774318 (West Midlands).**

ARCAM FMJ integrated amplifier A32 £560. Arcam DT81 digital radio tuner £350. Arcam T61 AM/FM tuner £130. All items purchased in 2003 and in excellent condition. **01752 340727 (Devon).**

NAKAMICHI LX5 cassette deck, fully documented with box. Offers invited. **01258 450928 (Dorset).**

ARCAM DIVA A85 amp (black), with fitted phono card. Complete with remote and handbook, £250. Audio Alchemy DE-V1-0DAC convertor with Chord Company analogue and digital cables. Boxed with manual in excellent condition, £125. Linn Helix LS150 speakers (black ash), with matching spiked stands, £150, Linn K20 speaker cable, 4x4-metre, terminated, £90. Buyer collects. **07941 015908 (Dorset).**

VAN DEN HUL TeaTrack speaker cable, 11-metre pair £175, plus carriage. **01825 722936 (E Sussex).**

BOWERS & WILKINS 686 speakers, award-winners. Not used since run-in (£278) £95. **07716 139026 (N Ireland).**

LINN Majik CD player (black), 2.5 years old in superb condition. Boxed with manual, remote and power lead, £995. **01924 478157 or email rockhill-steve@zen.co.uk (West Yorkshire).**

MUSICAL FIDELITY A1000 Class A amp (black), beautiful condition with MM/MC phono stage and separate power supply. Buyer collects. **07941 174804 (Berkshire).**

MARANTZ PM66SE amp and CD50SE CD player, £140 the pair. Pro-Ject Debut II turntable with speed box and phono box £95. Aiwa A30 amp and R30 tuner, £50 pair. Technics 8022 Graphic £60. **01708457691 (Essex).**

SONY XA333ES CD/SACD player (black). Boxed with manual and remote. Can Demo £275. **01394 274350 (Suffolk).**

TOWNSHEND Mk1 stand, four shelves, black with chrome columns. Seismic sink isolation built-in (£1,500) £350. **01772 315723 (Lancs).**

ECAAUDIO Vistra pre and Lectern power amp. Previous award-winners, (£1,650) a bargain at £500, Rega Planar 3, RB300 with AT cart £190. **07729600847 (West Sussex).**

NAIM NAIT 5i amplifier £395. Rega Apollo CD player £250. Both boxed in excellent condition. Very little use **07754 507519 (Derbyshire).**

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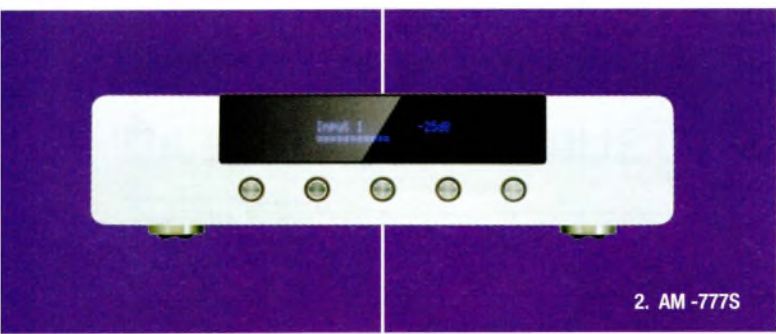
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Hi-Fi Choice

Buyer's Guide



Welcome to the *Hi-Fi Choice Buyer's Guide* – the ultimate directory to the very best high-performance hi-fi gear that you can buy. Here, you'll find our favourite current products listed under easy-to-use categories, with up-to-date pricing and trustworthy verdicts.

Reviews you can trust

Hi-Fi Choice test results are the most reliable in the business. We employ the UK's most respected hi-fi journalists and use the most stringent techniques to ensure our ratings are the ones you can trust. All the equipment we rate most highly is contained within these pages, from CD and vinyl to the latest disc players, amplifiers, tuners and loudspeakers.

Reviews online

We've also included *techradar* listings where our reviews appear online.

To access selected *Hi-Fi Choice* reviews, simply type: techradar.com/ into your browser, followed by the six-digit number printed in the first column of our *Buyer's Guide*.

How to use this guide

The *Hi-Fi Choice Buyer's Guide* is the best way to make a shortlist of components to audition. Pick the ones that best suit your taste and budget, then consult our *Dealer Classified* section to find specialist outlets where you can try them with your favourite music and test discs.

BADGES EXPLAINED

OUR AWARDS



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



RECOMMENDED:
The products we feel meet a certain high standard of performance



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

NEW ENTRIES...

Every month, our buying bible is updated to include our latest reviews. These new entries are highlighted in yellow and reflect the very best reviews from the previous issue.

SOURCE COMPONENTS

108 _ CD players

Whether CD or SACD, we list the very best players for the job

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A selection of our favourites, from a £190 Pro-Ject to a £115k Continuum

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For those occasions when two boxes seem better than one

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An invaluable guide to the best loudspeakers for your system

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The best equipment supports: sprung; solid; air-filled; glass; MDF and more...

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Stands come in all shapes, sizes and prices, so take your pick from our list

DEALER CLASSIFIED

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BADGES KEY: RECOMMENDED = ● EDITOR'S CHOICE = ● GROUP TEST WINNER = ● BEST BUY = ●

CD players



Any one of these fine players will make sweet music for years to come

Up to £1,000

Badge	Product	Price	Comments	SACD compatible	ELEC dig output	CD-RW compatible	OPT dig output	BAL analogue out	Headphone socket	Variable output	Issue number
●	Advance Acoustic MCD-204	795	CD player with warm valve sound. Harmonically rich and inviting performance								342
●	Audiolab 8200CD	700	No SACD support, but excellent detail, neutrality and communication								340
●	Cambridge Audio Azur 650BD	400	Musical, precise, involving and with great energy at a superb price								340
●	Denon DCU-1510AE	900	If the SACD format is what you're into, then this player is capable of some impressive sounds								335
●	Exposure 2010S2	710	Paired with the 2010S2 amp, this CD player is a fine performer with plenty of detail								344
●	Marantz Pearl Lite SA-KI	899	A key CD/SACD player at an attractive price, with support for digital								338
●	Marantz KI Pearl Lite	750	Excellent sound, this CD player has also dropped in price from £920 to £750 since our review								344
●	Micromega CD-10	799	The cheapest in the range, the CD-10 has been fine-tuned to please the audiophile								328
●	Moon CD.5	999	Admirably energetic music-maker from this very well-built player								335
●	Musical Fidelity M1 CDT	600	Reviewed in combination with the M1 DAC, this CD transport holds its own against the competition								346
●	Oppo BDP-95EU	999	This universal player is revealing, transparent and musically involving								347
●	Pro-ject CD Box	300	This player belies both its size and its price with sounds worthy of a decent mid-range system								338
●	Rega Saturn	898	Strikingly full-voiced, the Saturn offers a sound that feels remarkably real								344
●	Roksan Kandy K2	899	State-of-the-art technology and precision engineering produces a fine CD performance								335

Above £1,000

Badge	Product	Price	Comments	SACD compatible	ELEC dig output	CD-RW compatible	OPT dig output	BAL analogue out	Headphone socket	Variable output	Issue number
●	AMR CD-777	3,195	Extremely natural and engaging sound that brings analogue to the digital world								332
●	Arcam CD37	1,300	Excellent detail and imaging, neutral tonality and above-average bass resolution								340
●	Audio Analogue Maestro	2,250	Boasts refined highs and good image quality with a fine sense of timing								348
●	Audio Note Zero CD/II	1,742	Reviewed as part of a system, this really is a CD player for those who don't like CD								348
●	Copland CDA 825	3,985	This is a highly revealing player that delivers music in a realistically engaging form								332
●	Creek Destiny	1,400	This player presents the music and nothing but the music and is thoroughly recommended								328
●	Icon Audio CDX1 Signature	1,350	Has an open, vinyl sound with a very high listenability factor								341
●	Krell S-350A	2,695	Accomplished CD player with real breeding underpinning its excellent performance								341
●	Leema Stream III	1,495	This is a superb CD player that improves on the performance of its predecessor, the Stream								339
●	Marantz UD 8004	2,450	Sophisticated and highly capable universal player that just about does it all								336
●	Meridian 808.3 Signature	10,000	Extraordinarily revealing and open CD player with a first-class performance level								339
●	Micromega CD-20	1,249	No SACD, unfortunately, but without doubt one of the better mainstream players								332
●	Mimetism 20.1	5,107	An impressive player that produces a very convincing and musical sound								330
●	Moon 750D	7,950	Very few CD players can extract as much information off the disc as the 750D								331
●	Naim CD5 XS	1,790	Its composure and openness results in a musical performance that is extremely seductive								334
●	Primare CD32	2,200	Smart, slick and with balanced outputs, this CD player looks every bit the high-end part								348
●	Resolution Audio Cantata	5,995	CD player/streamer that's revealing enough to set it far apart from the competition								336
●	Roksan Caspian M2	1,600	This impressively engineered CD player is punchy and dynamic, with excellent timing								338
●	Theta Compli Blu	2,998	A very accomplished universal player with support for Blu-ray and HDMI								337
●	Unison Research Unico CDE	2,475	Has an engaging and musical sound with strong tonal realism								348

SPECS KEY **SACD COMPATIBLE** Plays high-resolution SACD discs in two-channel mode. **ELEC DIGITAL OUTPUT** Electrical coaxial output for digital connection to a DAC or digital recorder. **OPT DIGITAL OUTPUT** Optical Toslink output for digital connection to a DAC or digital recorder. **CD-RW COMPATIBLE** Will play CD-RW (rewritable) discs, most CD players can cope with CD-Rs. **CD TEXT** Will display album and track titles from inserted disc. **BAL ANALOGUE OUT** Balanced XLR output connections for similarly equipped amplifiers. **HEADPHONE SOCKET** Quarter inch (6.3mm) headphone jack fitted to the CD player. **VARIABLE OUTPUT** Player features both fixed level and variable, volume adjustable outputs.

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Now available in the UK from Trichord Research Interconnect and Speaker cables using the legendary 18G ULTRA-WIRE Ultra high purity 99.9999%, linear crystal, stress-free, super annealed, micro-polished, ultra fine stranded copper conductors. Phenomenal reputation with sound quality to match.



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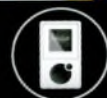
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Turntables

The best record players money can buy



Badge	Product	Price	Comments	www.techradar.com	Speeds	Switchable speed change	Suspension subchassis	Supplied with arm	Supplied with cart	Issue number
●	Clearaudio Concept	1,100	One of the easiest ways of getting into analogue, with excellent results for the price		33/45	●	●	●	●	338
●	Continuum Caliburn	125,000	Luxury turntable with state-of-the-art design includes Cobra tonearm and Castellon stand	/587169	33/45/78	●	●	●	●	320
●	Dr Feickert Woodpecker	2,995	Offers superb bass, excellent build quality and range of arm choices		33/45	●	●	●	●	335
●	Edwards Audio TT1	325	Classic, no-nonsense design, with exemplary performance at the price		33/45	●	●	●	●	342
●	The Funk Firm Funk V2	1,390	Not only as beguiling as those that preceded it, this turntable is also more substantial to boot		33/45	●	●	●	●	324
●	Hanss Acoustic T-30	3,600	The only multi-armbase deck in its price range, it boasts image stability and precise bass		33/45	●	●	opt	opt	331
●	Lumley Heliosphere	2,495	A distinctive-looking turntable with a unique sound and a performance that reflects your vinyl	/560765	33/45	●	●	opt	opt	319
●	Michell Gyro SE	1,150	Excellent timing really propels a very good performance. Plenty of detail and insight, too		33/45	●	●	●	●	345
●	Michell Gyro SEducation	2,245	Limited edition version of above with TecnoArm, HR power supply and blue-steel finish		33/45	●	●	●	●	342
●	Pro-Ject RPM-1 Genie 3	190	The Genie is that rare thing of a product with good looks, fine build and excellent sound		33/45	●	●	●	●	332
●	Pro-Ject RPM 10.1 Evolution	2,000	This turntable is a good combination of high mass and effective suspension		33/45	●	●	●	●	348
●	Pro-Ject Xperience 2 Pack	775	Holds its own against all competition (arm included)		33/45	●	●	●	●	345
●	Pro-Ject 6 Perspex	1,280	Plenty of detail and good rhythmic qualities (arm included)		33/45/78	●	●	●	●	338
●	Roksan Radius 5.2	1,399	Sophisticated design with accomplished sound quality, excellent imagery and good isolation		33/45	●	●	●	●	338
●	SRM Arezzo	699	The Arezzo is an excellent source component for those wanting a superb turntable for vinyl replay	/625025	33/45	●	●	●	●	325
●	Townshend Rock 7	1,750	Very well-defined bass; good detail; well judged rhythm and pace (reviewed with Excalibur arm)		33/45	●	●	●	●	345
●	Well Tempered Simplex	1,495	Superb timing makes this one of the most entertaining turntables in its price range		33/45	●	●	●	●	347

Phono cartridges

MM and MC recommendations



Badge	Product	Price	Comments	Replaceable stylus	MM	MC	Issue number
●	Dynavector DV-20X2L	499	Revealing and open sound from a well-built and easy-to-align MC cartridge	●	●	●	342
●	Dynavector Karat 17D3	699	One of the most thrilling-sounding cartridges on the market	●	●	●	334
●	Goldring Legacy	595	An MC cartridge better suited to the smoother-sounding turntable, it unearths a mountain of detail	●	●	●	328
●	Grado Prestige Gold 1	150	Unusually assured 'presence' region is the basis of a beautifully musical and involving presentation	●	●	●	338
●	Ortofon 2M Red	80	A little fussy about set up, but sound is admirably balanced and full of unforced detail	●	●	●	345
●	Ortofon Vivo Red	200	Never less than musically convincing, this all-in-one cartridge is remarkably capable	●	●	●	338
●	Ortofon Cadenza Red	750	There's much to admire in this cartridge's fine detail and unfussy presentation	●	●	●	330
●	Shure M97xE	82	A budget cartridge, but bass and midrange are to high-end standards and treble is just as assured	●	●	●	345

Phono stages

Make your turntable sing



Badge	Product	Price	Comments	www.techradar.com	MM phono inputs	MC phono inputs	Adj impedance	Adj gain	Issue number
●	Dynavector P-75 MkII	595	A stage that will put spring in the step of any decent cartridge you can throw at it		●	●	●	●	344
●	Lehmann Audio Black Cube	335	This phono amp is a very distinguished performer with an MM source		●	●	●	●	335
●	Linn Uphorik	1,850	Exceptional sound quality, the Uphorik could easily win over the next generation of LP enthusiasts		●	●	●	●	334
●	Primare R32	850	If you are into vinyl for the music, then this is one of the most revealing examples on the market		●	●	●	●	345
●	Pro-Ject Tube Box SE II	435	The big picture is the most evident thing here, but the finer details are there, too		●	●	●	●	335

SPECS KEY **SPEEDS** Speeds offered in rpm. **SUSP SUBCHASSIS** Turntables with a sprung or suspended support for the platter and arm. **SWITCHABLE SPEED CHANGE** Some decks require manual lifting of the belt from one pulley to another to change speed, but not these ones. **SUPPLIED WITH ARM** Deck is supplied complete with tonearm – some require a separate purchase in this department, but the dealer will fit it for you. **SUPPLIED WITH CARTRIDGE** Some decks are supplied with a starter cartridge and this is included in the price shown. **MM** Moving magnet cartridge – see amp and phono stage features to match this type. **MC** Moving coil cartridge – see amp and phono stage features to match this type. **REPLACEABLE STYLUS** Some cartridges have separate styli for ease of replacement, but it compromises sound quality.

HFC TOP PICKS



Dynavector Karat 17D3 £699

The 17D3 gets very close to the results achieved with MCs at twice the price and few can touch it in terms of sheer musicality and resolution of detail




Pro-Ject 6 Perspex £1,280

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Dr Feickert An. Woodpecker £2,995

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Malcolm Steward
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Edwards Audio '71

BADGES KEY: RECOMMENDED = ● | EDITOR'S CHOICE = ● | GROUP TEST WINNER = ● | BEST BUY = ●

Radio tuners

Surf the airwaves with these carefully selected tuners



FM tuners

Badge	Product	Price	Comments	www.techradar.com	Wavebands	Presets	RDS	Rot-tuning knob	Strength Meter	Remote control	Issue number
●	Creek Audio Evolution	350	Sound is detailed, cohesive and extended both tonally and spatially – very classy		FM,AM	80	●	●	●	●	308
●	NAD C426	220	If you aren't already wedded to DAB, then this is a very attractive purchase		FM,AM	80	●	●	●	●	339
●	T+A T1210R	1,200	High-end looks are matched by the sound, which is detailed and sophisticated		FM	100	●	●	●	●	283

DAB/FM tuners

●	Arcam FMJ T32	600	A highly cost-effective way of optimising the airwaves. iPod functionality is a bonus	/559242	DAB,FM	100	●	●	●	●	319
●	Onkyo T-4555DAB	400	Admirably free of grain or obvious tonal blemishes, this tuner achieves a high standard		DAB	40	●	●	●	●	298

DAB/FM portables

●	Monitor Audio Airstream 10	225	The range of features on this DAB/FM/Internet radio is certainly impressive	/636713	DAB,FM,Web	4	●	●	●	●	337
●	Pure Sensia	250	One of the smartest table radios around, offering wireless computer-sourced music		DAB,FM,Web	40	●	●	●	●	331
●	Roberts Revival	200	A handy way to get internet radio and media streaming throughout the house		DAB,FM,Web		●	●	●	●	344
●	Tivoli Networks+10	239	FM reception is excellent and a cut above everything else this radio has to offer		DAB,FM,Web	5	●	●	●	●	344
●	Vita Audio R1 MkII	160	Limited to DAB/FM and line inputs, but the sound quality is very good		DAB,FM,Web	10	●	●	●	●	337
●	Vita Audio R2i	300	Very smartly built with a sound that's full-bodied, neutral and detailed	/611865	DAB,FM	30	●	●	●	●	323

SPECS KEY **WAVEBANDS** Which bands are supported: FM, M – medium wave, L – long wave, DAB – digital audio broadcasting. **PRESETS** How many stations can be stored in memory. **RDS** Radio Data System – station names and program titles can be displayed among other facilities (FM only, DAB has more comprehensive display potential). **REMOTE CONTROL** For the couch potato. **SIGNAL STRENGTH METER** Useful for setting up an aerial. **ROTARY TUNING KNOB** An ergonomic alternative to buttons.

Headphones

Audiophile solutions for home and travel use



Badge	Product	Price	Comments	www.techradar.com	Open/Closed back	Circumaural	Supra-aural	Electrostatic	Weight (grams)	3.5mm jack adaptor	Issue number
●	AKG Q701	500	A welcome addition to the ranks of the world's finest transducers		●	●	●	●	235	●	341
●	Audio Technica ATH-W1000X	649	Fine advert for the virtues of closed-back headphones, with great bass and background noise reduction		●	●	●	●	350	●	334
●	Beyerdynamic DT770	179	One of the most tonally satisfying closed-back headphones around with excellent detail		●	●	●	●	270	●	333
●	Beyerdynamic T1	880	A characterful, enjoyable music-maker with a detailed, weighty sound		●	●	●	●		●	331
●	Bowers and Wilkins P5	250	A superb headphone with B&W's sound and build quality sealing the deal		●	●	●	●	195	●	333
●	Grado GS1000i	1,100	A superb transducer, capable of astonishingly high performance standards	/624782	●	●	●	●		●	325
●	Grado PS1000	1,795	Offer excellent detail and effortless dynamics, but they can be heavy to wear after a while		●	●	●	●	500	●	329
●	Jamo wEAR In 30	80	In-ear headphone sound is beguilingly musical and very detailed across the board		●	●	●	●		●	348
●	Klipsch ImageX10i	229	Natural sound and fit; lightweight and unobtrusive in-ear headphones		●	●	●	●	10	●	342
●	Sennheiser CX880i	83	This in-ear headphone is excellent for the price and the results overall are most impressive		●	●	●	●		●	348
●	Sennheiser HD380	140	This model offers good sound and is a worthy alternative to in-ear monitors		●	●	●	●		●	327
●	Unique Melody Miracle	775	Great build and sound, the custom-moulded Miracles are one of our favourite in-ears		●	●	●	●		●	346

SPECS KEY **ELECTROSTATIC** Uses electrostatic film instead of more common cone or dome dynamics. **SUPRA-AURAL** Earpads sit on ear rather than around it. **CIRCUMAURAL** Earpads rest on the head around the ears. **OPEN BACK** Vented capsules let sound in and out. **CLOSED BACK (●)** Sealed capsules. **WEIGHT** In grams. **3.5MM JACK ADAPTOR** Allows connection to personal stereos, computers etc.

HFC TOP PICKS



Bowers & Wilkins P5 £250

The P5 is a no-brainer for iPhone users but this well built and attractive design should be able to win friends from outside the Apple camp as well



PURE Sensia £250

PURE's ground-breaking touch-screen DAB radio has changed the way we interact with radio forever and sets the standard for innovation



Beyerdynamic T1 £880

Our 2010 award winner is beautifully built and attractively designed, with a strong and engaging performance and remarkable detail

T3

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BADGES KEY: RECOMMENDED = ● EDITOR'S CHOICE = ● GROUP TEST WINNER = ● BEST BUY = ●

Amplifiers



Our pick of the best one-box amps out there

Up to £1,000

Badge	Product	Price	Comments	Line inputs	Phono input	Remote control	Headphone socket	Power output (watts)	Issue number
●	Audio Analogue Crescendo	599	In a room of appropriate dimensions, this amplifier has real musical presence	5				50	329
●	Cambridge Audio 840A v2	800	A chunky powerhouse with features aplenty, this amp offers detail and delicacy (silver finish)	8				120	327
●	Denon DCD-1510AE	900	Offers a taste of high-end excellence at an affordable price	5	MM			70	335
●	Exposure 2010S2	752	Impressive amplifier with preamp output, the 2010S2 was a blind group test winner	6				75	344
●	Marantz KI Pearl Lite	750	Impressive performer with a well-filled phono-amp board and now down to £750 from £920	5				90	344
●	NAD C3226BEE	320	Unusually confident into awkward loads and very assured especially in bass. Treble a touch recessed	7				50	322
●	Rega Mira 3	460	Competent performer that makes an excellent system with the matching Saturn CD player	5				60	344

Above £1,000

●	Audio Note IZero	1,548	A fine performer that provides a catalyst for the Zero system CD player and loudspeakers	4				8	348
●	Consonance Cyber 10 Sig	1,595	Gorgeous tube amp delivering high-end performance at a realistic price	5				11	345
●	Creek 5350 Evolution	1,075	One of the most attractive amps in its price range, with a sound that's immediately satisfying	5	MM/MC			120	334
●	Creek Destiny 2	1,600	Excellent tonal balance and gorgeous, effortless detail	6	opt			116	342
●	Cyrus8xp d	1,550	Best heard in the context of a Cyrus system, this amp nevertheless has some great qualities	6				80	342
●	Electrocompaniet EC15	2,750	Big, characterful and beautifully built amp, with equally big and unforced sound	6				120	340
●	Emillè Ara	2,450	An extremely competent valve amp in its own right with a useful set of features	2				22	343
●	Icon Audio Stereo 60 Mk 3	1,700	An energetic valve amp that offers high power and delivers it with confidence	4				65	346
●	Leema Pulse III	1,495	Offers a clean, smooth sound and has an unusually wide array of inputs	6	MM/MC			70	342
●	Luxman L550A-II	3,000	An accomplished all-rounder that's able to handle virtually any system	4	MC			20	335
●	Pathos Ethos	3,250	A highly capable two-channel amp that offers great sound, plus a versatile equipment interface	6				100	348
●	Peachtree Audio iDecco	1,000	A well-equipped amp/DAC one-stop solution for iPod and digital audio users	2				40	344
●	Peachtree Audio Nova	1,099	This amp/DAC combi is a fine heart for a computerised desktop system	3				80	341
●	Primaluna Prologue Two	1,820	This valve amp has many fine qualities that will endear it to many audiophiles	4				30	346
●	Primare I32	2,200	Gorgeous sound, while the prospect of future upgrades is truly mouth-watering	3				120	344
●	Resolution Audio Cantata	3,995	This perfectly formed amplifier reveals that the language of music is easy to understand	4	opt			50	342
●	Roksan Caspian M2	1,600	This muscular-sounding amplifier is load tolerant and more powerful in practice	6				85	338
●	Unison Research S6	2,990	This valve amp creates a big spacious soundstage with ample depth and width	5				35	347

Pre/power amplifiers

Separate boxes can bring clear advantages



Up to £2,000

Badge	Product	Price	Comments	Line inputs	Phono input	Remote control	Headphone socket	Power output (watts)	Issue number
●	Cambridge Audio Azur 840E/840W	2,000	Enterprising technology delivers a pre/power combo that always sounds detailed and controlled					8 opt	200 309
●	NAD C165BEE/C275BEE	1,550	An alternative to the usual integrated route and one that offers flexibility and fine sound					6 MM/MC	130 336

Above £2,000

●	Audio Research DS450	7,000	Power amp features a very neutral transparent sound with lots of power and low-running temperature					2	450 337
●	Bryston BP16/ 2B SST2	5,700	Preamp and power amp combo offers superb sound quality	/608649				6 opt	100 323
●	Bryston BP26	3,670	Cracking preamp brings detailed results					8 opt	308
●	Cayin SP-30S/SP-40M	3,346	Smooth clean sound quality, this combo is well-balanced and natural-sounding					4 MM	40 343
●	Cyrus Stream XP	2,000	An easy to use streaming DAC/preamp with a great combination of sound quality and features					5	346
●	Cyrus Mono X300	2,495	A power amp with a rare combination of speed and resolution					2	300 341
●	Linn Akurate Kontrol/2200	7,550	Reviewed as part of an entire system (streamer and speakers), this combo offers a crisp, open sound					2	200 343
●	Mark Levinson No. 326S	8,000	Excellent USB implementation, natural sound and solid build. Excellent performance levels					7	338
●	Musical Fidelity M6PRE/PRX	4,998	For those wanting a powerful high-end pre/power combo at a realistic price, this is a fantastic package					9	260 340
●	Onkyo P-3000R/M-5000R	4,200	Superb sounding combination with excellent build, flexibility and connection options					6 MM	80 345
●	Rotel RC158/RB1582	2,100	It looks high-end and it really sounds the part, too					5 MM/MC	200 336
●	Trilogy 909/990	10,390	Extremely musical valve-based pairing with hybrid power and beautiful finish	/625226				6	100 325

SPECS KEY **LINE INPUTS** Input sockets for source components with a line level output: CD players, DVD players, tape decks, tuners, phono stages etc. **PHONO INPUT** Input sockets and on-board phono stage for a cartridge. Either MM (moving magnet) or MC (moving coil), occasionally both. **REMOTE CONTROL** A remote control is supplied with the amplifier. **HEADPHONE SOCKET** To drive your cans with. **POWER OUTPUT** Manufacturer's rated output in watts per channel.

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BADGES KEY: RECOMMENDED = ● EDITOR'S CHOICE = ● GROUP TEST WINNER = ● BEST BUY = ●

Streamers/Music servers/DACs/Cables

Streamers/music servers



Streaming and music servers are opening up a new dimension in listening pleasure

Badge	Product	Price	Comments	www.techradar.com	Internal drive Wireless	iPod compatible USB	Balanced output	Digital output	Issue number
●	Marantz NA7004	720	Easy to use, the NA7004 makes getting into streaming simple and all for a great price, too			●	●	●	344
●	Naim Unitiqtie	1,350	All-in-one streamer/player has excellent features and is easy to set up with strong performance		●	●	●	●	339
●	Naim NDX	2,995	The ideal combination of vivid performance and understated styling		●	●	●	●	345
●	Olive 4HD	2,200	Allows the music fan to dispense with physical media and download from hi-res internet sites		●	●	●	●	333
●	Yamaha NP-S2000	1,429	Drop-dead gorgeous and it sounds appropriately sophisticated				●	●	346

SPECS KEY **WIRELESS** Able to receive files wirelessly **INTERNAL DRIVE** Fitted with its own hard drive **USB** USB Sockets fitted **INTERNET RADIO** Able to receive web radio **IPOD COMPATIBLE** Able to connect directly to an iPod **APPLE AIRPLAY** Able to function as an AirPlay receiver **BALANCED OUTPUT** Fitted with a balanced out **DIGITAL OUTPUT** Fitted with a digital output

DACs



Digital-to-analogue convertors are back and the price has come right down

Badge	Product	Price	Comments	www.techradar.com	Coaxial input	Optical input	USB	Wireless	Headphone socket	Balanced outputs	Volume control	Issue number
●	Antelope Audio Zodiac Plus	1,895	Remarkable resolving capabilities and more inputs than the majority of DACs		●	●			192	●	●	345
●	Benchmark DAC1	950	Very clean sound with plenty of detail and also good rhythmic drive			●	●		192	●	●	341
●	Cambridge Audio DacMagic	230	Detail and imaging are very good and a decent feature count only adds to the appeal			●	●		96	●	●	331
●	Electrocompaniet PD1	1,250	Great sound and superb build, the PD1 allows you to access music on your computer hard drive			●	●	●	192	●	●	346
●	Furutech GT40	395	The perfect 'missing link' between analogue and the home computer					●	96	●	●	342
●	Lavry DA10	1,028	Can be ruthlessly revealing of deficiencies in once admired recordings					●	96	●	●	341
●	M2 Tech Young DAC	1,200	For affordable ultra-high resolution, this DAC has detailed sound and is full of life and vibrancy		●	●	●		96	●	●	348
●	Musical Fidelity M1 DAC	400	Tested with the M1 CDT CD transport, this DAC boasts excellent sound quality and features			●	●	●	192	●	●	346
●	Rega DAC	498	A little stunner, combining genuinely high-end sound with a good feature set					●	44			346
●	PS Audio Digital Link III	899	A simple no-fuss product that just sounds great and at its price is something of a bargain		●	●	●		192	●	●	341

SPECS KEY **COAXIAL INPUTS** Fitted with a coaxial input **OPTICAL INPUTS** Fitted with an optical input **USB** Fitted with a USB input **WIRELESS** Able to receive material wirelessly **SAMPLING RATES** Maximum sampling rate of the DAC **BALANCED OUTPUTS** Fitted with a balanced output **HEADPHONE SOCKET** Can operate as a headphone amp **VOLUME CONTROL** Can be connected directly to an active speaker or power amp.

Cables



Cables really can make a difference, especially our top recommendations

Analogue interconnects									
Badge	Product	Price	Comments	www.techradar.com	Stranded	Solid core	Copper	Digital cable type	Issue number
●	Black Rhodium Polar Illusion	250	A good all-rounder, with clear and purposeful bass and particularly fine treble		●				321
●	Chord Co. Indigo Plus	995	Costly, and high-class cable needs running in, but this is a finely detailed design overall	/608313	●				323
●	Peerless Sigma	70	A cable that belies its modest price with sound that's detailed, neutral and full bodied		●				343
●	QED Ref Audio Evolution	63	Tonally favours the bass, but overall detail and imaging are very good		●				343
●	QED Signature Audio S	190	Mellifluous and rounded, this cable is a great choice for lovers of the human voice				●	●	332

Digital interconnects										
●	Atlas Mavros	285	By any reckoning this is a very revealing wire					●	E	336
●	van den Hul The Wave	65	The results this cable achieves are excellent and it scores highly for value					●	E	336

Speaker cables (price per metre)										
●	Black Rhodium Jive Bi-Wire	14	Bi-wire cable which is full of sonic virtues. It's highly practical, too					●		339
●	Kimber 4VS	155	In the right system, this cable is a good choice (price reflects 2.5 metre terminated pair)				●			329
●	Monster MCX-1s	5	Notable for its bass, perhaps a touch overdone at times but could be a good foil to small speakers				●			280
●	van den Hul The TeatracK	35	A bi-wire cable with a sound that's impeccably timed, neutral and full of detail					●	●	339
●	Wireworld Oasis 6	40	Excellent bass with tunefulness and extension all first-rate. Awkward to handle, though	/617560	●					324

SPECS KEY **STRANDED** Cable has a number of (usually) twisted strands to conduct the signal. **SOLID CORE** Cable has one or more individually insulated strands to conduct the signal. **COPPER** Material used to form the conducting element of the cable. **SILVER** Alternative material used to form the conducting element of the cable. **DIGITAL CABLE TYPE** E – electrical, O – optical. Cables are one metre length unless otherwise stated.

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BADGES KEY:  RECOMMENDED = ● |  EDITOR'S CHOICE = ● |  GROUP TEST WINNER = ● |  BEST BUY = ●

Stereo speakers

The most influential link in the chain



Up to £1,000

Badge	Product	Price	Comments	Size: width, height, depth (cm)	Floorstander	Case of drive	Bass from (Hz)	Close to wall	Free space	Issue number
●	Acoustic Energy Radiance 1	600	Limited bass, power handling and dynamics, but exceptional mid-to-treble voicing	18.5,32,25		A	33	●		325
●	Acoustic Energy Neo V2	700	Lots of box, this speaker produces a coherent and engaging sound	20.3,120,30	●	A		●		348
●	Amphion Ion L	900	Sharp styling, fine mid/treble coherence a sweet treble, but less happy bass alignment	16.2,32.6,26.5		A	40	●		310
●	ATC SCM11	867	A very fine little speaker t- at its best with natural recordings where it adds little	21,38,25		A-	55	●		293
●	AudioPro Avanti A.10	350	A tough and effective little speaker – overall balance is quite smooth and even	19,29,26		A+	38	●		319
●	Bowers and Wilkins CM1	488	Luxury miniature has laid-back sound, low coloration and fine imaging, but weak dynamics	16.5,28,28		A-	40			279
●	Cambridge Audio S30	130	At its best with energetic, rhythmic music, this bookshelf speaker has class-leading bass	16,22.6,23.5						347
●	Castle Knight 2	400	A true resurgence for the Castle brand, the Knight 2 has a beguiling sound quality	20,38,33.5		A+	42	●		338
●	EB Acoustics EB2	669	Excellent value speaker, its composite enclosure gives a very clean and neutral sound	22.5,45,30		A	64	●		341
●	Epos Epic 5	750	Excellent aesthetic and lively, involving sound, this is a superb performer	28.6,98,38		A		●		347
●	Focal Chorus 706V	389	Advanced drivers deliver an even, healthy dynamic expression and tension	22,39,25		A	27	●		319
●	Focal Chorus 726V	950	Compact and realistically priced, the Chorus 726V is a good all-round performer	22,99,37.5	●	A	25	●		325
●	JBL Studio L880	700	Good value floorstander with neutrality, massive headroom and plenty of punch	22,99,37	●	A	25	●		275
●	KEF iQ 50	599	Looks cute and very discreet, with spacious imaging, good balance and a sweet treble	/483527 175,81.5,26		A	23	●		315
●	Mission MX5	600	An engaging listen and worth an audition, if you have the room	25,99.5,39		A-		●		341
●	Monitor Audio BX5	500	Attractive and compact design with fast and engaging sound	21.5,86.8,24.8		A-		●		345
●	Monitor Audio Silver RS8	850	Bold, dynamic sound, it's an easy load that works well in larger rooms	90,18,27	●	A	33	●		276
●	Monitor Audio GS10	900	More neutral tonally than some recent MAs, the GS10 is easy to drive	20,36,27		A-	40	●		284
●	PMC DB1i	985	Could be more neutral, but a very effective musical communicator	15.5,29,23.4		A+	30	●		334
●	ProAc Tablette Ref Eight	704	Stunning standmount with electrostatic-like imagery. Its brother is even better!	15,27,23		A+	40	●		267
●	Q Acoustics 2010	115	The sheer cleanliness of this speaker's sound is astonishing	15,23.4,20.3						347
●	Q Acoustics 1020i	140	Outstanding value, t smooth well-balanced and lively sound makes a fine communicator	/516273 17.5,25,26.5		A+	60	●		318
●	Rega RS1	390	Clever close-to-wall speaker has a fine coherence and good communication skills	15,32,23.6		A	23	●		319
●	Roth Audio Oli10	100	An even-handed bookshelf loudspeaker with very good upper-bass energy	15.3,199,178						347
●	Tannoy Revolution DC4T	599	Ultra-compact, lacks bass weight and dynamic tension, but sounds open and coherent	488857 15,85,16	●		40	●		316
●	Tannoy Revolution DC6T	820	Good-looking and compact floorstander with a beautifully judged overall balance	20.2,95.25.3	●	A		●		346
●	Teufel T500	568	Good value, solid build and an extended warranty	19.5x105x32.5	●	A-		●		340
●	Wharfedale Diamond 10.0	130	A strikingly energetic bookshelf speaker that's notably communicative with voices	14.5,23.6,16.5						347
●	XTZ 99.26	670	Astonishing value for money, this is a very talented performer with well-recorded music	24.4,39.9,35.2						348

Above £1,000

●	Adam Audio Tensor Delta	8,400	This active loudspeaker brings a powerful range of capabilities to its performance	33,56,34		A	50	●		329
●	AE Energy Radiance 2	1,000	This speaker boasts fine neutrality, sweet top, fine imaging and wide dynamic range	18.5,92,25	●	A	30	●		334
●	AE Energy Radiance 3	1,500	This speaker's effective enclosure ensures a wide dynamic range and a very clean sound	/587236 23,92,29.7	●	A	27	●		320
●	AE AE1 MkIII	2,000	This speaker has a lovely midband smoothness and superior image focus	18.5,31,25		A	24	●		337
●	Amphion Argon 3L	2,300	Solid build ensures an impressively clean sound with loads of bass and fine neutrality	19,92.5,30.5	●	A	44	●		322
●	Aspara HL6	4,300	Acoustic material sounds great and there are many strengths in design and performance	18.5,93,34.5	●	A		●		332
●	Audio Note Zero AZ-Two	1,294	A sensitive and immediate-sounding speaker and tested as part of the Zero system	25,90,30		A		●		348
●	Audioplan Kontrapunkt IVB	2,898	Boasts exceptional stereo imaging and mid-through-treble coherence	16,35,26	●	A	45	●		329
●	Audiovector Ki3 Signature	1,890	Very attractive and discreet, with fine stereo imaging and low coloration	14,98,27	●	A		●		343
●	Audiovector S3 Super	2,600	Useful ability to upgrade, offers good musical communication and stereo imaging	19,103,31	●	A	50	●		328
●	AVI ADM9	1,125	Active mini-monitors that are exceptionally accurate and dynamic sounding	20,30,26		ACT	60	●		301
●	Bowers and Wilkins CMB	1,250	Exceptional looking speaker with a fine midrange and superior imaging	16.5x96x28		A	60	●		344
●	Bowers and Wilkins 802	11,500	This high-end speaker has an airy, spacious midband, with clean bass reproduction	36.8,138,56.3	●	A	27	●		337
●	Cabasse Bora	2,200	A real enthusiast's choice with high sensitivity, strong bass and powerful dynamics	/618354 33,27,50		A	52	●		324
●	Canton Vento 820	1,200	Really emphasises the benefits of the standmount, with great freedom from boxiness	22,36,31.5	●	A+		●		342
●	DALI IKON 7 MkII	1,669	With a wide dynamic range, this speaker offers high performance at a realistic price	20x117x36.4	●	A		●		348
●	Dynaudio DM3/7	1,299	Sound has a fine overall balance and impressive bass weight	20.4,96,27.5	●	A		●		345
●	Focal Chorus 826W LE	1,879	Focal has turbo charged the 826 resulting in lots of energy, excitement and fine detail	28.2,103.8,37.5	●	A		●		330
●	Focal Electra 1027 Be	4,399	Outstanding mid and top with fine delicacy, low coloration, but lacks some bass grip and drive	26.5,111,35	●	A-	25	●		276
●	Free FS1	3,500	An elegant design with the minimum of wiring. Wireless with Sonos or Airport Express	16,87,27	●	ACT	35	●		301
●	Gamut Phi5	3,040	Lovely discreet floorstander has excellent sound and several very clever engineering touches	17,100,24	●		20	●		305
●	Green Mountain Audio Rio	2,000	Fabulously tight timing and coherence makes for a very expressive and musical performer	20.8,40.6,34.9	●	A	80	●		332

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Stereo speakers (continued)

Shapes and sizes for every budget

Badge	Product	Price	Comments	www.techradar.com	Size - width, height, depth (cm)	Floorstander	Ease of Drive	Bass from (Hz)	Free-space	Close to wall	Issue number
●	Guru QM10	1,595	A very clever close-to-wall standmount with fine imaging, that sounds a lot bigger than it looks	/465869	30,25,2,23,2	A	26	●	●	●	317
●	Jamo R 907	6,600	Arguably the more 'chummy' of Jamo's dipole flagships, powerful bass and open midrange	/498515	44,118,9,7	●	A	30	●	●	317
●	JBL Everest DD66000	44,000	Awesome performance in the true meaning of the word & exceptional musical communication		111,96,5,47	●	A	50	●	●	331
●	Kudos X2	1,350	Attractive presentation alongside a lively sound makes for an involving experience		16,6,78,20,6	●		27	●	●	337
●	Linn Akurate 242	7,300	Wide, smooth high-frequency dispersion, with excellent sound		21,100,38	●			●	●	343
●	Magico V2	18,000	High pricing derives this speaker's superb painstaking engineering & impressive performance	/624700	25,5,115,30	●	A	32	●	●	325
●	Magneplan Magneplanar 1.6	2,500	Great with acoustic and classical material, this dipole panel speaker has superb sound quality		48,165,5	●	A	43	●	●	329
●	Mission 796	1,300	Clean, open and detailed, smooth, relaxed loudspeaker does exactly what it says on the box	/594834	20,6,99,8,31,8	●	A	25	●	●	321
●	Monopulse 42A	1,995	Oddball styling, fine bass to mid balance and dynamics and superb voice coherence		26,110,25	●	A	25	●	●	302
●	Monitor Audio PL200	4,750	A costly, but beautifully presented loudspeaker with outstanding voicing and character		25,5,100,28,5	●	A-		●	●	330
●	Mordaunt-Short Perf 6 LE	4,799	Striking moulded enclosure minimises coloration, overall balance is smooth, neutral and open		24,115,43	●	A	22	●	●	308
●	Neat Momentum 3i	1,790	Sounds bigger than it looks, with good coherence and an impressively wide dynamic range		22,38,27	A-	23	●	●	●	302
●	Opera Callas	3,195	Technically innovative multi-tweeter system, this is a grown up and articulate performer	/429144	23,375,34			32	●	●	311
●	Opera Seconda	1,995	Fine styling and finish, plus very superior voicing, if a shade lacking in warmth		24,102,5,31,5	●	A	20	●	●	314
●	Pioneer S-2EX-W	5,200	This speaker offers superb midband neutrality and exceptional clarity	/587272	291,56,5,42,5	●	A	37	●	●	320
●	PMC GB1i	1,525	Fine voice reproduction, overall agility and well-judged balance		15,5,87,23,4	●	A	40	●	●	347
●	PMC FB1i	2,100	A floorstander that boasts impressive bass extension and a smooth sweet top end	/429594	20,100,30	●	A	20	●	●	329
●	PMCfact .8	5,250	Beautiful styling, alongside a superb all-round sound with a notably wide dynamic range		15,5,105,38	●	A	55	●	●	327
●	PMC IB2i	8,900	Delivers a top-class sound quality, fine imaging and exceptional dynamic grip	/617595	33,74,46,5	●	A	25	●	●	324
●	ProAc Studio 140 Mk2	1,690	Headroom and high sensitivity are an encouragement to play it loud		19,104,28	●	A		●	●	347
●	Rega RS7	1,685	Lively and transparent with superior dynamic range		24,6,98,8,34,6	●	A	-	●	●	347
●	Revolver Screen 3	2,799	Visually dramatic and very successful in delivering genuine high-quality hi-fi sound		50,140,11	●	A	35	●	●	329
●	Roksan Caspian FR-5	2,475	Sharp-looking speaker sounds exceptionally open and lively without aggression		20,100,25	●	A	22	●	●	290
●	Sonus faber Luito Monitor	1,690	Subtly designed, elegant-sounding package, especially with good recordings	/603221	18,5,35,33,5	A-	55	●	●	●	322
●	Sonus faber Minima Vintage	2,490	Easy, graceful-sounding compact, a natural for acoustic material at moderate volume levels	/455417	20,33,27,5	A-	55	●	●	●	312
●	Sonus faber Cremona Audit.	3,350	Open, exciting and with surprisingly good bass, this is 'The Little Speaker That Could'		20,35,37	A	50	●	●	●	305
●	Spendor SA1	1,295	Very high-quality sub-miniature with notably superior sound		16,5,30,5,19	A	30	●	●	●	334
●	Spendor SP3/3R2	2,295	Lovely overall balance with fine voicing and transparency		27,54,5,32,5	A			●	●	343
●	Tannoy Definition DCB	2,500	Stylish-looking, this speaker is a fine communicator with clean, crisp and dynamic sound		27,47,26			55	●	●	343
●	Totem Sittaf	1,695	This speaker delivers good scale with a fine midband		16x85x24,2	●	A		●	●	340
●	Triangle Genese Lyrr	3,300	A well-balanced speaker with generous sensitivity, fine imaging and good expressiveness		23,30,3,113,3	●	A	30	●	●	338
●	Teufel Ultima 800	2,498	Exceptional value for money due to direct sales and easy system-matching		22,98,37	●	A	42	●	●	335
●	Vivid Audio K1	14,495	With a subtle, fast and wide bandwidth, this speaker is one of the finest on the planet	/625361	28,130,45	A	35	●	●	●	325
●	Wilson Benesch Curve	5,383	Much (but not all) of the ACT's performance in a much more compact and affordable package		23,91,37	●	A	28	●	●	254
●	Wharfedale Opus	1,500	Great material value and a solid, if bright and forward sound. Has great loudness potential		26,100,5,41	●	A	23	●	●	314
●	Yamaha Soavo 2	1,200	Cunningly crafted with a beautiful balance that always sounds lively, open and involving		22,38,35	A	28	●	●	●	296
●	Zu Essence	3,750	Realism and communication skills are more than compensation for balance shortcomings		30,5,125,30,5	●	A	25	●	●	327

SPECS KEY **SIZE W,H,D (CM)** Width, height and depth of one cabinet in centimetres. **FLOORSTANDER** Speakers that don't require stands. **EASE OF DRIVE** How much power the amplifier needs (approximately) to drive the loudspeaker effectively. **A+** 25 watts plus **A** 50 watts plus **A-** 100 watts plus **ACT** Active – the speaker has its own in-built amplifier. **BASS FROM** How low the speaker goes – the smaller the number the deeper the bass. **FREE SPACE** The speakers work best away from wall(s). **CLOSE TO WALL** The speakers will work best when up against a wall (but avoid corners).

HFC TOP PICKS

**Castle Knight 2 £400**

The Knight 2 continues in the great Castle tradition of excellent finish and solid build and climbs to the top of the pile with excellent sonic performance

**Focal Chorus 826W LE £1,879**

Focal has taken the 826 and turbocharged it, keeping the virtues of the stock model but with increased energy, excitement and detail

**PMC fact.8 £4,600**

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BADGES KEY: RECOMMENDED = ● EDITOR'S CHOICE = ● GROUP TEST WINNER = ● BEST BUY = ●

Equipment supports

Hi-fi equipment supports come in all shapes and sizes



Badge	Product	Price	Comments	Top plate size (cm) Height (cm)	Number of shelves Welded	Shell type	Issue number
●	Audiophile Base Std Supp't	1,200	Expensive and quite bulky, but sound is unusually detailed and resonance-free	57	46,35	3	MDF 302
●	Blok Stax 300	180	A simple and effective design that gives some useful isolation across most of the audio band		40,46	3	MDF 334
●	Custom Design Inert Matt	70	Isolation platform can improve the sound of hi-fi components, but is a bit small for most kit		40x25		Metal 311
	Custom Design XL4	380	Simple construction pays off in smart looks. Sound contribution is minimal		60,42	4	Glass 293
	Custom Design Milan	509	Good-looking stand with nothing more to complain of than slight muddying of detail	57	48,39	4	Glass 302
●	Hi-Fi Racks Podium	500	A keenly priced piece of high-class furniture that also happens to sound great		59,5		Wood 320
●	Isonoe Isolation feet	98	A set of four isolation feet that are ideally suited to microphonic kit like turntables				Alloy 327
●	Magic Racks MR1	600	At its best it's very effective and gives real isolation across the audio band	59			Rubber 344
	Partington Minim	470	Adds its own character to rock, but to the detriment of acoustic sounds	78	45,37	5	Glass 302
●	Quadraspire QX25 Support	25	Beautifully simple design, cheap and easy to use. Excellent with CD players				Acrylic 327
●	Quadraspire Sunoko-Vent T	800	The sound is detailed and largely uncoloured, while the design is rigid and beautifully veneered		59,47	4	MDF 334
	Russ Andrews Torlyte Rack	988	Attractive modular system made of very light Torlyte: a touch of added warmth is its only vice	68	54,49	4	Torlyte 240
●	Townshend VSSS	1,380	This attractive Seismic Sink retains the same excellent vibration-killing sound quality	76	35,50	4	Glass 273

Speaker stands

Not all stands are made equal - try one of our top buys



Badge	Product	Price	Comments	Top plate size (cm) Height (cm)	Number of shelves Welded	Issue number
●	Atacama Duo 6	65	Maintains high standards in mid and treble, with excellent tonality and good detail		17,13	1 346
●	Custom Design FS104	190	Gets excellent results out of speakers small and large, and excels in fine detail and precise imaging			1 346
●	Custom Design SQ404	220	Robust four-pillar design gives very low coloration and maximises performance	61	18,16,3	4 283
●	Partington Ansa 60	119	Elegant flat-packer 'disappears' sonically; restrained but neutral and coherent	62	18,15	4 232
●	Quadraspire QV60	250	This stand helps maximise detail and tonal resolution			1 346
●	Soundstyle Z2	70	Bass can be a little imprecise, but there's plenty of detail on offer		17,13	1 346

SPECS KEY **HEIGHT (CM)** Height of equipment support and speaker stand (not including spikes) in centimetres. **TOP PLATE SIZE (CM)** Width by depth of the supporting platform(s). Single figures indicate a square platform (Speakers generally overhang top plates). **FILLABLE** The stand can be mass-loaded with sand and/or lead to stop ringing. **WELDED** As opposed to bolt-together construction. **NUMBER OF SHELVES** To put your kit on (different configurations are often available). **NUMBER OF LEGS** That support the stand. **SHELF TYPE** Material that shelves are made of.

HFC TOP PICKS



Atacama Duo 6 £65
This value-priced loudspeaker stand adds a hint of vibrancy to the sound and there's plenty of life and energy in the midrange and treble



Quadraspire Sunoko Vent T £800
A clever solution to the twin problems of equipment cooling and resonance, thanks to a unique shelf design, makes this a worthy 2010 award winner



Townshend VSSS £1,380
Although not cheap, Max Townshend's skillfully engineered rack nears the ideal in terms of isolation and spending more doesn't really bring big gains

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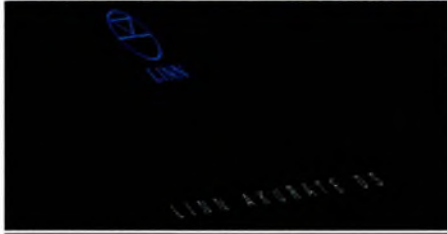
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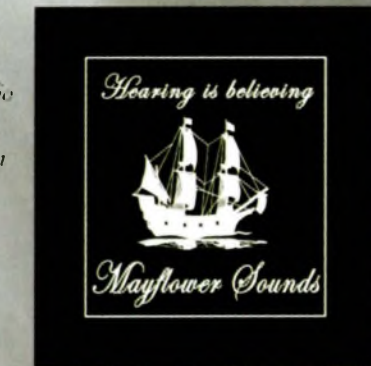
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Get real

Jason Kennedy samples a slice of authentic hi-fi sound with not a player, amp or speaker in operation

Collen Murphy's Classic Album Sundays event (*HFC 347*) has caused quite a stir. Not just in audiophile circles, but in the wider press, too.

The concept, listening to a whole album from start to finish on audiophile-quality hardware, has captured imaginations and put the spotlight on good-quality replay equipment (and vinyl) at a time of oversaturation from internet and computer audio.

But the concept of a small-numbered group of music-lovers congregating to enjoy an intimate performance is not new. Live music got there first and is enjoying something of a renaissance as artists struggle to generate revenues from disc sale in the internet age.

Quite recently, I had one of the most revelatory sonic experiences of my life in a small pub transformed by one Martin Carthy. There were no mics, amps or speakers on poles to be seen or heard. As a result the sound was literally live and direct, the communication and atmosphere totally enveloping. Not too loud because the singers, it wasn't just Carthy on the night, moderated their voices to suit the place and everyone was rapt so there was no distracting chatter like you get at regular gigs. This made for a transporting experience that notched up a gear when the audience joined in on the chorus and produced a wave of natural sound that was totally and utterly immersive.

The room must have helped, too, but it didn't seem unusual; about three times as long as it is wide with singers projecting across the shorter width. The audience was seated an arms-length away from the performers so you could say it was intimate, it makes Ronnie Scott's seem like a stadium to be frank.

This makes an interesting counterpoint to the Classic Album Sundays where people also gather in a room above a pub, but listen to a whole album on vinyl. They too sit in rapt silence and let the sound transport them to another plane but the sound would be hard pressed to compete with the live acoustic experience. I guess the quality of material goes some way to making up for this.

I often wondered why the folk community were so outraged when Bob Dylan started playing electric guitar with a band, but this experience revealed that you can achieve a far higher level of communication when limited to acoustic instruments. A musician without a mic is a far more vulnerable person and there is a far greater sense of empathy because the connection with the audience is so direct. The fact that Dylan made what were arguably his best records with

an acoustic guitar backs this up but you can understand him wanting to put up some barriers. When you are that successful you need them. You can also appreciate that he needed to change in order to grow and reach a wider audience but I'm glad that those first albums are so pared down.

There are folk clubs like the one I visited across the country, usually hidden in a room above a pub but not usually putting on acts as well known as Martin Carthy. I reviewed a vinyl re-release of a fine early seventies album by Wizz Jones recently; he was part of the folk scene when John Renbourn was making waves and has that man on sitar on the album *Right Now*. So impressed was I, that I looked him up and discovered that he's still playing clubs as well as putting on gigs at his Surrey home – sounds like the sort of gathering that could well make for great listening. I notice, too that DeVore Fidelity the New York loudspeaker maker has had the temerity to put on small-scale acoustic concerts at its Monkeyhouse event, an experience that clearly impressed visitors and allowed them to hear live and reproduced music in the same space – a brave move from a manufacturer that's clearly able to think outside the box.

Once in a while it's good to get out of the listening room and hear music as it's being made. So if it's 'been a while' since you went gigging, give it a try – for it might remind you what all this hi-fi stuff is about. ●

"I had one of the most revelatory sonic experiences of my life in a pub transformed by one Martin Carthy"

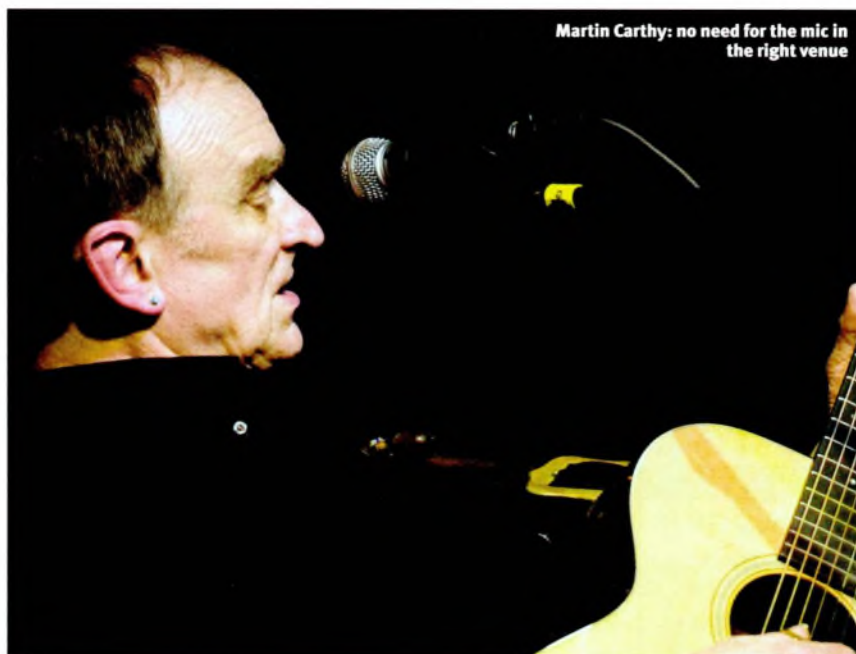


JASON KENNEDY

A former editor on *Hi-Fi Choice* and now a freelance journalist, Jason has been a hi-fi addict for longer than he cares to remember

WHAT DO YOU THINK?

Electric or acoustic: what does it for you? Tell us about recent gigs you've enjoyed, too. Email us now: hifichoice@futurenet.com

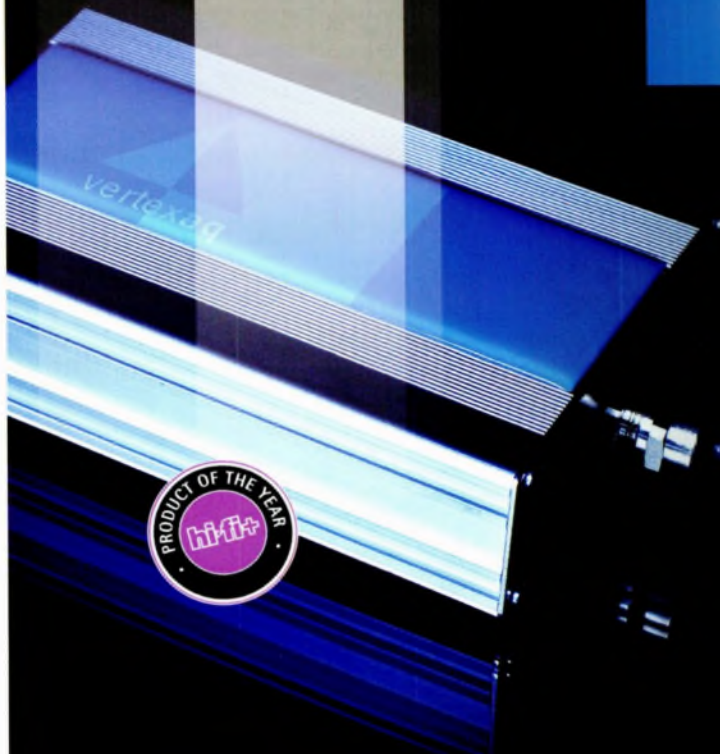


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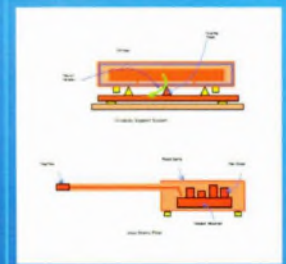
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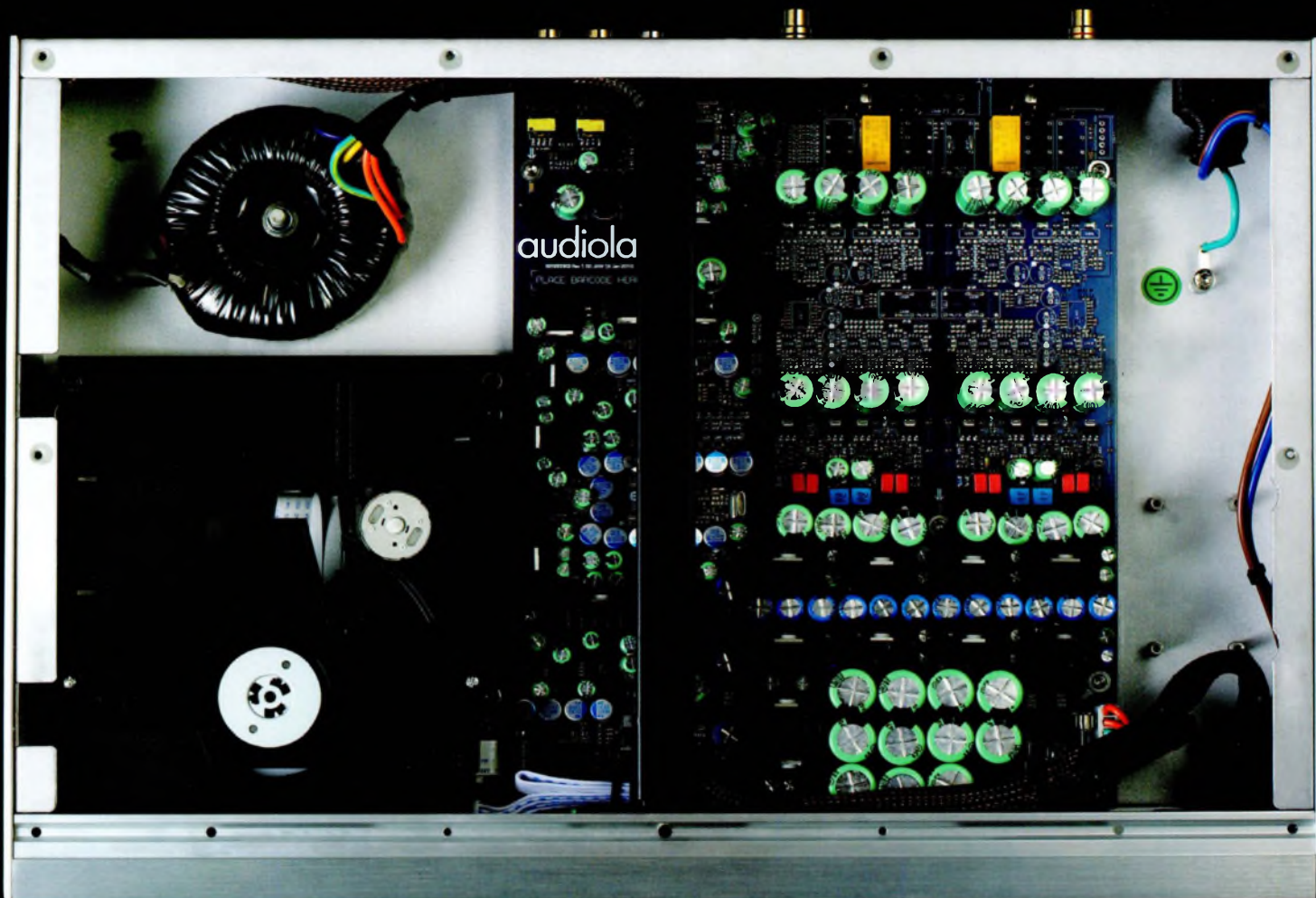


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