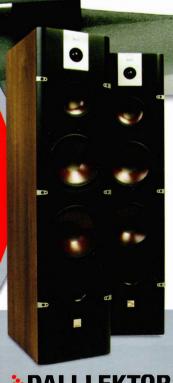




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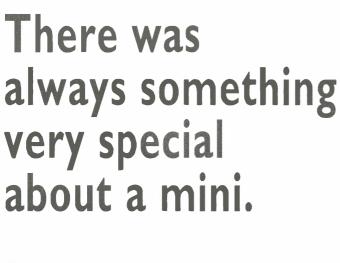
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HI-FICHOICE FEBRUARY 2009 ISSUE 316

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This month we've gone DAC crazy, testing an incredible eight newcomers to give you the low down on what to buy and what to avoid. We've got all bases covered from the £130 Beresford TC-7510, right up to the £2,000 Bryston BDA-1 with some surprising results in store. With the credit crunch firmly biting, the popularity (again) of aftermarket DACs will only be compounded by

the way in which they breathe new life into tired old equipment. The fact that a relatively affordable, cutting-edge new convertor could save you from replacing your CD player will no doubt be music to many an audiophile's ears. And let's not forget that it's not just CD players that feel the benefit: DAB radios, DVD players and Sky boxes can, of course, be greatly improved too.

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A former Hi-Fi Choice editor, Paul has been writing about his beloved hi-fi hobby for more than 30 years. In that time he has become one of the world's most respected scribes and is undoubtedly the UK's foremost loudspeaker reviewer.



JIMMY HUGHES

With more than 40 years as an enthusiast under his belt, Jimmy is one of the country's best known hi-fi experts. His knowledge of system matching, hi-fi tweaking and record collecting is unmatched in the industry.



RICHARD BLACK

Richard is a professional musician, recording engineer and a highly knowledgeable hi-fi analyst to boot. He has a knack for writing about complicated subjects in a readable way – and he only writes for Hi-Fi Choice.



MALCOLM STEWARD

Former editor of Hi-Fi Review magazine, Malcolm was one of the best known and most outspoken reviewers of the 1980s and 1990s. He currently edits hi-fi industry bible The British Audio Journal and also writes exclusively for Hi-Fi Choice.



ALVIN GOLD

Alvin has been writing about his obsession for more than 25 years. In that time he has contributed his encyclopaedic knowledge to almost every hi-fi periodical you can think of (and several more besides). He is widely regarded as one of Britan's finest hi-fi reviewers.



ALAN SIRCOM

Alan began his journalistic career in the early 1990s. He brings a deep bath of hi-fi knowledge to Hi-Fi Choice in his role as Operations Editor and is always on hand to help with your questions and hi-fi related queries in our Ask Alan feature.



JASON KENNEDY

Jason Kennedy was a former editor of Hi-Fi Choice and spent an incredible 17 years on the title. Now a freelance hi-fi journalist with a system that'll blow your socks off, he remains a key player in keeping Hi-Fi Choice great.



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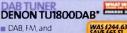
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NAIM NAIT XS

NEWS

And then there were three... Naim's latest integrated amp can resist anything but XS

Naim has launched an 'affordable Supernait', called the Nait XS to be priced at £1,250. Given the slim chassis, it would be easy to assume the new amplifier is a beefed-up version of the Naim Nait 5i. In fact, it's closer to a streamlined, slimmed-down version of the Naim Supernait amplifier (*HFC* 305).

Using the same preamplifier and power amplifier stages of the Supernait, the 60-watt Nait XS is fully upgradable, through the standard Naim system of adding a separate power supply. The six-line input amp features both DIN sockets (for Naim equipment) and phonos and there is also provision to a Naim Stageline or Superline phono stage from its single-powered input. There's even a mini-socket input on the front panel for connecting portable music players, plus unity-gain option for connection to home cinema amplifiers.

The Nait XS also has more concessions to modernity than its cheaper sibling. It includes a subwoofer output for 2.1 channel systems as well as outputs to a power amplifier and inputs from a preamp (for those who look upon the XS as a stepping stone to greater Naim things). Bolted to the standard Series 5 aluminium chassis is a heavyweight 380VA

toroidal transformer, with five separate windings for preamplifier, display, relay switching and each channel of the power amplifier.

The working title of the Nait XS was apparently the Nait Speed, so the emphasis from the outset was to deliver the pace-oriented goods. Wholly new design elements in the XS include a bayonet PCB mounting technique, which is claimed to deliver a consistent board 'float' and in the process reduce microphony. In addition, the heat sink is castellated to enable maximum cooling for reliability. This is also said to maximise dynamics and to reduce capacitance effects from potentially longer PCB tracks.

As well as new product like the XS, Naim have also launched a classical label, releasing both audio CDs and LPs and twin-pack albums, comprising both standard Red Book audio CD and a DVD-ROM of high-resolution 24-bit/88.2kHz WAV files (ideal for downloading to a Naim HDX near you). The first two such recordings from the Naim Classical label are Mozart *Wind Serenades* No 10 and 12 by the Royal Philharmonic Orchestra and Tim Hugh's *Hands on Heart*.

Price £1,250 Due now № 01722 426600
www.naim-audio.com



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ACOUSTIC ENERGY RADIANCE SERIES

Three years in the making, AE's new Radiance speakers bristle with new technology

Acoustic Energy hasn't launched a wholly new speaker range in a couple of years, but it seems that Radiance has been worth the wait. Said to have taken more than three years to develop, the three-strong Radiance series features cutting-edge technology from terminal to driver.

Perhaps the most significant advance in the range is the DXT acoustic lens technology deployed in the ring-radiator tweeter. Short for Diffraction eXpansion Technology, DXT uses a series of diffraction edges along the tweeter's horn, said to improve directivity and off-axis response of that driver. It also focuses frequencies from 7kHz and beyond, thereby controlling dispersion, expanding the soundfield and improving the power response. This is also claimed to work without affecting the performance of the tweeter at lower frequencies, because the diffraction edges are effectively invisible to lower frequencies. This should tame the diffraction of the midrange and reduce the beaming of

the high treble in the process, thereby making a larger than usual 'sweet spot' for optimum listening. It also makes the speakers potentially ideal for smaller rooms, because they could be placed closer to side walls without reflections undermining the sound.

The bass drivers are AE's own alloy cone 'Pure-piston' drivers with twin-wound aluminium voice coils. These are said to offer 'outstanding dynamic speed and transient attack along with class-leading power handling' according to the press release, although further details regarding size and specifications were still to be confirmed at the time of writing.

Combining the new tweeter and bass unit has allowed Acoustic Energy to use a similar 'straight and simple' crossover to the one used in the AE1 Mk 3 SE Reference speaker. The component count in the crossover is reduced and there are no resistors whatsoever in the network. The cabinet too has also been designed with an eye to both style and substance. The cabinets are precision-finished, with a degree of boat-tailing to the back of the cabinet to reduce internal standing waves, while the grilles are held in place using a series of magnets to ensure the loudspeaker's lines stay decorative at all times.

Available in dark or natural ash real wood veneers, at launch, Radiance will feature a single standmount speaker – the Radiance One – and the

Radiance Three floorstander. A Radiance Centre (centre channel speaker) and Subwoofer are also available for home cinema use. A smaller floorstander – called, perhaps unexpectedly, the Radiance Two – is scheduled to arrive in the spring and will cost £999 per pair.

Price £599 per pair (Radiance One); £1,499 per pair (Radiance Three) **Due** now **2** 01285 654432 **4** www.acoustic-energy.co.uk



audiofile



Deltec Precision Audio is back; recreated by 'three passionate people', including at least one of the founders of the old company, Adrian Walker. The first products from the reformed company are the DPA-CA1 preamp, DPA-MA1 mono power amp and Power Plus mains RF noise filter; all hark back to the company's highly rated products from the early 1990s. The six-input, line level preamp and 60-watt power amplifier feature the company's own hybrid voltage amplifier; the DH-0A37; this means that once-again, DPA has designed the amplifier right down to the op-amps. The Power Plus comes complete with two filtering connection leads – InSlink and OutSlink. It's designed to reduce transients from RF-generating electrical appliances. Expect more high-tech products, too

Price £2,300 (CA1), £2,200 (MA1), £545 (Power Plus) **Due** now **②** 01793 238085 ⊕ www.deltecprecisionaudio.com



REGA APOLLO 35

Rega Research is 35 years old. To celebrate, the company has announced a strictly limited special edition run of its award-winning Apollo CD player. The 35th Anniversary Edition Rega Apollo 35 features an upgraded clock mechanism (as used in the Saturn CD player) and beefed-up coupling capacitors in the signal path; the polyester caps are now made from high-spec polypropylene and the electrolytics in the post-DAC amplifier stages have been replaced with solid polymer samples for better bass response.

All this is claimed to help lower noise and

these special Apollo 35 players will be made.

Price £750 Due early 2009 ☎ 01702 333071 ⇔ www.rega.co.uk

reduce distortion, compared to the standard specification Rega Apollo player. Special aluminium feet, along with additional front panel details completes the deal. Just 500 of

OPERA AUDIO CONSONANCE PING

Consonance moves into the all-in-one arena with the new 'Ping'. Styled in the distinctive Forbidden City design, the 20kg Ping is available in black or silver and features a dual-mono 100-watt amplifier, linear CD player and AM/FM radio. It also sports a USB input for connection to MP3 players or a computer. This USB input uses a Burr-Brown PCM 2707 digital converter, which is claimed to have very low jitter. An all-metal remote completes the package.

Price £1,495 Due now № 01273 325901 # www.aliumaudio.com

T+A CARUSO

The Caruso from German technologists T+A is designed to cover all the bases. It's a DVD playing network client system that supports most standard computer formats, with both Ethernet and 802.11 /b/q Wi-Fi connectivity. The solid aluminium Caruso also supports CD, FM and Internet radio, network music servers, USB media storage units, MP3 players and iPods through a dock. It also includes three 50-watt power amplifiers and an integral loudspeaker



system with subwoofer, but includes the provision for external speakers

Price £1,599 Due now № 01623 517000 # www.taelektroakustik.com

ACCUSTIC ARTS REFERENCE SERIES DRIVE II

Accustic Arts Reference Series Drive II is the new pinnacle of the decade-old German company's CD replay chain. Based around the CD-Pro2LF transport, on a solid die-cast chassis, the top-loading Drive If uses a three-beam laser mech in a solid aluminium enclosure, fed by a highly specified power supply and two bespoke, German-made magnetically shielded toroidal transformers. It even includes a polarity indicator and a switch for mains. The disc is optimally clamped in place thanks to a magnetic puck.

Price £6,500 Due now № 01252 702705 # www.accusticarts.com



LOUDSPEAKERS A VISUAL HISTORY ...

Former Hi-Fi Choice art editor Del Gentleman has produced a limited edition A1 print marking the history of loudspeakers. With photographic images of products starting with the Siemens Vitaphone of 1874 and going right up to 2008's Arvus Prerenaissance, the individually numbered prints chart everything wonderful (and weird) from the loudspeaker world. If you ever wanted to see what the legendary Altec Voice of the Theater really looked like, look no further.

Price £20 (plus £3 p+p) Due now a d.gentleman@btopenworld.com



Soundbites

AMPHION has introduced the Impact 500 subwoofer, designed for musical applications. With its 500-watt Class D amplifier and 300mm Nomex bass driver, the 30kg bass reinforcement speaker is claimed to improve overall coherence across the system.

Prices from £900. **2** 01623 517000

KLIPSCH has announced the X5, a variation on the popular Image earphone theme. Just 2mm wider than the original X10 models, the new £130 bass reflex in-ears are said to have improved frequency and time-domain performance, with less bass heaviness.

MUSICAL FIDELITY is offering custom tuning, allowing owners of recent Musical Fidelity products the chance to upgrade them with better quality components, capacitor bypasses and more. And you get a signed certificate from Anthony Michaelson too. Prices start from £149.

2 020 8900 2866

2 01707 278100

AKG has announced the new £99 K 450 foldable mini-headphones. These closed backs can be used wired, or wirelessly connected to a Bluetooth-enabled device. You can even make calls on the K 450, thanks to its inline microphone.

DECENT AUDIO has launched a highly accurate £75 'Decentscale 2' digital stylus gauge. Accurate to 1/1000g. the sturdy metal scale is claimed

to be the most precise stylus gauge this side of £200 and includes a large backlit LCD readout.

2 0845 6019390



ROBERTS RADIO new RDK2 FM Kitchen Radio features a built-in under-cupboard fixing bracket. The £100 wipe-clean unit also has an SD card slot, allowing users to transfer music from computer to kitchen with ease. It even comes with an egg timer! 01709 571722



february 2009 | HI-FI CHOICE 13

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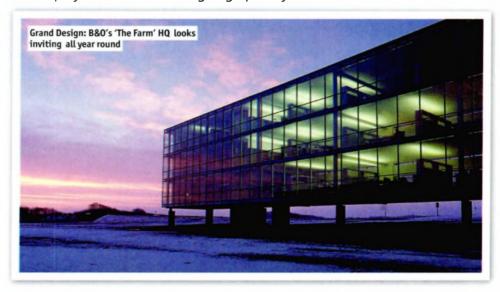
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Danish delights

Bang & Olufsen invited HFC to the launch of the new BeoLab 5 digital music player and to its cutting-edge factory in rural Denmark



ang & Olufsen has carved such a unique niche in the audio/video market that it has deservedly become both a High Street name and one of the most respected brands in upmarket AV across the globe. The striking design of B&O product,combined with a sound quality that is well suited to its target customer, has been the recipie for success that's kept B&O on the right track for decades.

Hi-Fi Choice caught up with the Danish giant for the launch of the new BeoLab 5 digital music player, a product far removed from the early radio sets that

B&O's new CEO and president Kalle Hvidt Neilson happily showed HFC around his factory rooted the company, but one that very much shares the ethos of the company and its core values (see Audiofile, *HFC* 315). But, rather than get too caught up in the glitz and glamour of this prestigeous new launch, we took the opportunity to take a tour of B&O's facilities – the numerous assembly factories in rural Streur – and the striking HQ known as The Farm (see pic above) where the serious business of audio engineering takes top priority.

HIP TO BE SQUARE

Being one of the biggest names in audio, B&O has both the means and the resources to create some of the most impressive test facilities in the world. Most notable, is a test room that the company appropriately calls 'The Cube'. Built in the 1980s, the room (which incidentally is not quite cubic), is the largest privately owned electroacoustic measuring facility in the world.

Measuring 12x12x13 metres, The Cube is B&O's answer to an anechoic chamber – instead of using sound-deading materials lining the walls of the room, The Cube simply uses its cavernous dimensions to accurately measure the sound from a loudspeaker, before wall reflections can exert their influence. With sound travelling at 330m/s, however, the measuring system inside The Cube opens the test microphone for just 25 milliseconds, before shutting again to avoid relected sound coming back from the walls.

Loudspeakers are placed on an computer-controlled, moveable platform with 360-degree rotation in both horizontal and vertical planes, giving B&O engineers the ability to measure sound from every possible angle at



the chosen distance within one-milimetre and one-degree accuracy.

On the subjective side of testing, B&O pleasingly shares some of the core values of *Hi-Fi Choice*, favouring blind listening sessions along with objective technical measurement. The company's 'listening panel' provides valuable input to the engineering team and is comprised of B&O employees who consistently pass a number of engineered hearing 'tests'. So could the perfect speaker



eventually roll out of the Danish factory? Certainly all the tools are there – even the venerable Paul Messenger has been commenting positively on B&O's latest developments in loudspeaker technology!

METALS AND PLASTICS

Far from the serene calm of The Cube and the listening rooms are B&O's plastics and aluminum factories, the latter said to be the most advanced of its kind in the world.

Kawasaki robots work hand-in-hand with real Danes in Factory 5 where the milling, polishing, blasting and anodising of aluminium

takes place, including that of the flagship BeoLab 5 active loudspeaker (reviewed in 2003 *HFC* 244)

No B&O tour is complete, we're told, without a trip to the 'Torture Chamber' and no, this is not where B&O plays non-stop 'audiophile' recordings. It is, in fact, the aptly named area in which products are measured by "their ability to be resistant to whatever they might be subjected to in the customer's homes" which leaves much to the imagination, depending on the customer.

HFC left Denmark for London and the impending torture of the next deadline. Who said the Danes should have all the fun? HFC



audiofile ...:

CHARLIE MINGUS
THE BLACK SAINT ::: SINNER LADY

CHARLES MINGUS
The Black Saint And The Sinner Lady
Grp Records

"Mingus himself is the hero, the black saint of the title, struggling to make sense of the world and the creative chaos of his mind." Words by David Oliver

Classic Album

harles Mingus is all too often remembered as a double bass virtuoso first and a jazz composer second, which would likely have fired the big man's infamously simmering temper, since he probably did more than anyone since Duke Ellington to explore the compositional possibilities of improvised jazz

Throughout his career he expressed a desire to move jazz beyond the limits set down by critics or public perception and had a vision of jazz which combined the compositional strengths of Western classical music with the vibrancy and immediacy of improvisation. This, his magnum opus from pretty much the mid point of his career, was arguably the only one of his albums to bring together all the complexities and imagination of his philosophy in a coherent whole.

Originally conceived as a ballet in six parts, it would work just as effectively as a soundtrack to an avant-garde noir thriller, conjuring images of a tortured hero trawling sleazy after hours clubs, his disillusion broken by lyrical passages where he achieves a moment of self-revelation, perhaps a glimpse of love, before it's dashed violently from his mind in a pell mell rush of blasting horns.

Mingus himself is, of course, the hero, the black saint of the title, struggling to make sense of the world and the creative chaos of his mind. A few years before he had been forcibly incarcerated in the psychiatric wing of New York's Bellevue Hospital and he would return there later, but for now he was undergoing therapy and was impressed enough by his progress to include in the sleeve notes a slightly bewildered, though no doubt heartfelt, review of the album by his psychologist.

By all accounts, Mingus had a very clear idea of the sound he was after by the time he brought his regularly fluctuating ten-piece band into the studio. The pieces had been rehearsed (and to some extent written) on the bandstand in various performances, mixing composed passages with improvised sections. As well as bass, Mingus also played piano on some sections. In fact, the flamenco guitar parts were originally performed by Mingus on piano before the studio version

Baritone, tenor and alto saxes were placed in a 'V balance', with the tenor at the bottom of the V, furthest away from the mike, to give jazz's most ubiquitous instrument a softer presence, which would enhance the other two reeds without dominating them, occasionally giving the impression of more than three homs.

Despite this attention to detail in the original recording sessions, the album also received an unprecedented (at least in the jazz world) amount of overdubbing and editing, adding additional horn parts and even moving whole sections around to satisfy Mingus's vision.

The suits at the Impulse label were all too aware that this was a whole new thing, and replaced their standard 'The new wave of jazz is on Impulse' strap with a one-off 'The new wave of folk is on Impulse', to reflect the fact that the composer had taken to calling his gigging band the 'Charles Mingus New Folk Band'.

Mingus himself was proud enough of it to exhort in his liner notes: "throw all other records of mine away except maybe one other," (he doesn't say which). He planned to re-record much of his earlier music anyway, without the studio pressure which he felt had tainted them and certainly some of his best-known pieces received recurring studio treatments throughout his life. Not *Black Saint* though.

Mingus never made things easy for himself. Even at the height of his fame he found himself evicted for non-payment of rent and constantly railed against the injustice of being an artist with insufficient financial remuneration for his contributions to life and art. But with *The Black Saint And The Sinner Lady*, more than any of his other works, he achieved greatness and a unique place in the jazz pantheon. **HFC**

Technology

he subject of this month's column is probably long overdue and was prompted by a passing comment in a manufacturer's user instruction leaflet about avoiding hum loops. Cood call: but how does hum get into a system anyway, and what is a hum loop?

There are various ways in which hum can creep into an audio system, some of which only apply in very specific cases while others are a potential hazard in any equipment or application. An example of the former is the cathode heaters in valves. These are often supplied with raw AC from the mains transformer and this can couple into the circuit in various ways, but obviously it's not an issue in all solid-state equipment. An example of the latter kind is hum coupled electrically from the power supply, a problem which may affect any kit powered directly or indirectly from the mains, but which can be dealt with very effectively by the usual combination of passive smoothing and/or active regulation of the power supply and audio circuits with good power supply rejection.

What tends to be a little harder to deal with is hum coupled not by direct conduction but through electric or magnetic fields, because these are invisible and rather pervasive. Actually, in most practical audio applications electric fields are less of a problem, not least because they can be very effectively screened out by the simplest conductive screen, as found on most cables and (in the shape of the case!) in most components.

Magnetic fields are much harder to deal with. They are generated most prodigiously by mains transformers in all sorts of equipment and also by electric motors. Both those types of device rely on magnetic fields for their operation and there will always be some degree of leakage. It is possible to screen against magnetic fields, but it's surprisingly difficult and expensive, too.

The good news is that magnetic fields don't extend very far. they drop off in intensity rapidly

as one moves away from the source. That's a major reason why remote power supplies are a good thing. In most hi-fi systems we are faced with mains transformers in close proximity to sensitive circuits.

When a changing magnetic field encounters an electrical conductor, it causes an electric current to flow. The fields we're talking about are changing, from positive to negative and back 50 times a second and interconnect cables are made of conductors, so currents will be flowing all over the place. Because the conductors aren't perfect they have some resistance and so the current flow will cause a small voltage to appear and since the audio circuits can't know that it's not genuine audio, it will get amplified along with the music and all of a sudden we've got hum problems.

Even then it's not necessarily a disaster. If two conductors are physically close they will 'see' almost exactly the same magnetic field so the current induced in each of them will be the same, while the audio signal flows one way in one conductor and the opposite in the other, so the net effect of the hum will be minor. Balanced connection really scores here because the 'hot' and 'cold' conductors are typically kept very close by being wound together and also have the same resistance, so the total induced hum is very low.

But the true 'hum loop' is so-called because a large physical loop exists between wires which end up all connected together. Such a loop has the potential to intercept lots of magnetic field and can generate appreciable hum between points supposed to be at the same voltage. The cure is simple: don't spread cables around. Many hum problems can be solved simply by keeping cables neatly routed together – and not too long! **HFC**



Pictured: Transformers generate unwanted magnetic fields

"There are various ways in which hum can creep into an audio system, some of which only apply in very specific cases."



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"Timing, a traditional Cyrus strong suit, is immaculate here – each strum, pluck or hit starts and stops with great precision and easy fluidity, making light work of testing tempos or sudden changes of emphasis. There's an eye for detail the most nightmarish Sergeant-Major would be proud of, and the ability to lay the minutiae of a performance bare without ever losing sight of the performance as a whole. What Hi-Fi com Sept 2008 CDXT SE



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Jimmy Hughes

Jimmy Hughes is one of the country's best known hi-fi experts. His knowledge of tweaking and his record collection know no bounds

Withdrawal symptoms

Spending time away from your hi-fi

"The human brain does a lot of processing when we listen to sound.
Basically, it's trying to make sense of the information received."

hile there's no doubt that the more you listen to your hi-fi system the better you get to know its strengths and limitations, there's also a counter argument that says – having an extended break allows you to judge the way things sound with much greater objectivity. Familiarity clouds your judgement

The human brain does a lot of processing when we listen to sound. Basically, it's trying to make sense of the information received. The more you listen to something, the better the brain is able to fill in the gaps – unless the sound is very bad, you learn to accept and enjoy it.

But first, your brain has to get a handle on the acoustics of the room and tonal balance of the hi-fi system. It also has to come to terms with the spatial aspects of the musical presentation – the stereo soundstage. Only then will you hear something that sounds like real musicians performing live in a tangible acoustic space.

This is one reason why hi-fi is so subjective; 'reality' is constantly being manipulated and interpreted by the listener. In some ways this is a good thing, such mental processing helps trick you into believing you're listening to live music in a large spacious hall, when you're actually listening to hi-fi in a medium-sized living room.

The downside is – you're not hearing things as they really are. Your hi-fi system may have fairly serious faults and limitations, but familiarity ensures you're hardly aware of them. This explains why most listeners need time (at least half an hour – probably longer) to get used to an unfamiliar room and/or hi-fi system. Generally speaking, the bigger and more ambitious the hi-fi system is, the longer it takes to come to terms with its musical presentation. There's a definite learning process.

The question is – does all this tell us something about our hi-fi? Is all this stuff about learning processes merely an excuse?

Maybe what it's really saying is – the way most hi-fi systems recreate music is fundamentally flawed and most listeners can only come to terms with these flaws after a period of acclimatisation.

Speaking personally, I'm very wary of hi-fi systems (however good and expensive) that don't sound 'right' the instant I hear them. While I accept all the arguments about the brain needing to 'learn' the acoustic of the room and the tonal balance of the system, I feel a good system should sound real and believable the instant you hear it.

I recently spent four weeks away from home and was very anxious to listen to my hi-fi system when I got back. Having not heard much music during that time, I was intrigued to see how things sounded. Would the sound seem natural and 'real', or would I notice lots of faults?

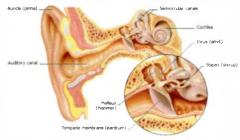
Now, you need to be careful here. If you haven't used your hi-fi for a month, chances are it might need a bit of time to warm up and settle down. If you left your car unused for a similar period, it might well fail to start.

However, I didn't bother with such niceties; I simply switched on and played some music. I liked what I heard. The music sounded very natural and real – sharp, detailed, and dynamic, but not imposing or aggressive.

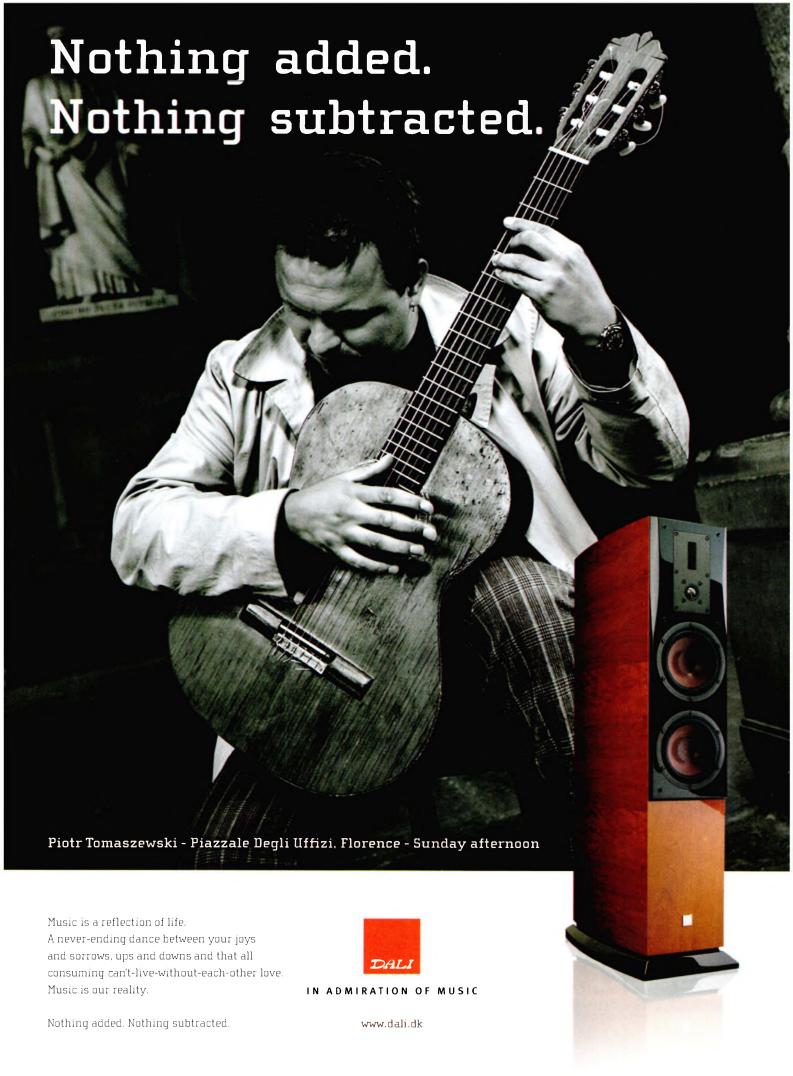
It was like I'd never been away – the sound was very easy to listen to and nothing seemed out of place. Huge relief!

Naturally, I was pleased; my hi-fi had passed a stern test. I'm not saying the sound was perfect, but there were no obvious problems (at least to my ears) that needed dealing with. The music sounded coherent and believable.

Or am I still being fooled? Maybe next time I need to go away for longer — six months perhaps! **HFC**



Pictured: The human ear canal





PaulMessenger

Paul Messenger is a former editor of Hi-Fi Choice and has been writing about his favourite hobby for nearly 30 years

Love affair

Nothing compares with a good radio receiver

"My favourite houses are the 20th Century, pre-First World War Edwardians and they don't easily lend themselves to multi-room wiring or reliable wi-fi."

eridian is one of hi-fi's genuine pioneers
– always thinking up and implementing
new and effective ways of doing things.
When I did my one and only multi-room installation
way back in the mid-1980s (just for the experience),
Meridian and Bang & Olufsen were the only games
in town and one could easily fill up most of this
column by describing the numerous innovations the
company has introduced.

Multi-room installations have enjoyed limited success here in Britain, especially in 'new-build' housing where wiring can be incorporated early on. (Wi-fi might well have an impact, but it's early days.) However, I don't like new houses. They might be thermally efficient, but lightweight construction means they're sonically challenged. My favourite houses are the 20th Century, pre-First World War Edwardians and they don't easily lend themselves to multi-room wiring or reliable wi-fi.

When I moved to my 1908 house 20 years ago, I therefore rejected the idea of a multi-room installation and since we're a Radio 4 household, put one of my fine collection of quality transistor radios (eg Hacker, B&O, GEC Superadio) in every room. It's a very flexible arrangement that has worked very well and given plenty of opportunity to try some of the newer arrivals on the scene.

DAB might have more stations, but I'm happy enough with Radios 3 and 4 and the ground floor is strictly FM-only, because DAB's time delay means you can't mix and match within earshot. When the Beolit 400's tuning mechanism packed up, a Tivoli took over in the dining room: neat and compact and broadly comparable in sound quality, but not an obvious improvement.

Then I got to try the Meridian F80, the multi-coloured semicircular one with the Ferrari badge, affectionately known by petrolheads as a Toaster Rossa. To call it the ultimate transistor radio is unfair. It might look a bit like a high-class tranny, but it offers much, much more, redefining what's possible from a transportable unit. It is, in short, a

genuine one-box hi-fi system, which uniquely includes speakers alongside the sources and amplification. In which context the £1,495 pricetag seems almost reasonable.

Besides built-in amps, the F80 tunes all radio bands – FM, AM (MW) and DAB – which is highly convenient, plus it plays CDs and even DVDs. Stereo inputs are usefully supplied for use with an external source and it even has a small remote handset which doubles as a fridge magnet!

That observation, along with the 'fridge magnet' handset, meant the F80 immediately took pride of place in the kitchen. Confidently placing the F80 on the fridge where radios usually sit, a few days later I was startled to find its weight had actually bent the fridge's top surface, which says much about the flimsiness of modern fridges, as well as the exceptionally solid build of the F80.

I guess the need for mains power is a minor limitation, but it's hard to find any others. Beyond a performance that genuinely deserves hi-fi status, albeit on a slightly modest scale, the sheer versatility of this machine is seriously impressive.

Besides taking up residence on the fridge, I can think of numerous other useful roles. Most obvious, perhaps, is for those lucky enough to have a weekend retreat, as it's small enough to fit easily in the car, but the amp/speaker sections alone look perfect for reproducing the sound from a TV or a computer. And although the F80 works great 'straight from the box', it has a plethora of setup subtleties that the pedantic can play with to their heart's content.

Just as I'm finishing writing, I get the e-mail that Meridian would like it back please. No, we don't get to keep the toys we play with and I'm usually happy enough to send them back, but this is one I'd be quite happy to accommodate over the long haul. HFC



Above: The amazing Meridian F80

UNISON

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at he perfect explanation of at happens when you bring Audio components together.

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The Vitus Audio SS-010 amplifier is not just highly recommended, it embodies the spirit of this webzine's highest honor, a "Most Wanted Component" award.

Dave Thomas The Stereo Times, June 07



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SCD-010 Integrated CD Player



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Alvin Gold

Alvin Gold began writing about hi-fi more than 20 years ago and has since become one of the UK's most internationally renowned reviewers

The Wonder of Woolies

Revolution in the high street, but is it good news for the audiophile?

"Before
Woolworths,
music was mostly
in the hands
of specialist
retailers – HMV,
Virgin and others
whose staff
knew something
about music"

t first occurred to me to write this column on the very day that Woolworths called in the administrators. The company has been teetering on the brink for a long time, so given the current economic situation, the news that they were to pull the plug hardly came as a surprise. Of course, the news will be devastating to the many thousands who work for the company and there are rumours that at least part of the group may be found a new home. Let's hope so.

All this may seem to have little to do with the world of audio, but you'd be wrong and this is an ideal opportunity for a few valedictory comments.

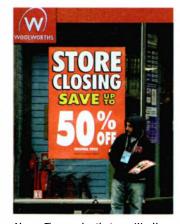
Woolworths involvement in the audio industry was primarily in the market for recorded music, mostly on CD. Before Woolworths became involved, music was mostly in the hands of specialist retailers — HMV, Virgin and others whose staff knew something about the music they were selling and who treated the market democratically, by sustaining a strong back catalogue. I can't say that you could walk into any branch of HMV and find a comprehensive, rounded collection of music in every genre or an indepth knowledge. But, at least they tried.

Woolworths was never in this market, but it became one of the major retailers of CDs nevertheless and it did it in its own, unique way. To Woolworths, and I speak here as a collector, prerecorded music was simply another market ripe for exploitation and their gameplan was to simply capitalise as quickly and with as little effort as possible. What they did was to sell top chart material, which they would purchase in huge quantity and at the lowest possible price. Their buying power made it difficult for the record labels to resist and for the smaller fry to compete with. Thus specialist retailers were deprived of most of their market,

But whole genres of music were effectively bypassed in the Woolworth's operation, including jazz, classical, world music and so on. Unfortunately, iTunes and others who distribute compressed digital media, suffer from most of the same shortcomings with just one key difference. They also sacrifice sound quality on the alter of easy access to music, using mostly rather shoddy personal stereo players.

One of the ironies is that in doing what they did, Woolworths effectively taught the major supermarkets to do the same, ultimately to the chain store's own detriment. It has now become almost impossible to find wide collections of music under one roof anymore and the whole concept of service and product knowledge has gone by the wayside. There are very few specialist record retailers in London, which is my home stomping ground. Online retailers, exemplified by Amazon, do a good job in every respect, except the crucial interaction between buyer and seller, which for the most part they are simply not equipped to provide.

Right now, I don't see any easy solution to the structural problems of the prerecorded music industry. The imperative to make a quick and easy profit has overtaken the market and in the process, we the collectors have lost out. Of course, Woolworths is not the first major retailer with interests in audio to hit the skids. Dixons, which not so long ago was a major high street name, is now relegated to a handful of airport departure lounges and a web-based operation. In their case the problem had nothing to do with music software, but it had everything to do with quality and service in the broadest sense, so maybe the comparison between them is not so fanciful after all. HFC



Above: The wonder that was Woolies

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CHOICECUTS



This month's varied musical morsels

Reviews by Alvin Gold, Jason Kennedy, Dave Oliver, Mark Prendergast, Phil Strongman and Nigel Williamson

AUDIOPHILE VINYL



MILES DAVIS

Kind Of Blue 50th Anniversary Collectors Edition

Sony BMG 180g View

Music: The most reissued album is back with a bang, including a blue vinyl LP, two CDs and a DVD along with a book, poster and more. The album's appeal lies in its long-term influence, from the Doors to Amy Winehouse as well as across most jazz genres. The line-up helps, with seven of the biggest names in jazz. This box is worth it for the sessions CDs alone.

Sound: Coloured vinyl has not got the greatest reputation but this heavyweight slab proves that it can be as delicious as the black stuff. JK

Music Sound





KANSAS

Leftoverture

Kirshner/Speakers Corner 180g vinyl

Music: Kansas was and, to some extent, still is that rare thing, an American art rock band. This 1976 outing was their concept album. It contains the hit Carry On Wayward Son, which you will recognise for its storming chorus, if not the lesser intervening verses. The sound combines blues rock guitar, heroic vocals and

always convincing effect. **Sound:** A reasonable recording with plenty of body and not too much compression, it's crisp and makes up fo a lack of space with nice bass. *JK*

prog keyboards to distinctive, if not

Music Sound



COMPACT DISC & VINYL



J TILLMAN

Vacilando Territory Blues Bella Unon Music: Joshua Tillman is best known as a member of Fleet Foxes and it's a sign of the Seattle quintet's all-round strengths that even their drummer is a singer-songwriter of devastating poignancy and impressive poise. Most of his best songs, are acoustic lullabies, delivered in a voice that lies somewhere in the heartfelt hadlands between Elliott Smith and Will Oldham, but the thump of New Imperial Grand Blues offers a welcome quickening of the pace. Sound: The scratchy warmth of the production is reminiscent of 1970s Neil Young. NW

Music Sound





TODD SNIDER

Peace Queer Aimless Records
Music: Americana king Snider
has been cranking out high-quality
singer-songwriter stuff for years
and this short but bittersweet disc
continues the good work, this time
on the anti-violence theme. The
best of the bunch is the rocking
Dylanesque Stuck On The Corner
("making money outta paper,
making paper outta trees, we're
making so much money we can
hardly breathe..."). It all comes
together to produce a tough but
tender set.

Sound: The sound throughout is dry and clear without ever being brittle. *PS*

Music Sound





PHILIP GLASS

Glass Box Nonesuch Music: Now 70 Baltimore's most famous composer has at last sanctioned a box set of his life's output. And what a delight it is. From the earliest repetitive minimalism of the 1960s, through astonishing opera work and onwards to the first career high of the hypnotic Glassworks in 1982, it's all a piece. But you get so much more here: unreleased versions. soundtracks, symphonies and mellifluous string quartets. Sound: Produced in The Looking Glass Studios NYC by Glass's regular team of Munkacsi/Riesman, the stereo imaging and depth are first rate. MP

Music Sound





ABDULLAH IBRAHIM

Senzo Intuition

Music: The one-time Dollar Brand found fame on the fringes of the jazz avant garde with the likes of Coltrane and Coleman. Now 78, and living again in South Africa, he has produced this solo piano collection of short pieces. They're mostly contemplative, lyrical works, with only occasional atonal flurries. For the most part it sounds like what it is - a master musician reflecting, very personally, on his life and experience. Sound: The piano is unaccompanied, but sounds rich and full with no hint of limitations to the instrument's dynamics. DO







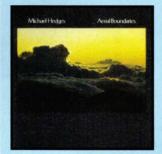
BASKERY

Fall Among Thieves Glitterhouse Music Others will surely make 'better' albums in the course of 2009 than Baskery – but few are likely to generate more fun. The banjos, slide guitars and twangy harmony vocals of their debut album make them sound like a raunchier version of the Dixe Chicks. In fact, they're three sisters from Sweden who, with their tongues firmly in their delectable cheeks, play a cracking mix of alt-country, dusty hillbilly blues and driving honky-tonk rock 'n' roll, that is as rare as it is refreshing. Sound: Vibrant and exciting, the entire album was recorded live in the studio with no overdubs – and you feel like you're sitting in the front row. NW

Sound







THIS MONTH'S CLASSIC HI-FI TEST DISC "This is a superb analogue recording that is both tonally rich and ultra quiet..."

MICHAEL HEDGES Aerial Boundaries Windham Hill

Music: "Violent acoustic" guitar player Michael Hedges was the star act on audiophile label Windham Hill in the eighties and this was his 1984 hit And a spectacular one it is too, as he combines phenomenal technique with an artist's sensibility to produce a beautiful sound. A sound that it's hard

to credit as coming from one guitar, but the recording makes very good use of reverb to bring tremendous scale to a single acoustic instrument. The use of hammer-ons and the attack he brought to the instrument set Hedges apart from the crowd in no small way. Sound: This is a superb analogue

recording that is both tonally rich and ultra-quiet, allowing the music full dynamic range and soundstage scale. Acoustic guitar has rarely sounded so good. JK







JIMI TENOR & KABU KABU

4th Dimension Sahko Finland's composite answer to both Barry White and David Byrne has always had a wayward muse. His early

way to a sax-driven lounge lizard persona with pulsing, sexual rhythms and a heart-shaped seduction bed on stage. Since then he's explored avant garde orchestral works and embraced the perennially unfashionable world of progressive jazz/rock. His latest venture leans heavily on an Afrobeat vibe and while it's as intimidatingly clever as ever, it never forgets to move the feet. Recorded 'studio live' in a Berlin nightclub, it has an immediate, in-your-face feel, but is none the worse for it. DO









HOMAGE A MESSIAEN

Pierre-Laurent Aimard (piano), Preludes for Piano, La Bouscarle, L'Alouette Lulu, Ile de Feu I & II DG477 7452

Music: Of these relatively obscure Messiaen piano works the early Preludes are relatively juvenile, though there is no lack of musical sophistication. Although Messiaen has a reputation for being difficult to listen to, this charge really doesn't hold water here and it is hard not to remain unmoved by the composer's evident passion Sound: The lack of any indication of the track titles is irritating, but the recordings are extremly fine: well definied and dynamic. They summon up the world of Messian with stark clarity. AG





GRIEG

Peer Gynt Suites 1 & 2, Lyric Suite, Holberg Suite, Two Elegaic Melodies Helsoinki Strings, Norweigian Radio Orchestra, Ostrobothnian Chamber Orchestra Apex 0927 45510-2 Music: Many will know much of this extremely famous music from Norway's national composer, especially In the Hall of the Mountain King. Yet most of the best music on this disc reflects the sometimes wild and at other times tranquil climate of Norway, and much of it is melancholy in tone. Sound: The main works, Peer Gynt and the Holberg Suite, are played in their usual orchestral reductions, yet unsurprisingly they have a touch of authenticity and class. AG



HIGH-QUALITY AUDIO

BABATUNDE OLATUNJI

Circle of Drums Chesky

SACD (stereo/multichannel hybrid plus stereo CD)

Music: Nigerian drummer Babatunde Olatunji's Columbia debut in 1959 made him one of the first stars of world music, but this 1993 recording made with two other drummers marks his final release. It finds him in the company of drummers Sikiru Adepoju and Muruga Booker, with melodic accompaniment provided by vocals, ektar and hammer dulcimer. This is drumming as transcendental release, a

means of spiritual communication that has its roots deep in man's psyche. A full immersion experience that with the right relaxants might just take you to the next plane of consciousness. Girls Aloud, it ain't.

Sound: Chesky didn't make this recording, but remastered it from analogue masters into DSD for this SACD. The result is a little warmer sounding than its usual fare, but very natural and wide band. JK





SPOTLESS ROSE: HYMNS TO THE VIRGIN MARY

Charles Bruffy (cond), Phoenix Chorale Chandos SACD (stereo/multichannel hybrid plus stereo CD)

Music: The only real connection between this diverse collection of hymns is that they are all dedicated to the Virgin Mary (the title refers her classical representation as a sinless flower). Some of the original choral settings here date back to the 12th Century and though all have been updated into more modern works by the seven 20th Century composers, they retain much of their mediaeval chant-like choruses and plainsong. Standouts include the

contribution of Benjamin Britten, whose devotional A Hymn To The Virgin, was held in such affection by the composer that it was performed at his funeral. Sound: The Phoenix Chorale may be Arizona's only professional choral ensemble but their performance here is exemplary, with a firm grasp of dynamics and atmosphere. DO







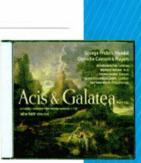
Acis & Galatea Linn CKD319 2-disc set

SACD (stereo/multichannel hybrid plus stereo CD) Music: This work appears to have been written for the instrumental and vocal forces available to Handel when he was living in England and is scored for a bare handful of performers – he was appointed resident composer to the Earl of Carnarvon (at Cannons in Edgware) and the

work appears to date from around 1718. **Sound:** Most of the 29 songs are strung together without recitative and the music is first rate, with the performances agile and expressive, without being overdone, though

Mathew Brook's diction is somewhat exaggerated. As compensation, Susan Hamilton is an ideal Galatea, fresh voiced and expressive. Overall, this is a brilliant recording of an excellent work which, if you have a taste for the Baroque, is well worth the effort. AG









"THE SOUND WAS SO MAGICAL MERLIN HIMSELF WOULD SURELY BUY ONE"

AUDIO RESEARCH REFERENCE 3 VACUUM TUBE PRE AMPLIFIER

"THE SOUND OF THE PH7 IS WHAT COUNTS AND IT'S A STUNNER"

AUDIO RESEARCH REFERENCE PH7 VACUUM TUBE PRE- PRE AMPLIFIER





"IT JUST SOUNDS LIKE YOU ALWAYS HOPED CD COULD SOUND, IF CD WAS DONE RIGHT"

AUDIO RESEARCH REFERENCE CD 7 VACUUM TUBE CD PLAYER

Audio Research has always used the knowledge gained through designing their Reference series components to benefit every model in their range. Phono stages, pre-amplifiers, power amps - Audio Research believes, like Formula 1 car designers, that the benefits gained at the cutting edge should be shared.

A new entry-level pre-amp delivers a taste of Reference sonics to a wider audience: the LS17. Fully-featured and supremely functional, it is a dream match for the VS55 stereo power amplifier – an astonishingly affordable introduction to Bill Johnson's wizardry. And we remain dazzled by the LS26, which we suspect will find itself driving more than a few Reference 110s.

Reference 110 is the first ever single-chassis, stereo power amplifier in the Reference range: the 2x110W Reference 110 - a perfect match for the LS26 or the Ref 3, the finest pre-amp ever issued by Audio Research. But there's more.

So fine is the CD3 Mk II that Audio Research was inspired to develop it further. The resultant CD7 is so good - its internals include a Ref 3-derived output stage - that this player has earned the honour of becoming the first-ever Reference series digital source component. For analogue supporters, the all-tube Ref PH7 phono stage is probably the best phono section available today. Completed with either the flagship Ref 610T or 210 monoblocks, the Reference models reign supreme.

The bloodline strengthens.





CAN CAN

Thanks so much for your headphone *Ultimate Group Test* (*HFC* 312) and the subsequent test of headphone amps (*HFC* 314). I've had to give up on listening through loudspeakers recently due to angry neighbours (I live in a flat and the person below complains to the landlord if I eat toast too noisily), but I've a set of Beyerdynamic DT880 and a Pro-Ject Head Box SE II following your recommendations and now my CD player sounds even better than through the speakers.

Pictured: Beyerdynamic DT880

lan Morgan Phoenix, Arizona

HFC A good pair of headphones can go a long way toward beating the sound of loudspeakers into a cocked hat, Ian.

Loudspeakers still have their place – we enjoy music when played at a distance, especially when played loud – but people are becoming more used to listening to their music on headphones and it's a fact that the latter have improved significantly in recent years. That's one audiophile benefit of the iPod.

BLU-RAY NO WAY!

I read your feature about Blu-ray music

(HFC 314) with a growing sense of disappointment. Hi-Fi Choice

 a dedicated audio-only, two channel magazine – should not be promoting a multichannel video format. Leave that to the home cinema types. Music videos – no matter how well recorded – are no match for the real thing.

Martin Binns via email

SACD'S NOT DEAD

Why do so many reviewers think SACD is dead? Your Blu-ray music feature (*HFC* 314) began by dismissing SACD as a "niche

"...many have given up on CD because SACD sounds so much better."

success in some overseas territories". Ask any classical music collector and SACD is far more than a niche; many of us have almost given up on CD because SACD sounds so much better and if there's an SACD release of a title I'm interested in, I'd never countenance any other format. As CD sales tumble, SACD is still buoyant. Dead? Hardly.

Jason Bailey via email

HFC We are hoping for more audiophile options from what is likely the last generation of physical formats. But, until Profile 3.0 Blu-ray becomes a reality (if ever), Blu-ray music is the best we can hope for. CD is slowly being pushed off the racks in HMV stores and similar and Blu-ray is one of those formats that's doing the pushing. We must look to the future as well as the past and Blu-ray music could be a possible future music format for many.

As to SACD, its impact in classical music is well-documented in *Hi-Fi Choice*. And it must be said, many of those who dismiss SACD are not big classical collectors. But the

LETTER OF THE MONTH

FULL SERVICE HISTORY

I've been buying hi-fi for more years than I care to remember and at the cheapest possible prices. But these systems never seemed to gel. Then I was recommended to a specialist dealer. I went for a demonstration – my first – and came out with a system that lasted me the better part of 15 years. When it was time to replace it, I went back to the same dealer and upgraded. I now know from bitter experience, how important the listening and selection process is, but will there still be dealers to demonstrate products?

Gary Cantwell via email

HFC We've all bought products based on individual recommendations and found the combination is less than the sum of the parts. We've also all found those combinations that work together magically. And it's true that a good dealer demonstration can help, here. Online sales are not works of the devil, though; the best offer terms that allow you to effectively run home demonstrations. Simple fact is, a good dealer is a good dealer, whether online or in store.



[CHOICE MAIL] Readers' letters

■ fact that SACD is so vital to one branch of music buyers and virtually unknown elsewhere does little to change its niche status.

BREAK LIKE THE WIND

Your feature 'Trapped Wind' (Dispatches, *HFC* 314) made me check out the 'sound' of my room. My room is 'well-damped' too – in fact it's so stuffed full of soft furnishings, cushions and chintzy things, it soaks up almost all the dynamic range of a recording. I'd love to strip away some of the soft stuff and make the performance more engaging, but SWMBO (she who must be obeyed) would send me packing, so I guess I'm stuck with the sound. Opening the doors does make a big difference, but not enough.

Dave Miller via email

HFC It's difficult to tow the right path sometimes. Turn your room into the Comfort Zone and you might struggle to hear the dynamic range; going all Ikea on the other hand can make your system brash and forward. A halfway house solution is often best, but this might not sit right with your significant other or SWMBO.

I AM CURIOUS, ORANGE

Why are hi-fi amps so expensive? I bought an Orange Tiny Terror guitar amp recently, (£300) and the matching loudspeaker cab (£170). Even factoring in stereo doubling the cost, there's no way I could get the same sort of quality for the money. Is hi-fi a rip off?

'Mikey' via email

"I'd love to strip away some of the soft stuff and make the performance more engaging..."

HFC There are two big issues here. The first is complexity; the last thing a good guitar valve amp needs is the low-distortion, flat between 20Hz-20kHz sound demanded from hi-fi equipment. To get that clean, wider bandwidth, hi-fi sound requires a lot more design elements (and components) in the signal chain. That said, as guitar amps get more complicated, they become harder to build (for different reasons – adding extra channels, MIDI, DSP and reverb, for example) and the price rises accordingly.

There's also a burgeoning 'boutique' market for hand-made 'time machine' guitar amps just as there is for hi-fi. OK, you won't find anything close to the price of Kondo Sound Labs amps in the guitar world, but Bad Cat, Carr, Mad Professor, the deliciously named Skrydstrup and Two Rock guitar amps (among others) will all set you back serious amounts of dosh.

The other issue is economies of scale. In

comparison to the market for hi-fi valve amps, the demand for valve guitar amps is huge and that has significant effects on the price of the end product.

BLACK IS THE NEW BLACK

Who suddenly thinks up the trends in audio product design? It seems like one day all products are black, then gold, then they all

go silver and now they've all gone black again. This seems to happen suddenly, do Japanese manufacturers all sit round and discuss these things? The same thing happens in loudspeakers; black ash or rosewood standmounts were once popular, then natural ash floorstanders became all the rage and now walnut and cherry predominates. How do the manufacturers know our tastes before we do?

Tim Harris via email

HFC Manufacturers don't discuss stylistic trends openly, but they all have a good idea of what their rivals are doing. What generally happens is one trail-blazer goes for a stylistic advantage and the others follow suit soon after. By the time these products make it to the UK, it looks as if every product changed at the same time.

The manufacturers, freshening up existing products with new finishes, largely determine these stylistic changes. But that's not to say the manufacturers wholly dictate how our products look; consumers will vote with their feet and avoid a finish or design that they take a dislike to.





Right on Q

Just when you thought, it couldn't get better.

KEF's new Q Series, the latest development in the most successful loudspeakers series the company has ever produced, manages to achieve the impossible and improve on perfection!

All new models benefit from extensively remapped crossovers to ensure incredibly smooth sound and the unrivalled detailing and off-axis performance of the

new Uni-Q $^{\circ}$ point source array, featuring the 'tangerine' waveguide, ensures a wonderfully even tonal response throughout the room and helps to deliver outstanding realism.

Audition the new Q Series at your local KEF retailer today.





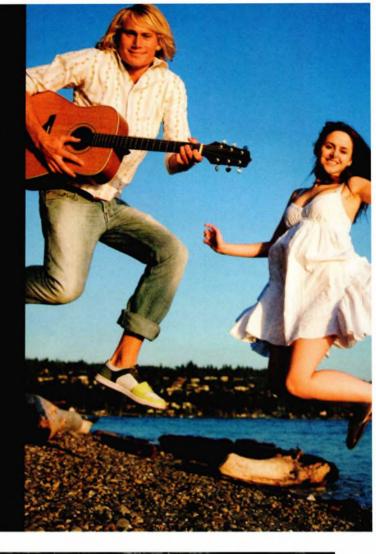


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REVIEWOS

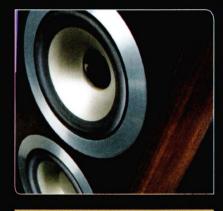
Welcome to the HFC hardware reviews section – the only place for definitive tests of the latest hi-fi components. Our unique combination of extensive listening, unsighted comparisons and scientific lab reports, conducted by the UK's most experienced set of reviewers, ensures you're holding the most comprehensive and reliable guide to high-performance hi-fi in the world.



EQUIPMENT REVIEWS

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ROUND-UP

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OUR RATINGS EXPLAINED

Star ratings for various different criteria, like sound quality and value for money

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point here is
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recommend you

pare this with matarities + 600 player, the 17 Mkil M, which has excellent build and e a very good impression in HFC 243. At same price there's also the Cyrus 7, a in all-rounder in a compact case. Yet trying the Heart with the standard is we switched over to the Siemens grade, a comparison somewhat muddied by effect that if was a cold for hot swap – the effect that if was a cold for hot swap – the

Our overall conclusion after a livelier through. The Siemens-equipped player has an

"In snappier sound with better timing that es with dense material with remarkable fidence and ease. It even seems to be You can find more civilised players for the money. But few combine dynamics with fine timing skil s as effectively as this. HFC

VERDICT

SOUND

Good brild and open, beey sound from a valve DM yeth plenty of Input. Tangport Sate of Yeth yeth also great value for money.

LOM

BUILD

DM doen't engage as will at the transport with loss of t

Avance Acoustic is being very ambitious producing a two box player of this build quality and price. Something just it to give and it is the DAC, which can't do justice to the transport's efforts. The things we like most about the product

The things we think could be better

The product's final score. All criteria are taken into account but the emphasis is on performance. Components scoring more than four stars may qualify for an HFC Award Badge

OUR AWARD BADGES EXPLAINED



Best Buy

A component receiving the coveted Hi-Fi Choice Best Buy Badge has been judged to deliver excellent performance at its price point, thereby offering outstanding value for money.



Editor's Choice

This Badge is awarded only to those components that are judged to deliver reference-standard performance, regardless of cost. These products may be considered among the very best of their kind.

Turn the page for the most rigorous tests of serious hi-fi in the business...



Digital evolution

Cyrus's flagship front end gets the Evo treatment

PRODUCT Cyrus CD Xt SE/DAC XP

TYPE CD transport and DAC/preamplifier

PRICE £800 (CD transport): £2,000 (preamplifier)

KEY FEATURES (CD Xt SE) Size (WxHxD): 7.8x2.15x36cm Weight 3.5kg/6.5kg Digital outputs: 1x opt, 1x co-axial, 1x PSX-R (upgradeable) (DAC XP) Size (WxHxD): 7.8x2.15x36cm O Digital inputs: 2x Toslink optical, 4x S∕PDIF electrical ♀ Analogue inputs: 2x phono OMC-Bus compatible

CONTACT ☎ 01480 435577 www.cyrusaudio.com

yrus has a singular approach to casework design, new products are always shoehorned into the cast aluminium halfwidth boxes that have become the company's signature. This must save a lot of time and money at their end and ensures an aesthetic consistency that few of its peers can match. On the other hand, you have to look pretty hard to tell one Cyrus from another, especially if it's a CD player, or a transport for that matter.

The new transport is distinguished by the addition of two letters printed in white on silver on its lower lip, which must be cause for confusion from time to time. Having said that this particular unit is easily differentiated from its predecessor, at least by virtue of a slot rather than drawer-loading mechanism

This move has occurred across the Cyrus range and is related to the reason for the revision of the transport itself, which is indicated by the SE suffix. This stands not for special edition, as is usually the case, but for

servo evolution, Cyrus MD Peter Bartlett, claims that his company's development of its own servo software makes it unique in the hi-fi universe. A servomechanism, to give it its full title, is a device which (in a CD player)controls the motors which operate the laser mechanism that reads the disc. Cyrus has the advantage of employing Jonathan Green, an engineer who used to work in Philips' optical engineering department and thus a chap with a deep knowledge of how optical disc systems work. Along with the Cyrus engineering team he designed the servo software that allows all

Operationally the CD Xt SE is pretty straightforward, there's the new disc loading system to master, but that's really just a matter of avoiding putting fingers on the playing surface. We had a few glitches with discs not playing properly, but these were overcome by ejecting and re-inserting. The remote handset is designed to control anything in the Cyrus range and as that range includes a multichannel processor, there are quite a few legends and buttons that are not relevant to CD playback. Fortunately, the operational keys are bright green and, therefore, easy to find but things

"On the digital side the DAC XP has an intelligent receiver that treats signals according to their quality."

current Cyrus players to operate in a fashion that is dedicated to getting the most information from the disc with the minimum of data corruption

This involves spinning the disc at 1x speed and operating the drive for maximum data retrieval with less reliance on error correction and improved laser control accuracy. The claimed result is up to five times fewer data errors, better signal-to-noise ratios and improved jitter levels.

ROHS compliant (Restriction of Hazardous Substances), since we first encountered them in HFC 279, and we asked Peter about the way this has affected them in our Q&A box overleaf. He claims that the need to remove lead and other hazardous substances was very difficult to accommodate, but ultimately

like the next track take a bit of scanning for.

Both the CD Xt SE and DAC XP have become

beneficial to sound quality. In the case of the DAC XP this is the only change, but as it involved changing PCB track widths and solder type it's no minor matter.

The DAC XP is a 24-bit/192kHz oversampling digital to analogue converter and analogue preamp combined. It has six digital and two analogue inputs alongside two pairs of outputs in both balanced and single-ended form. It is a fully balanced, dual-mono preamplifier with input naming from a given list and alternative display options.

On the digital side, the DAC XP has an intelligent receiver that treats signals according to their quality. Thus it re-clocks high-quality signals using a close tolerance circuit with triple quartz reference, but when it receives a low accuracy signal from a PC, for instance, it relaxes the re-clocking precision to ensure reliable signal recovery. As it stands,





We spoke to Cyrus MD Peter Bartlett about the CD Xt SE and DAC XP.

HFC: Why choose a slot-loading mech?

PB: We chose it because it's quiet and

very well made. Drawers are either low cost plastic mouldings or very expensive metal designs, there really isn't a happy medium. As we now write all the software that ties together the laser, the loader and the servos, we're not tied to the servo system that was designed to work with a specific loader. The smart guys choose their transport by selecting the best quality servo system, but this often means ending up with a flimsy drawer-loading mechanism.

How has the recent ROHS legislation affected your products?

When we first started working on ROHS-compliant, lead-free versions of our products the first samples sounded bad so we made a series of changes to address this and ended up with products that sounded better than the leaded versions. One problem we encountered was that some lead-free solders don't stick very well to the components being attached to the boards, but after trying a few alternatives we found one that worked. We also changed the width of tracks on the PCBs to accommodate ROHS. At the time it was a massive headache, but in the long run we've managed to produce better sounding components.

What have been the sonic benefits of the SE technology?

You can hear cymbals very clearly and they no longer sound glassy – you can hear whether it's a Zildjian or a Paiste – it sounds like a cymbal not a distortion. Across the entire gamut the additional resolution has overcome a lot of the reservations that audiophiles have about CD.

Why no USB input on the DAC?

In about six weeks we will be announcing new products with a very good solution for just that. It won't be added to the DAC XP, but the transport will work supremely with what we've got coming. We're trying to give people a really affordable way of integrating music they have stored on a computer.



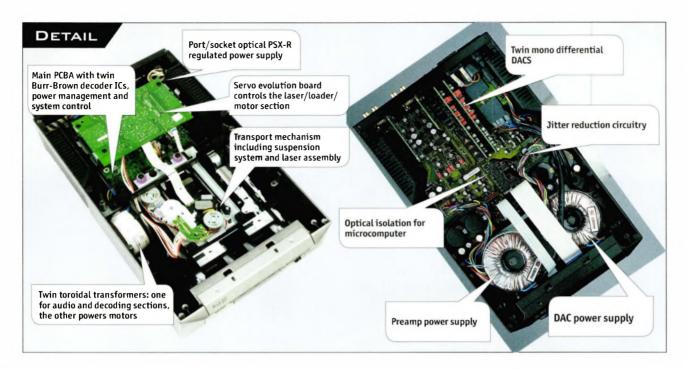
■ however, there is no USB input which would be useful for PC sources.

SOUND QUALITY

The sound of this pairing has clearly changed since its first incarnation. Audio memory can be a fickle thing, but on this occasion we are pretty certain that the goalposts have moved. This is immediately obvious in the quality of high-frequency sounds, such as female voice and percussion, which are unusually well reproduced and have a clarity and depth that is rare. It's also a highly detailed sound that delivers uncanny amounts of low-level information, which means that the soundstage is never less than full size.

The downside to this exposure is that less than sweet or clean recordings tend to reveal their shortcomings. Pianos, for instance, can harden up if a recording has been compressed. This proved to be the case with solo piano on Esbjorn Trio Svensson's Live in Hamburg disc. but when the band got going as a whole, the coherence and solidity of the low end balanced things out nicely, the result being very strong on atmosphere and the low-level cues that help to recreate the excitement of a live event. The pairing appreciates a good digital interconnect. We started with a somewhat aged Furukawa cable, before moving to a Chord Company Signature which tidies things up appreciably and lets you hear much further into the music.





It's hard to find anything to directly compare these components to, there are few if any other standalone transports under a grand and DAC/preamps are hardly commonplace. We did, however, have a Russ Andrews HP-1 preamp and DA-1 DAC, which when combined are a bit like the DAC XP, albeit in two boxes and with far fewer features

Next to these the Cyrus solution offers a big upgrade in resolution thanks to its greater overall transparency. This helps to give the sound its room-filling scale and to fill in the fine detail in voices for instance. that the more affordable Russ Andrews combo struggles to reveal. That said, the

DRIVE IS TOP DRAWER

In most CD players, the servos are bought as part of the disc drive kit with the loading mechanism - usually a drawer. As most disc drives are made for mass produced devices like boom boxes, car head units and the like, they are not primarily built for sound quality, factors like robustness and the ability to withstand jolts are equally important.

Cyrus's mastery of disc drive software mean that it is no longer tied to buying loader, motor and servos as a kit, but can select the best examples of each and combine them to produce a tailored drive that offers the best operation and data retrieval results

Cyrus estimates that this approach has resulted in 20 per cent fewer data errors than they got with the Philips CDM 12 kit used in the CD 8X, which itself was a well regarded player. The other bonus is that Cyrus players are no longer compromised by a flimsy plastic drawer.

"The sound of this pairing has clearly changed since its first incarnation, but on this occasion we are certain that the goalposts have moved."

treble is easier to live with, probably because it's less revealing

With a great recording such as Cornelius's Sensuous album, instruments like small bells and acoustic guitar are produced out of thin air with magical realism. And when more elements are introduced to the mix it just gets bigger and better - the Cyrus brings its crisp precision to the whole bandwidth so that the bass is as tight and shapely

Usefully, this detail resolve does not get in the way of the musical message. In fact, it reinforces it with an excellent grasp of timing that enables easy access to complex rhythms.

Another successful title is The Trentemøller Chronicles, which is a bit like the Orb, but in a contemporary style and without the samples. It's essentially an entirely computer-derived sound, but one that has real shape and scale. We put it on for background purposes but were distracted by the way the Cyrus pulled out so much deep lush bass and a pulsating elastic soundstage that got bigger and better as the volume was pushed.

To experiment, we combined the CD Xt SE with the DAC in a Resolution Audio Opus 21 CD player and fed the output to a Music First preamp, about five-and-a-half

grand's worth of kit in all. It sounds more relaxed and better focused than the DAC XP, but lacks its scale and tight precision.

Cyrus has done a phenomenal job with the CD Xt SE; it is a transport that's as close to any reference product we've come across. In combination with the DAC XP, it produces a remarkably well resolved and musically coherent result that, while a little on the exposed side for some material, makes most of our music even more real. HFC

Jason Kennedy





DAC Magic!

New high-end DAC from Bryston presses all the right buttons

PRODUCT Bryston BDA-1

TYPE Digital-to-analogue convertor

KEY FEATURES Size (WxHxD): 43x8x29cm ○ Weight: 8.2kg ○ Digital inputs: 6x S/PDIF (2x phono, 2x BNC, 2x Toslink), 1x AES/EBU (XLR), USB, (for firmware upgrade via PC) Digital outputs: 1x S/PDIF Analogue outputs: 1x unbalanced (phono) and balanced (XLR) Sample rates: 32kHz -192kHz

ryston is a company with an enviable standing in the high-end marketplace. Although it has probably never been the most famous name associated with amplifiers, it has long been one of the most respected among cognoscenti for its no-frills performance, high power, professional build and reliability and general all-round understated excellence. The famous 20-year quarantee no longer excites the raised eyebrows that it once did, but it does indicate a certain seriousness of purpose.

In accordance with that seriousness, Bryston doesn't introduce new products on a whim. It hasn't offered a standalone DAC before, preferring to incorporate a DAC board in its preamps, but the current rapid growth in digital sources has made plenty of manufacturers (and customers!) reconsider the value of a DAC as a high-quality hub in a modern system. It is probably the best way of getting the most from not only silver discs, but also digital radio, digital TV and computers. Like several of the newer DACs on the market, the BDA-1 includes a USB socket for connection to a desktop or laptop computer, potentially turning a cheap bit of consumer electronics into a high-end server.

The USB socket is one of eight inputs, catering for all the usual flavours of interconnection except 192kHz sampling rate via dual AES sockets, something we admittedly can't recall seeing in a single

domestic installation. And anyway, you can send such ultra-high sampling rates to the BDA-1 down a single cable. On a piece of upmarket kit like this it's no surprise to find both unbalanced and balanced analogue outputs, but the digital output is a nice bonus, handy if, for instance, you run some sort of digital recorder or a digitally-fed slave system elsewhere in the house.

incoming digital streams even when their rate is on the border of what's acceptable, while the latter uses Bryston's own 'discrete Class A op-amp' circuits which have exceptionally low distortion, high slew rate and good cable-driving ability. Along with the rest of the circuitry, they are assembled using surface-mounted components on the single audio circuit board, which runs the full

"One tends to approach kit like this with quite high expectations and we were encouraged to find them almost immediately fulfilled."

Like many DACs, the BDA-1 features upsampling of digital sources running at 96kHz or lower sampling rate and it's also possible to switch the upsampling off of course the second stage of upsampling, within the DAC chips, is still active, but basically the upsampling option is an alternative digital filter. Those DAC chips, by the way, are a pair of Cirrus CS4398s, as used in all sorts of DACs and CD players, some costing a good deal less than the BDA-1. This may look like a bit of a cheek at first, but we entirely sympathise with Bryston's decision to use them: as with FM tuners, mass-market integrated circuits do such a good job that exceeding their performance would be a vastly complex and expensive operation. dCS is a case in point here, its fabulous proprietary DACs starting at around four times the price

Instead, Bryston has concentrated on what comes before and after the DAC itself, which means the digital reclocking circuitry and the analogue output. The former is a doublestage arrangement which is claimed to reduce jitter while locking rapidly to

width of the case, but uses less than half the depth - there's quite a lot a fresh air inside. Power is taken from a pair of small encapsulated transformers followed by plenty of filtering and regulation. Build quality, as usual for Bryston, is beyond reproach and the sockets in particular are of commendably high quality.

SOUND QUALITY

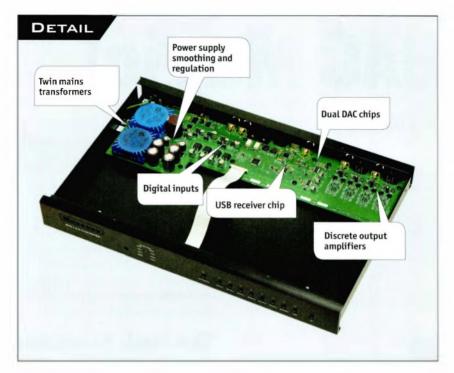
One tends to approach a piece of kit like this with quite high expectations and we were encouraged to find them almost immediately fulfilled. Having connected up the BDA-1 to the first CD player that came to hand - nothing fancy - we used it first to listen through some newly arrived recordings that had come in for quality monitoring purposes for a record label. That meant that the recordings themselves were unfamiliar, so a highly positive overall reaction boded well for them as well as the BDA-1. In fact, we were really most impressed, not only with the general degree of tonal purity and detail exhibited, but also with the unusual degree of what, for want of a better word, we'll call 'polish' on the sound.



That could be taken as a very back-handed compliment, if read in the sense that rough edges have been polished out or otherwise sweetened, but that's certainly not the case here – the recordings in question, being orchestral, have plenty of natural instrumental tone including the bite of bow on string and the rasp of loud brass instruments. But somehow there seems to be a burnished quality to the sound, which we aren't accustomed to hearing often from recordings, though a good performance in a fine hall can certainly possess it. Details positively shone through, like a landscape in bright sunlight.

Curious as to how much of this (very welcome) finding was due to the DAC and how much to the recording, we resorted to a familiar mid-range CD player. Now the recording simply sounds good - it would probably be mean not to say very good, but it was not outstanding in the way we had first heard. Reverting to the BDA-1 restores the original excellence, so it was no trick of a first impression. Still, this comparison was across nearly a four-to-one price differential, so could an alternative near-£2,000 DAC manage the same result? Not quite, turned out to be the answer. A dCS Elgar did, admittedly and, perhaps, manages a shade tighter bass too, but in this case the four-toone ratio was the other way and, well, one would hope so!

This turned out to be probably the most marked example of what the BDA-1 can do, but across a wide range of recordings, both familiar and unfamiliar, it maintains a consistently high standard of resolution and realism, making the music practically leap out of the loudspeakers. It has admirably even-handed tonal characteristics with particularly fine rendition of voices, maintaining the delicate balance between



"...across a wide range of recordings, both familiar and unfamiliar, it maintained a consistently high standard of resolution..."

vowels and consonants without sibilance, chestiness or any of the other all-too-common misdemeanours and it extends effortlessly to the frequency extremes. Bass has a lovely sense of weight but is still plenty lively, while high treble is open and spacious. Incidentally, it's good to report that these results hold via any of the digital input options, including USB when it is sourced in such a way as to be bit-perfect. Bryston seems to have nailed the problem of jitter very effectively in this unit.

There is a legitimate question over the value of any expensive DAC (or CD player,

really) when devices such as the Cambridge DacMagic (HFC 313) at one-tenth the price can achieve remarkably good results. It would be ridiculous to claim that the BDA-1 is ten times as good, but if you are not afraid of the good old Law of Diminishing Returns there is certainly a rewarding step-up in quality from even the best budget units in a fine component like this. As with so many things in life, the finest and rarest come at a price, but we think the arguments the BDA-1 makes for itself are exceptionally convincing. **HFC**

Richard Black





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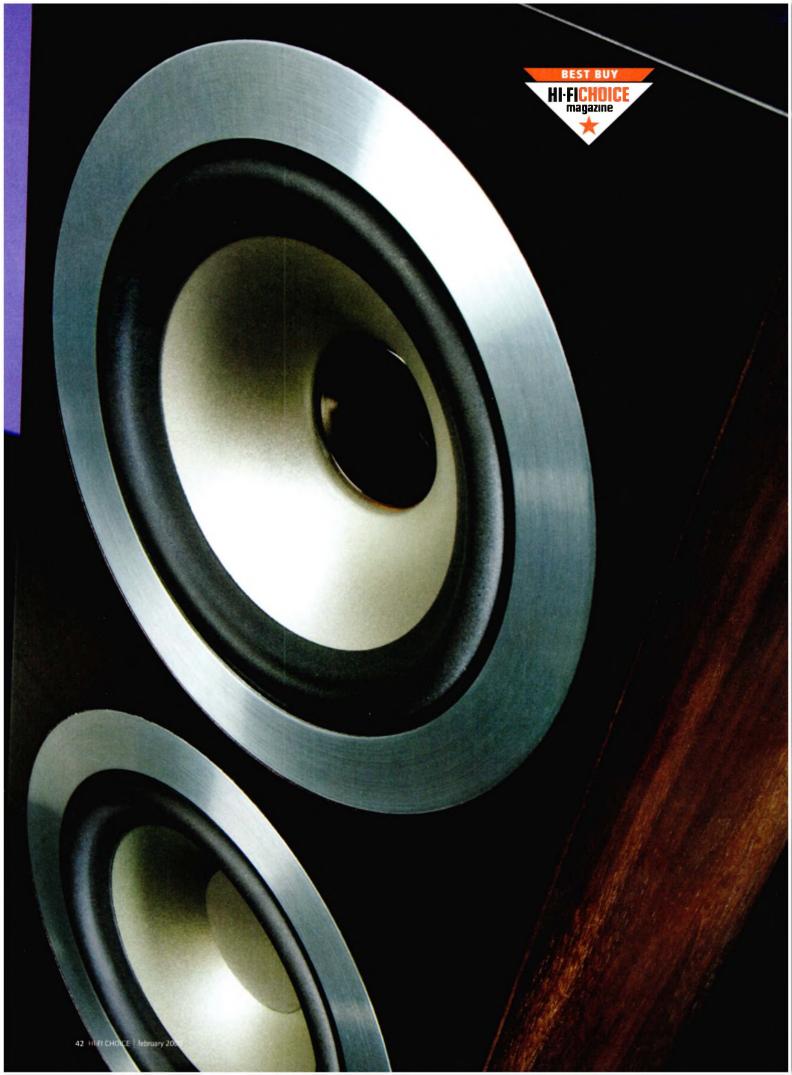
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- Hi-Fi World October 2008





Tiny Revolution

Tannoy's Revolutions are simpler, cheaper variations on the Revolution Signature

PRODUCT Tannoy Revolution DC4T

TYPE Floorstanding loudspeaker

PRICE £599 per pair

KEY FEATURES Size (WxHxD): 15x85x16cms Weight: 9.1 kg Drivers: 19mm titanium dome with tulip WaveGuide 100mm paper cone Sensitivity: 87dB
 Impedance: 8 ohms (nominal) Trapezoidal enclosure

ne of the historic famous names of British sound reproduction, admittedly now part of the Danish ProAudio TC Group, Tannoy's main claim to fame has long been its Dual Concentric drive unit technology, small versions of which are used in its new Revolution and Revolution Signature ranges

Hi-Fi Choice has already reviewed two of the four Revolution Signature stereo pairs, the Award-winning £899 DC6 standmount and its floorstanding £1,999 DC6T range mate, both of which use 150mm dualconcentric main drivers. Two smaller equivalents based on 100mm drivers are the other models in the Revolution Signature stereo line-up and, in addition, make up the rather more prosaic and significantly less costly Revolution models, including this £599 Revolution DC4T (T is for tower) reviewed here.

Although the Revolutions share the same drive units and configurations as their senior Signature cousins, they also incorporate a number of economies, all of which mean the Revolution DC4T costs £300 less than its Revolution Signature DC4T equivalent:

Three basic economies are involved Although the enclosure is still finished in real wood veneer, with the same choice of 'light oak' or dark 'espresso' options, the curved sides of the Signatures are replaced by flat sides here. However, the enclosure back is narrower than the front, so parallel sides are avoided, giving a trapezoidal plan section. The alloy trim used on the front port of the Signatures is replaced here by a simple untrimmed rear port. And the fifth driverframe earthing terminal has been left out of this less costly model (no great loss, given the rarity of five-conductor speaker cables)

This is an ultra-compact floorstander, operating in a two-and-a-half-way configuration. The small diameter drivers means the enclosure - about 11 litres in capacity at a rough estimate - is exceptionally slim and quite shallow, which certainly ensures a high WAF rating, but not its physical stability, which is surely marginal if not asking for trouble, especially as fitting

wiring and crossover components have been carefully selected on sound quality grounds.

SOUND QUALITY

The Revolution DC4T just about achieves its specified 87dB sensitivity. While that below average figure is not particularly generous, especially since there's no bass output worth mentioning below 40Hz, it should also

"The 100mm dual concentric unit is the smallest DC ever and was originally developed for Tannoy's **Arena multichannel audio visual satellites.**"

the spikes reduces the footprint further still. If ever a speaker was crying out for a separate plinth to prevent it falling over at the merest glancing blow, this is it.

The reason this speaker is so slim is that it uses very small drive units. The little 100mm dual concentric unit, partnered here by a similarly sized bass-only driver, is the smallest DC ever and was originally developed for Tannoy's Arena multichannel audio visual satellites. The fact that this Revolution DC4T has an extra driver to help with the bass could be highly significant.

The actual cones used here are just 80mm in diameter, so the area of each one is only around two-thirds that of the 100mm cones used in the 130mm units that are commonly found in miniature speakers. Two 80mm cones, however, have a combined area that's not all that far short of those used by the ubiquitous 165mm drivers. Both drivers' coated paper cone diaphragms are driven by 33mm voice coils, while the dual concentric's tweeter uses a 19mm titanium dome, well protected down behind a tulip waveguide horn.

Amongst relatively few luxury touches, the outside edges of both drive units are decorated by shiny alloy trim rings, while the grille is held in place by magnets that are hidden beneath the veneer, avoiding unsightly lugs when it's not used. Twin terminal pairs provide bi-wire or bi-amp options and are conveniently situated close to the floor. According to Tannoy, the internal



be seen in the context of an unusually easy-to-drive load for the partnering amplifier, which stays above eight ohms across nearly the whole band. A further bonus here is that an easy load reduces the influence and importance of the speaker cables, though it was disappointing to discover a significant impedance difference between the two samples across most of the midband. Minor resonances were also visible 140-180Hz and 280Hz

The port here is tuned to a relatively high 58Hz, though this does, at least, provide some compensation for the modest drive unit area. Although far-field in-room measurements show decent port-related output, when the speakers are in free space, clear of walls, output was well down 60-120Hz. As expected, wall reinforcement boosted that octave significantly, but after considerable experiment best results under our conditions were found with the speakers 33cm out from the wall. It's still not particularly smooth, especially through the bass region, but the overall balance stays within impressively tight limits above 300Hz.

Although there was no way such a small loudspeaker would deliver serious bass weight or extension, or dramatic dynamic expression for that matter, those are the main down sides and most of the rest is very positive.

Best of all is the overall coherence and openness through the broad midband, which brings considerable expressiveness and believability to human voices, sung or

DUAL CONCENTRIC DRIVE

Cleverly combining a bass/ mid driver and a horn-loaded tweeter on the same chassis, Tannoy's Dual Concentric loudspeaker drive unit is one of a mere handful of landmark products that redefined hi-fi performance standards. The prototype, designed by Ronald Rackham, first appeared way back in 1947, yet somewhat similar examples (as well as a host of variations) continue to be produced to this day.

That brilliant 1947 creation included careful longtitudinal spacing of the two voice coils and careful choice of the crossover point to ensure precise phasematching between the two drivers, giving remarkable point-source coherence across a wide bandwidth. The original examples, built in 380mm and 300mm sizes, quickly became an industry standard, and were rapidly and widely adopted by research labs and recording studios. Since then, Tannoy has created smaller and smaller variations on the Dual Concentric theme, to suit the changing marketplace and the demand for smaller, slimmer loudspeakers.



"The port here is tuned to a relatively high 58Hz, though this does provide some compensation for the modest drive unit area."

spoken. This is arguably the most important trick that any speaker can pull and the bonus here is that the speaker is free from any heaviness or chestiness and has a fine agility and freedom from boxiness.

Then there's the dual concentric bonus, which brings fine imaging to the table, alongside superior off-axis consistency, so a good stereo image is well maintained across a generous listening zone.

One might criticise the Revolution DC4T for some lack of smoothness and sweetness and slightly limited air and transparency, but those are essentially minor criticisms of a speaker that transcends its limitations and is always informative and thoroughly engaging. Unaccompanied voices are particularly thrilling, as is spoken word and while it doesn't offer the sort of performance that with thrill lovers of Massive Attack or Basement Jaxx, never mind The Prodigy, it does work very well indeed within the inevitable constraints its size imposes, and we daresay it would respond rather well to the addition of Tannoy's Revolution Sub 1001, or similar subwoofer

On its own, a pair of Revolution DC4Ts will give a very good account of themselves provided the scale of the material they're fed isn't too demanding. The fact that they look very nice and take up so little room space will

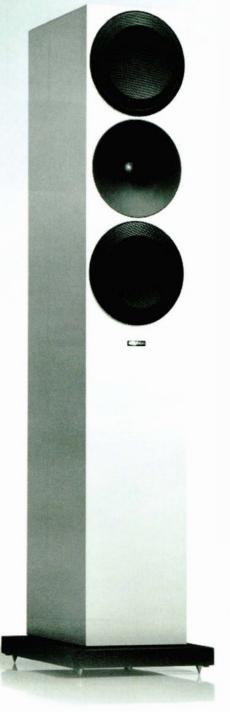
always win friends, though the lack of plinth and consequent poor stability is a handicap.

However, their superior voice-band coherence makes a powerful argument in favour of what is by far the smallest variation on the dual concentric theme that Tannoy has produced to date. The undoubted quality of this little drive unit through the midrange and treble, makes one wonder how long it will be before Tannoy introduces a speaker that combines it with the serious bass action which was always a hallmark of the original Dual Concentric legacy. **HFC**

Paul Messenger



amphion





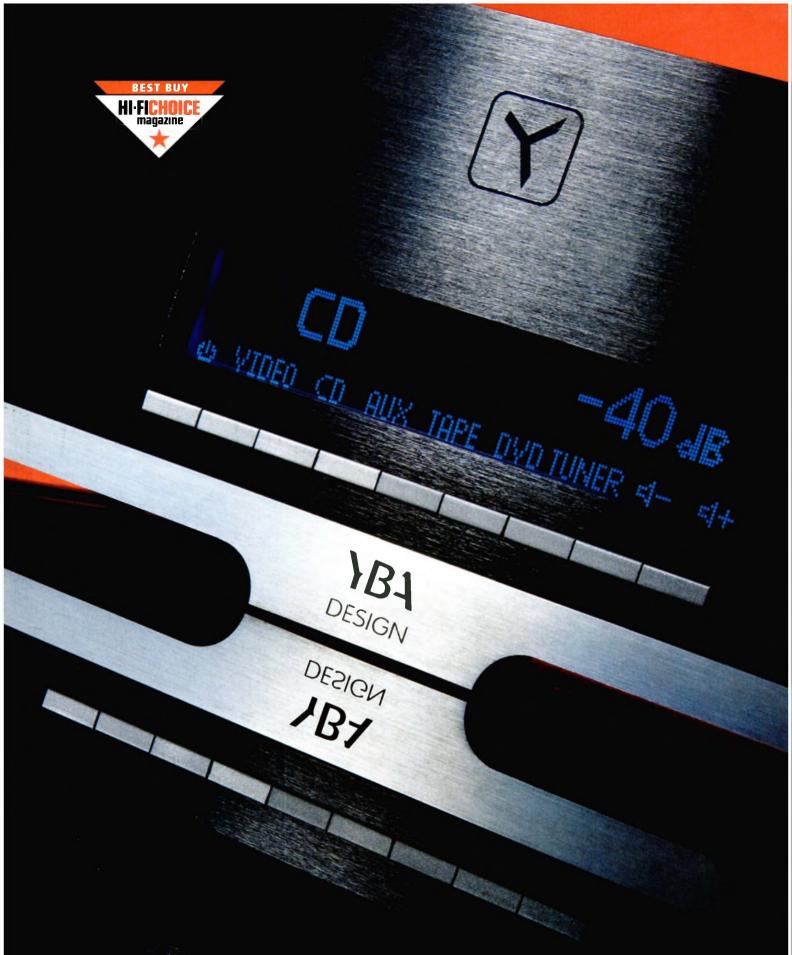
Review winner PRIO 520

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Black is Beautiful

An impressive, but affordable boutique-style integrated from the French high-end specialist

PRODUCT YBA YA201

TYPE Integrated amplifier

PRICE £1,290

KEY FEATURES Size (WxHxD): 39x13x39cms Weight: 15kg
 Rated power: 100 watts (8 ohms) □ Inputs: 6x RCA phonos □ Outputs: 1x tape, 1x sub Triple push technology

CONTACT 2 +33 01 60 12 51 00 www.yba.fr/ybadesign

here is a fascinating similarity between the philosophies of the company that produced the loudspeakers used in this review and that of the manufacturer of the amplifier under test. Both place far greater importance on listening to music through their products than they do purely in measurement or technology. Yves Bernard André, the French designer of YBA electronics remarks "Technology is not an end in itself: The pleasure of listening to music must be our only guide." Neat loudspeakers come from a like-minded home: a factory where there's a room full of musical instruments to which the sound of the loudspeakers can be compared rather than hosts of computers and test gear. This esprit de corps bodes well for the listening tests.

We've not seen much of the French highend specialists in Hi-Fi Choice - or at all in the UK - for a while, but the company is in the process of re-establishing UK distribution as we write. Until that is finalised, YBA is supplying its UK dealers directly from its Palaiseau headquarters in the suburbs of Paris. From here it delivers CD players, tuners and amplifiers from its Signature, Passion and the Chinese-built Design ranges

When we say 'Chinese-built' we are not being in the least derisory. In fact, the YA201 is probably one of the neatest pieces of engineering and industrial design we have seen emerge from any country. For example, most 'affordable' amplifiers invariably use a rubber stick-on foot in each corner. Not the

knobs. Everything, including the precise (128 x 1dB steps) volume control, is operated through a single bank of small push buttons. The result is an unusually tidy-looking fascia. The unit was supplied with a system remote control handset: not the usual parts-bin special, but a heavyweight aluminium confection. Unfortunately, several of the codes also operated functions of the Naim HDX, we

...the YA201 is probably one of the neatest pieces of engineering and industrial design we have seen emerge from any country."

YA201, where instead the chassis is milled away to leave three small flat sections - with rubber inserts – standing proud to support the amplifier. It's a tidy solution and effective on most supports: mind you, the amplifier needs careful placement on our Quadraspire Sunoko Vent stands to ensure that its front foot doesn't drop into one of the shelf's horizontal ventilation slits

Designed to match the upsampling, 24-bit/192kHz YC201 CD player both sonically and cosmetically, the YA201 stereo amplifier is a 100-watt stereo design using a Triple Push configuration. The amplifier features an oversized linear power supply and short signal paths and provides six analogue inputs along with line-level and tape monitor outputs. In keeping with its CD-matching appearance the amplifier uses no control

were also using. For example, volume down switched the HDX display to 'View by Artist' while volume up switched to 'View by Album' and Mute acted as a 'Back' button.

The YBA was tested driving Neat Momentum 4i loudspeakers, connected with Chord Company Epic cables, a Naim CDS CD player and an HDX hard disk player as source components. The YA201 doesn't have a phono input, so testing with vinyl was not an option here

SOUND QUALITY

The attractive minimalism of the YA201's appearance seems to extend to its performance. Regardless, there is nothing cold or clinical about the sound: rather it has markedly crisp definition that appears to be completely devoid of any added romance

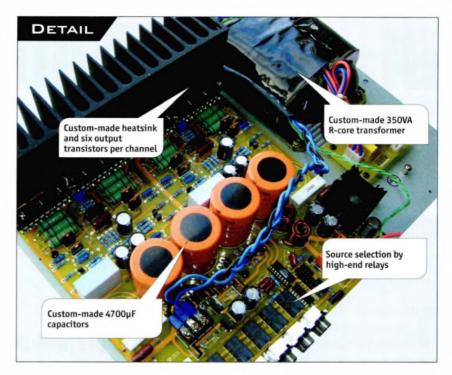


or undesirable warmth. This ascetic quality seems to increase the listenability of the 50 transcriptions on the two compact disc set, Bob Dylan's *Theme Time Radio Hour*, many of which sound less than wonderful through other amplifiers (the recordings can span eight decades in the space of three tracks).

Helping the amplifier deliver such a 'neatly scrubbed' portrayal of music is an equally abstemious tonal balance that does not artificially boost the frequency extremes, the lows in particular. When genuine bass is present the amplifier lets you hear it: at other times that region is left vacant. Some listeners might argue that this amplifier sounds lean but it's more accurate to say that this controlled presentation and lack of LF bloom gives the YA201 a heightened sense of transparency and insight into timbre and dynamics. All of which result in a performance that is as musically informative as it is cosmetically appealing.

The amplifier really shines brightly when fed with well-balanced, uncluttered, clean recordings, especially those that have not had all the life and dynamism sucked out of them with compression, as seems to be the trend with many current recordings. The opening tracks on the first disc of the eponymous Nils Lofgren Band Live CD give the YA201 a chance to demonstrate all its adroitness communicating music. It closely approaches putting you on stage with the band where you can sense and feel every nuance in their playing along with the interaction and accord between the players.

The YBA also demonstrates flawless leading-edge definition and dynamics, which help it create accurate note shape and thus accurate timbre. The mix of instrumentation on the Vivid Curve album *Live at Edgefield* – guitar, percussion and didgeridoo – enjoys a magnificent, almost valve-like, richness along with an invigorating sense of presence. Interestingly, without over-stating the instrument's contribution, the YBA seems to maintain the didgeridoo's low-key presence in the mix better than many amplifiers.



"The YBA demonstrates flawless leading edge definition and dynamics, which help it create accurate note shape and timbre."

On tracks such as 'Hundred Naked Kangaroos', its subtle contributions are rendered consistently and the instrument never seems tempted to withdraw into the back of the mix.

The extreme definition of the YBA makes its presence felt most strongly with discs such as the Naim recording of the RPO Chamber Soloists playing Mozart Wind Serenades. The amplifier positively scavenges information and presents an exceedingly finely etched portrayal of the ensemble, its instrumentation and playing.

Things become even more interesting when you feed the amplifier with hi-res material; in this instance a 24-bit/88.2kHz version of the same Mozart recording and a similar Naim hi-res disc of cellist Tim Hugh playing at Wigmore Hall. The instruments

immediately acquire a depth and solidity that greatly enhances the life-like quality of the piece along with the amplifier's ability to convey subtle musical details. The added insight the hi-res performance gives and the way the YBA reveals this makes the music appreciably more entertaining, meaningful and enjoyable.

Overall, the performance of the YBA YA201 is nothing less than bewitching: musically persuasive and sonically as near transparent as any integrated we've heard, this amplifier is in a league of its own. **HFC**

Malcolm Steward







Whether your choice is an amplifier from Unison Research, a CD player from Pathos, a loudspeaker from Opera or a precision turntable from Thorens, you can be sure of this. It will be beautifully crafted to give you a lifetime of musical enjoyment.













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Double-bass

DALI's new Lektor range is expressly value-for-money oriented

PRODUCT DALI Lektor 8

TYPE Floorstanding loudspeaker

PRICE £978 per pair

KEY FEATURES Size (WxHxD): 25x106x37cm

○ Weight: 24kg ○ Drivers: 2x 200mm bass drivers separately port-loaded ○ 100mm separate midrange driver ○ Sensitivity: 89.5dB ○ Impedance 6 ohms

○ Driver cones are coated paper loaded with wood fibres

CONTACT № 0845 644 3537 @ www.dali.dk

ALI – the initials stand for Danish Audiophile Loudspeaker Industries – has many different speaker ranges, starting with the budget Concepts and extending right up to the awesome Megaline. The Lektors are the newest arrivals in the catalogue, slotting in just above the Concepts, but below the popular Ikons, so they sit just above the budget sector and hit some very popular price points.

Although a total of seven models are planned, at the time of writing the range consists of just three stereo pairs: a £250 per pair Lektor 1 standmount; a £750 per pair Lektor 6 floorstander and the big £978 Lektor 8 floorstander that is the subject of this review. Two more standmounts, plus home cinema models are also planned.

The Lektor 8 is a lot of speaker for the money, the '8' in the name referring to the two 200mm (8-inch) bass drivers that it uses. Such a competitive price is simply not compatible with European manufacturing costs, so it's no surprise to find that the Lektors are made in China. However, the design was created and specified by the Danish engineers and design consultants and features DALI's proprietary wood fibre loaded, coated paper cone diaphragms, originally introduced in the upmarket Euphonias.

The enclosure is hefty and bulky and although there has, at least, been an attempt to introduce the odd styling embellishment to an otherwise rather bland and four-square vinyl woodprint affair (in light walnut or black ash, alongside a black front panel with nicely chamfered edges). Odd is perhaps the word for the six silver grille mounting lugs, which remain visible whether or not the grille is used.

Curious too, but a bit more clever is the way the grille can be fixed so that either the metal faceplate tweeter is exposed at the top (with badge covered), or the badge at the bottom (with tweeter covered). The sheer bulk and managed, staying within +/-3dB across the rest of the band. The upper presence zone, 2-5kHz, shows some restraint, which is probably a good thing, though the trace as a whole is not particularly smooth.

"The Lektor 8 is a lot of speaker for the money, the '8' in the name referring to the two 200mm (8-inch) bass drivers..."

weight, alongside a decent footprint, ensure good physical stability; while the spikes seemed to tighten up pretty well (they're only secured by thumbwheels and have a tendency to work loose).

Each of those 200mm bass drivers has a wood fibre loaded paper cone about 150mm in diameter and each is loaded by its own separately ported section of the enclosure. The 130mm midrange unit looks just like a scaleddown version of the bass drivers and has a 100mm diameter cone. One of the more obvious economies, compared to the successful Ikon models, is that the elaborate and costly hybrid dome/ribbon tweeter of the senior models has been replaced here by a more conventional 28mm soft dome. Some extra decoration is provided by a shiny alloy faceplate. A single pair of gold-plated terminals are conveniently situated quite close to the floor

SOUND QUALITY

Although, when its power response is measured under in-room far-field averaged conditions the Lektor 8 looks pretty well balanced in parts, in our room the broad bass below 200Hz was roughly 4dB stronger than the midrange and treble, even when the speaker was sited well clear of walls. Even fans of blockbuster movies should find that a pair of these will deliver sufficiently weighty explosions without the need for additional subwoofery.

The bass region might be rather too strong, but the fact that it's also reasonably even is a plus. There's some lack of output 250-370Hz, but above that point the balance is very well



SET-LIP 12m 12m 0.8m 3m

POSITIONING

Even in free space, our far-field in-room measurements show that in our good size (4.3x2.6x5.5m) room the bass output is clearly too strong – or conversely that the midrange and treble outputs are relatively somewhat insufficient. Furthermore, this excess is maintained right through the bass region, all the way up to 200Hz, which is close to the crossover point with the midrange. Blocking the ports, tuned to around 35Hz, might help reduce output in the lowest octave or two, but would not reduce the 100-200Hz excess that is the main source of coloration here.

Although it wasn't possible to assess this in any way, it could well be that this speaker is better suited to larger spaces than our listening room, or perhaps those with greater bass absorption – that is, those of plaster-over-stud type construction, which is less solid than brick walls.

SYSTEM MATCHING

Sensitivity is quite generous here, though significantly more so below 200Hz than through the mid and treble. Even so the 90dB or so recorded through the midband is a pretty useful figure. However, because this is a Danish speaker design, it follows the normal European protocol with an impedance that is a reasonably demanding four ohms. This in turn flatters the sensitivity by around 3dB compared to a genuine eight ohm load. The lower impedance speaker is, therefore, likely to give greater loudness for a given volume control setting, which is why it has become the modern trend, even though the relative increase in current at the expense of voltage involved is not really a good thing.



Even or not, there's no avoiding the bass excess here and two related factors need to be taken into account. The first is that the 'zone of excess' reaches well up into the lower midband – 200Hz is, of course, just a gnat's below Middle C (261Hz), so most bass instruments have a rather heavy character and male voices inevitably include some added chestiness.



Secondly, the bass it does deliver isn't all that wonderful, qualitatively speaking. Happily it's not slow, but it does lack grip, tension, drive and poise and there's a woody, thickened quality that may well be down to the enclosure. Although the sides, front and back feel well-braced, quite obvious vibration can be felt through the top surface when playing material with substantial bass content.

The net effect is a little reminiscent of pressing the 'loudness' contour button that regularly used to be fitted to amplifiers in the days when tone controls were *de rigueur*. This was intended to provide some compensation for the reduced sensitivity of human hearing to low frequencies (and to a lesser extent high frequencies) when a system was played at low volume levels. As a result the Lektor 8 tends to sound most comfortable when operating at the lower end of its loudness capabilities.

Although simple acoustic material is reproduced quite satisfactorily, anything with serious bass content tends to sound overblown. Mari Boine's magnificent live album *Eallin* is a particular case in point, as the bass lines are generated by a varity of electronically modified acoustic instruments, each of which should have its own distinct tonal signature. Not only did the Lektor 8 deliver the bass too strongly, but it also made it quite difficult to distinguish the different instruments at work.

Something similar is true of favourite Laurie Anderson albums. Her voice sounded well enough on *Strange Angels*, but when the bass came in on *Monkey's Paw* one instinctively reached for the remote to turn the volume

down. The same artist's more recent Life on a String is an even heavier recording and was even less acceptable as a result

Stereo imaging is pretty good, with some depth perspectives apparent, though focus is a little weaker than one finds with small speakers. Although the excess weight is responsible for the thickening, heavy coloration mentioned above, the upper midband does add a slightly pinched and nasal quality to voices - it's not serious enough to be upsetting, but it is audible. The treble, on the other hand, seems very well judged in level terms and tonally quite sweet with it. On the whole, timing seemed satisfactory enough, but there was little sense of urgency in its music making because the dynamic tension and expression is weak

Frankly, after spending some time with this speaker, it was difficult to avoid the conclusion that one 200mm bass driver - or maybe two 165mm units - would have been enough. I daresay a generous open-plan Danish ground floor might prove a better match, while here in Britain where smaller rooms are the norm. movie fans are more likely to find it appealing than those primarily interested in music replay.

One might legitimately enquire whether the Lektor 8's bass problem is quantitative or qualitative. This is always a difficult question to answer, as it's not possible to isolate the variables properly. However, one recent experience does provide a possible clue.

ADVANTAGE OF PAPER

Loudspeaker designers have tried all sorts of materials and recipes to make the cones (and domes) that vibrate and/or pump to and fro in order to generate sound waves and energy. Paper was one of the first - the original 1925 Rice & Kellogg patent for the moving-coil drive unit used a free-edge paper cone - and is still widely used today, by companies like DALI that recognise its various advantages.

Loudspeaker diaphragms are not simple. Low weight, for example, is essential to maintain good sensitivity, but high stiffness is needed to maintain waveform fidelity. Go for maximum possible stiffness, however, and the inevitable breakup comes with vicious resonances, so a degree of internal self-damping is also required.It is here that paper scores, its distributed and uneven size fibres, stiffened by wood chips in DALI's version, giving a fine all-round compromise between the conflicting characteristics, especially with careful surface coating.



"...timing seemed satisfactory enough, but there was little sense of urgency in its music making because the dynamic tension is weak."

In our recent high-end special The Collection, we got to review a pair of PMC's enormous and very costly MB2 XBDi speakers and by coincidence the in-room responses and sensitivities of the PMCs and the DALIs were not all that dissimilar. In fact, the PMC's low bass (with two 250mm bass drivers each) was even more excessive, at around +8dB, though its 'zone of excess' was curtailed above 120Hz. Otherwise the in-room power response measurements for the two speakers were surprisingly similar. And there's no getting away from the fact that the monster PMCs sounded absolutely magnificent overall, or that its bass excess was only occasionally intrusive. We're not suggesting the two speakers have anything in common apart from this one measurement similarity - the PMCs cost £17,500/pair after all – but it does rather suggest that getting genuinely high-quality sound from a large loudspeaker with deep bass capabilities

perhaps requires rather more substantial engineering content and investment than DALI has applied to the Lektor 8. HFC

Paul Messenaer





Music Compression – friend or foe?

A remarkable thing has happened within a few short years. The music industry has become what must be one of the very few, alongside perhaps the food industry, to be driven downwards in relation to quality by consumer demand - and the majority of consumers are not even aware of it!

It is normal for an industry to try and improve on what has gone before. High definition TV's are an obvious upgrade from the previous standard. The computer industry constantly strives to provide faster processing speeds and larger memory capacity. However, it is the crossover of the computer industry with the music industry, the linking of the two, where things have started to go wrong. This is not to fault the computer industry, for speed and user convenience are the selling tools of its trade. Nor is the music industry inherently culpable, although it has largely acquiesced while complaining of lost revenues through illegal downloads. It is consumers that have driven quality down through a deepening, but blind, love affair with the MP3 and AAC formats and the ubiquitous iPod.

USIC

Falling Music Sales

I do not believe it is any coincidence that world-wide music sales tumbled in 2007 to their lowest level since 1985 and this is despite an overall far more affluent population than all those years ago. So why put the finger on MP3 & AAC (iTunes default format) and the iPod? It is not that they exist, nor resentment at their undoubted success. It is more the lack of knowledge on the part of consumers in what they are embracing and the hi-fi industry must shoulder its share of the blame. Both of these formats are compressed mediums, with different levels of compression. There is information irretrievably lost and they lack the full dynamic range. In short, they are inferior mediums in comparison to the standard CD format, let alone even higher resolution formats

now available (such as studio quality 24 bit, 96kHz FLAC files). The sad part is that convenience and 'music on the move' has helped to create a demand for these inferior substitutes and, what is even sadder, is that most users are not even aware of what they are missing.

There are still discerning people around who know how exciting and involving music can be, how it can deliver an emotional experience. Twenty years ago there were many hi-fi enthusiasts who enjoyed pursuing quality. It mattered which speaker leads were used, or the quality of the interconnects, or the rigidity provided by speaker stands. These still make a very significant difference but relatively few realise it now. The performing artists, musicians and sound engineers who strive to make the recording quality as high as possible must despair at the current trend.

Quality or Quantity?

When a friend's teenage son bought his first iPod, he was thrilled that it could store 2000 tracks. That this was at a low quality setting with a high degree of compression was not a relevant or indeed a cognitive factor. The maximum download quality for AAC is 320kbps. Most tracks are available at no better than 192kbps but many iPod users legally download at 128kbps, the most popular, or even 64kbps because either that's all that is available, or because they can store a greater number of tracks or, very often, because they're unaware of the difference. The cost is usually the same regardless. If you are jogging and using a cheap pair of in-ear headphones. you probably wouldn't greatly appreciate a high quality recording. But play back through a decent quality hi-fi and all you are doing is amplifying a very poor quality signal and the difference from. for example a full resolution CD (1,411kbps), is huge. The old maxim holds true - rubbish in, rubbish out.

The 80 Gigabyte iPod Classic is advertised as holding 20,000 songs (4MB per song). In comparison, a high quality music server will use approximately 500MB to store an

average CD (with say 10 tracks) at full resolution, a ratio of 10 or 12:1. It's no wonder that the music server, also a flexible computer based product, can reproduce music far more faithfully and far more enjoyably and is, therefore, more suitable as a prime listening source. The reality is that a generation is now growing up without recognising the loss and appears to be indifferent to quality, almost as if it's an irrelevance. This may be because so many have not heard the difference. Earlier generations enjoyed listening to 78rpm records until LP's came along. A cheap hi-fi stack system could be enjoyed until CD's came along (although a high quality record deck could, and still does, compete). The point is, once you've heard better, it's difficult to downgrade again.

So where do we go from here when many hi-fi systems feature an iPod docking station as standard? The future of quality music in the home is certainly not MP3 & AAC recordings because they are not suitable as a prime listening source. That is not what the formats were designed for. Download speeds are now far faster and computer hard drive memories far larger than a few years ago when these formats came into mass usage. Discerning music lovers using downloads will be listening to studio

quality FLAC files, or their equivalent, in the near future. The quality is so far removed from MP3 that the additional cost is easily outweighed. Even CD quality recordings are left behind. Vinvl has staged a strong comeback recently because it's still immensely enjoyable to listen to. However, technology doesn't stand still and it's therefore more important than ever that you seek out a specialist hi-fi dealer to set you on the right path.

Get Expert Advice

Specialist hi-fi manufacturers continue to try to make their products perform to the highest standards in any given price range. Specialist dealers, of which the ones listed on this page are amongst the very best in the UK, know how to choose the products that combine as a superb system and how to get the best out of it. However, it also needs the consumer to get listening again and to demand quality, to seek expert guidance on how to achieve the best performance at home and to have it expertly installed and set up.

If there's a price premium over an internet purchase by using a specialist dealer, it's probably a small one but it's unquestionably worth the difference.



Listed here are 20 OF THE BEST HI-FI DEALERS IN THE COUNTRY.

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

STAR QUALITIES

VALUE FOR MONEY $\star\star\star\star\star$ **SERVICE** $\star\star\star\star\star$ **FACILITIES** $\star\star\star\star\star$ **VERDICT** \star \star \star

QUALITY OR QUANTITY?..

... Ask our Top 20 UK Hi-Fi Dealers

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SOUNDCRAFT HI-FI 40 High Street. 01233 624441

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THE POWERPLANT 40 Church Road, Hove. 01273 775542

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RAYLEIGH HI-FI 216 Moulsham Street.

01245 265245 Colchester

RAYLEIGH HI-FI 33 Sir Isaac's Walk. 01206 577682

Kingston-upon-Thames

INFIDELITY 9 High Street, Hampton Wick. 020 8943 3530

Rayleigh, Essex

RAYLEIGH HI-FI 44a High Street. 01268 779762

Southend-on-Sea

RAYLEIGH HI-FI 132/4 London Road. 01702 435255

Southampton PHASE 3 HI-FI

37 Bedford Place. 023 8022 8434

Worthing

PHASE 3 HI-FI 213-217 Tarring Road. 01903 245577

LONDON

GRAHAMS HI-FI 190a New North Road. 020 7226 5500

SW11

ORANGES & LEMONS 61/63 Webbs Road, Rattersea 020 7924 2043 **SOUTH WEST**

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AUDIENCE 14 Broad Street. 01225 333310

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GULLIFORD HI-FI 97 Sidwell Street. 01392 491194

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Banbury OVERTURE 3 Church Lane.

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MUSIC MATTERS 363 Hagley Road, Edgbaston. 0121 429 2811

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FRANK HARVEY 163 Spon Street. 024 7652 5200

Leicester

CYMBIOSIS 6 Hotel Street. 0116 262 3754

Nottingham

CASTLE SOUND & VISION 48/50 Maid Marian Way. 0115 9584404

NORTH

Cheadle THE AUDIO WORKS 14 Stockport Road. 0161 428 7887

Chester

ACOUSTICA 17 Hoole Road. 01244 344227

Gateshead LINTONE AUDIO

7-11 Park Lane. Gateshead 0191 477 4167

Sheffield

MOORGATE ACOUSTICS 184 Fitzwilliam Street. 0114 275 6048

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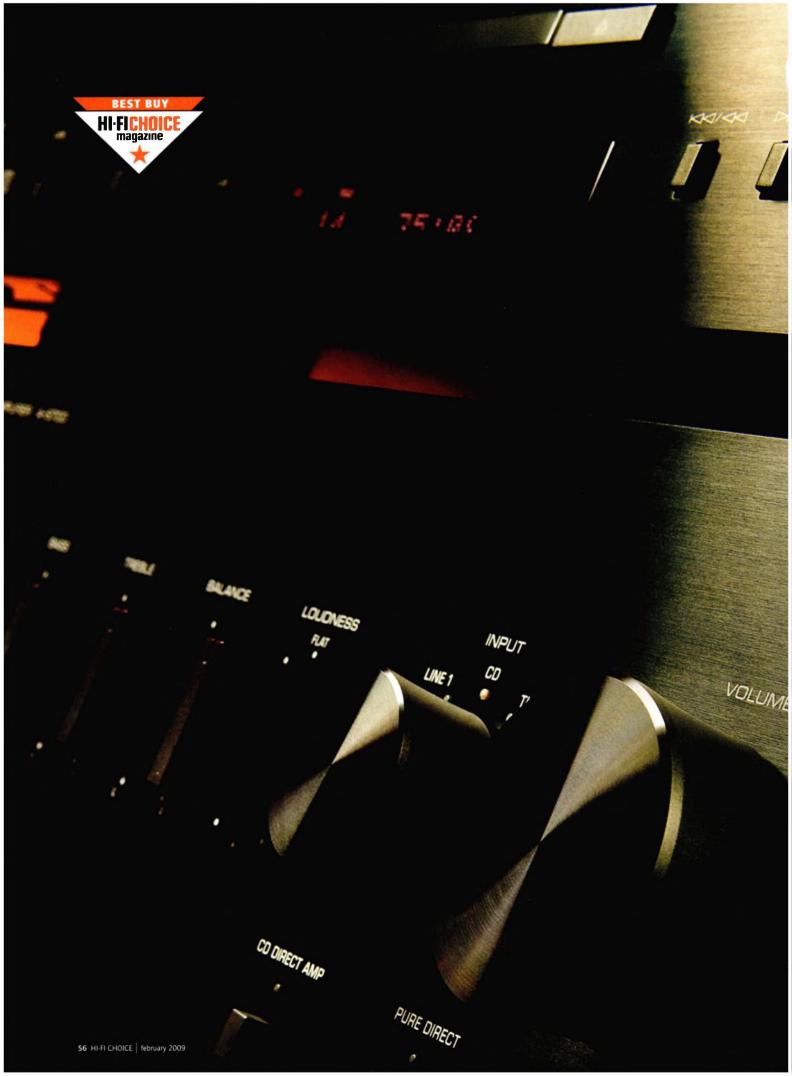
SOUND ORGANISATION 2 Gillygate. 01904 627108

SCOTLAND Edinburgh

LOUD & CLEAR Bonnington Mill. 72 Newhaven Road. 0131 555 3963

Glasgow

LOUD & CLEAR 520 St Vincent St, Finnieston. 0141 221 0221



Music Masters

Yamaha knows a lot about music, but will this new CD and amp stave off the competition?

PRODUCT Yamaha CD-S700 and A-S700

TYPE CD player and integrated amplifier

PRICE £400 (CD-S700); £500 (A-S700)

KEY FEATURES (CD-S700) Size (WxHxD) 43.5x9.6x30cm • Weight: 6.2kg • Digital outputs: x coaxial electrical, 1x Toslink optical Analogue outputs: 1x phono stereo pair O USB Digital input on front panel Compatibility: CD, CD-R/RW, MP3/WMA on CD-R/RW or USB (A-S700) Size (WxHxD): 90 watts Inputs: 1x MM phono, 1x CD line input, 4x additional line inputs Outputs: 2x recording, 2x loudspeaker terminals, headphone socket

CONTACT 2 01908 366700 www.yamaha-uk.com

amaha is keen to accent its musical connection; it's possible for every link in the chain - from musical instrument to loudspeakers - to have that three tuning fork logo on the front. The company's 1000 and 2000 series products have more than made their mark on the hi-fi scene, but both represent a fair investment, in these credit crunched times. Also, both series feature players with a strong stereo SACD component; sometimes, that just isn't necessary. So, while not at the entry-point for good audio, or even the entry-point for Yamaha audio - there's an all-in-one that's cheaper still - the 700 system will be the first port of call for many Yamaha newbies in 2009.

The CD-S700 is a good, no-frills CD player, without any of the SACD gubbins found in its bigger brothers. It's not without concessions to hi-fi sensibilities - it has a Pure Direct button that disables the digital output and front panel display - and even

features a USB port for connecting up an MP3 player or a PC. Beneath the minimalist exterior, it features a 24-bit/192kHz Burr Brown DAC run in differential mode, plus a triple-wired power transformer feeding separate power supplies for the transport, digital and analogue stages. It also features the Silent Loader transport mechanism found in its bigger brothers. The silent treatment

Confusingly, Yamaha reuses the 'ART' acronym within the ToP-ART package to describe its 'Anti-Resonance and Tough'

If the CD player is minimalist in its approach, the same does not apply to the A-S700, at least by British hi-fi standards. It includes a tape-monitor, two sets of speaker terminals tone and loudness controls

"Once again there are features, like the ToP-ART layout of the complete amplifier circuit, which Yamaha suggests gives a more pure sound."

from the disc transport is remarkably silent. As in, put your ear to the player and nothing happens. In fact, if you turn the display off and leave a disc spinning, you could spend days 'running in' the player without noticing it.

Moving over to the A-S700 amp, this 90- watt model includes both MM phono and CD inputs, as well as two extra line inputs and two recording line inputs/outputs. The CD input is picked out for special treatment; the other inputs can bypass tone and loudness controls via the Pure Direct button, but CD has an additional CD Direct option that bypasses the input selector too. Once again there are features found in the bigger models, like the ToP-ART (Total Purity Audio Reproduction Technology) symmetrical layout of the complete amplifier circuit, which Yamaha suggests gives a more pure sound.

and the aforementioned Pure Direct and CD Direct buttons. However, this does not come at the expense of lots of blinking lights and a garish styling exercise; in black or silver, the amp has a classic appeal and those flat tone/loudness controls hark back to Yamaha products of the 1970s and 1980s.

Loudness and tone controls got a (somewhat justified) bad press in the past, but Yamaha has made the contour of the controls adjust with volume, to prevent that 'all-bass, all-treble, nothing in between' problem that beset tone shaping in the past.

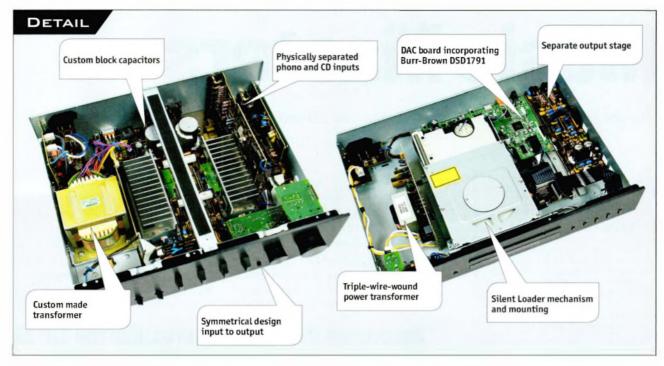
SOUND QUALITY

Both products in the 700 series treat any piece of music with equal respect, serving up a dark and dignified representation of what was put on the disc. The closer you get to the Pure Direct performance (on both products), the nearer you get to a supremely detailed, sophisticated musical replay chain.

In other words, you get a distinctly 'right' sound. It's a Goldilocks sound; not too exaggerated, not too dull... just right. And you can apply the same Goldilocks attributes to almost any part of the performance. Stereo? Not too big, not too small... just right. Detail? Not too much, or too little. Vocal articulation? Rhythmic properties? Porridge temperature? You get the message

This freedom from grace or favour toward a specific musical type is the inverse of the initially impressive school of hi-fi.





It rewards a lengthy listen and does wonders for those whose tastes have matured beyond the plebeian. Although, if you do just happen to spend your entire musical life listening to X-Factor runners up through the USB port of the CD-5700, the A-5700 has a small bonus for you; those tone controls seem designed specifically to tame the hardness and trebly thin sound of MP3. These are some of the best in the business and only tone-shaping in the digital domain can do better.

Between them, the Yamaha 700 duo pass the Layla test; this overplayed track is the last one on an otherwise excellent, if monotonous album. If the system exaggerates the treble and if it over-exaggerates the rhythm, you'll stop tapping along after about eight or nine tracks.

The limits of the price become apparent only when really punishing the amplifier. Play large-scale orchestral madness (Mahler's Eighth, for example) through relatively

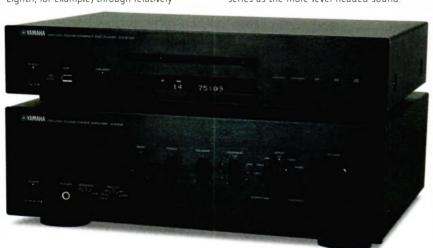
"If the system exaggerates the treble and if it over-exaggerates the rhythm, you'll stop tapping along after about eight or nine tracks."

demanding speakers and the amplifier tends to smooth things over too much. That said, few similarly priced competitors will do a better job with that particular musical onslaught.

What's the bad side, then? Well, it's fair to say that there are more dynamic sounding products out there (especially amplifiers), and this helps produce a sound that's less exciting than some. On the other hand, most of these more dynamic products make a more exciting sound at the expense of some other aspect of the musical presentation, usually the coherence of the sound. Many will look to the Yamaha 700 series as the more level-headed sound.

Coupled to the right speakers, this may not be the Dynamic Duo, but do represent a call for honest reproduction of music that few others can provide at the price. If you are fed up with overly warm, overly bright or overly 'exciting' products, this is the remarkably grown up choice. **HFC**

Alan Sircom



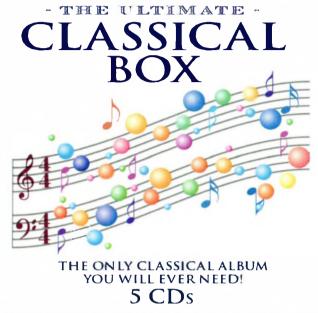


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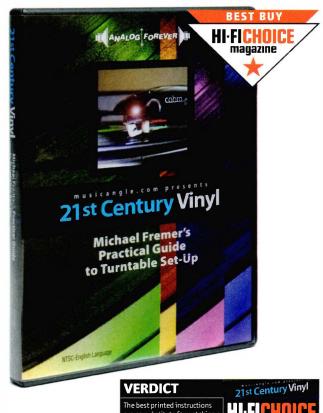
CONTACT ☎ 01234 741152 # www.audiophilecandy.com

f any hi-fi product ever came under the heading of 'delicious irony' it's surely this one. A fully digital DVD, all about how to set up analogue turntables, it's presented by American hi-fi reviewer Michael Fremer. In fact, it's really about how to set up arms and cartridges on a turntable and there is no attempt to cover such arcane matters as how to trim the suspension on a Linn Sondek, but even so, the material presented stretches to a full three hours. As well as the lowdown on set-up, there's a look behind the scenes at a disc-cutting room and plenty of general background information, supplemented by a detailed article stored as a PDF on the same disc.

Fremer is the perfect man for the job and his combination of easy manner, clear delivery and explicit instructions makes even the setup of a unipivot arm seem simple, aided throughout by intelligent and unfussy camera-work. Three turntables are set up

before your eyes, using a variety of tools (some of which may not be easily available in the UK, though there are equivalents for most of them) and techniques. At each stage Fremer explains not just what he is doing but why. Even with decades of experience in doing such jobs ourselves, we learned some new tricks of the trade and it's hard to imagine any LP-lover not

benefitting from this exceptionally well-thought-out disc. Digital, truly at the service of analogue! **HFC**



true expert do the job in

SRM-Tech Belt and Drive Cleaning Fluid

TYPE Cleaning fluid

PRICE £8

CONTACT № 01234 741152 # www.srm-tech.co.uk

e were first alerted to the importance of belt cleaning by Roksan, who went to the most extraordinary lengths to clean the belt when setting up a new turntable for us several years ago. It may not be immediately obvious, but even a small variation in the friction between belt and drive pulley can cause a minute degree of slippage and hence speed variation in the platter. Bear in mind that target figures for wow and flutter are in the region of 0.02 per cent – that's one part in five thousand. Not much room for error there!

The trouble is that many solvents attack rubber and the last thing you want to do when trying to clean a belt is to make it flake apart or crack up. The contents of SRM-Tech's little bottle may be worth pennies, but the larger part of the price is for the peace of mind you get knowing that you've got something suitable for the job in front of you – and, of course, the



convenience of having it in a small bottle with a few make-up removing pads and simple instructions on what to do with it all. We used this fluid on three turntables and in each case removed clearly visible amounts of deposits (household dust and minute flakes of worn rubber) from both the belt and, equally importantly, the pulley and subplatter. The results were clearly audible and indeed measurable, in one case lowering wow and flutter by a factor of more than two. The sound solidifies and snaps into focus in a way you could pay hundreds of pounds for if it were the whole turntable you were upgrading. Well worth doing every few months. HFC





KAB Speedstrobe

TYPE Strobe

PRICE ES6 (special price for limited period only)

CONTACT ☎ 01234 741152 # www.kabusa.com

igital recording and replay systems use highly precise quartz crystal control to regulate speed within minute fractions of one per cent. Almost all turntables, by contrast, rely on mechanical components to set speed and their precision may not be as high as one might wish. In addition, many turntables use a motor system which lacks an electronic speed reference, or may have adjustable speed built in to allow for incorrectly recorded discs.

It is worth taking some trouble to get the speed correct. While a couple of tenths of a percent will be barely audible to the most acute musical ear as an error, one percent is more than enough to change the entire character of a recording, altering both the tone quality of instruments and the emotional content dictated by the rhythm. Two per cent is enough to render familiar voices almost unrecognisable.

Traditional stroboscope discs that rely on the flicker of mains lighting do work, but they are hard to get just right and give no information about how far off the speed is before adjustment. This nifty device uses a bright flashing LED and a plastic disc printed with speed numbers (33, 45 and 70 to 90rpm): the relevant speed number will appear stationary in the light of the LED when the setting is spot on and a ready reckoner printed on the top of the LED housing tells you how to estimate the error if no number is perfectly stationary.

The result is the KAB Speedstrobe is trivially easy to use and the LED is bright enough to make operation in normal indoor daylight easy. **HFC**



VERDICT

A simple yet accurate way of measuring turntable speed that's very easy to use on any turntable and much more



Russ Andrews Clean Sweep

TYPE Test Tone Generator

PRICE £69

CONTACT ☎ 0845 3451550 ⊕ www.russandrews.com

e all know the mantra about the listening room being 'the most important component in the hi-fi chain', but in practice, it's not always so easy to fix it. One frequent room-related problem can be dealt with, though, and that's things that go bump, rattle and resonate, during the night. A typical room has plenty of hidden sources of unwanted noise that can be excited by the sound coming from the loudspeakers and add their own little colour in the background, reducing the precision with which you, the listener, can hear what you want to hear – the music!

The big problem is locating these various 'noises off'. Typically, they are either intermittent or even not directly audible, so you may not always be aware of them. In the Clean Sweep, Russ Andrews has produced a cunning way of finding them. It's simply a tunable tone generator that can produce frequencies in the range of





20Hz (actually more like 8Hz in our review unit) to 200Hz. You plug it in next to an unused input on your amp, set the volume to something similar to loudish music and sweep slowly across the range. It's amazing how little buzzes and rattles show up and once you've got them resonating steadily it's usually easy to find them and then fix them with Blu-Tack, a judicious screw or nail, or simply repositioning. When you've done that you can set the Clean Sweep to a

low frequency and use it to burn in your speakers, another worthwhile activity. Well worth the money and the time you'll spend. **HFC**

Richard Black

VERDICT

A handy and neatly made product that makes tracking down unwanted buzzes and rattles a breeze. Speaker burn-in is an added horus.





ww.shadowaudio.co.uk



(NEW) McIntosh MCD500

0% Deal*: Dep: £995 + £172.22 for 36 months



(NEW) ATC SIA2-150

"It offers a degree of grip that is unusual outside of separate power amplifiers, but does not let this dominate its sound. Combine all this with a confident six-year warranty and you have an amp that's extremely hard to beat."

Jason Kennedy. HFC Dec 08



The 3-way passive SCM40 is an exceptional floorstander of audiophile quality. They work superbly with the all NEW SIA2-150 (left). If your looking for accuracy then look no further!

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Townshend - TA565 Universal	£2,195.00

Turntables

Acoustic Solid - Small Royale	£1,195.00
Eastern Electric - Minimax Phono	£995.00
McIntosh - MT-10	£6,995.00



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Audio Zone - Amp-2 Monoblocks	
Bel Canto - Pre 3 / Ref 1000 Monoblocks	£1,999.00
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Eastern Electric - Minimax Integrated	£749.00
Halcro - DM38	£9,995.00
LSA - Standard	£1,695.00
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McIntosh - MX136	£4,995.00
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Musical Fidelity - All Integrated	1695.00
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www.shadowaudio.co.uk



(NEW) Unison Research **Unico CDE**

This beautifully built NEW affordable Valve CD Player from Unison Research sounds as good as it looks and offers exceptional value

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SME 10a

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Bel Canto 3 Dac

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to let you hear more thought possible from de force with one go

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The performance is a concert power potent

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Bryston BCD-1

With today's increased clarity and dynamic range in recordings you need equipment that not only equals but surpasses the parameters of the most demanding material available. The BCD-1 CD Player is without peer in meeting this performance challenge.

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Musical Fidelity A5.5 Combo

Both the A5.5 CD Player and Integrated

Amplifier punch way above there weight and together - you will not find a more musical



McIntosh MA7000

Designed to deliver a continuous 250 watts per channel, the MA7000 integrated Amplifier is the most powerful integrated amplifier McIntosh has ever offered.

0% Deal*: Dep: £995 + £200 for 36 months



Clearaudio Master Solution

The Solution turntable is your entry into the world of multi-arm systems. Using the same 30mm platter and three point star shaped plinth as the Master Reference, it delivers stunning transparency.

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Wilson Benesch Combo Trinity Speaker & Torus Sub We think it could be the ultimate Speak

We think it could be the ultimate Speaker

0% Deal*: Dep: £975 + £243.75 for 36 months

GROUP TEST & LAB REPORTS: RICHARD BLACK

DIGITAL-TO-ANALOGUE CONVERTORS

DACs are back and with good reason, too.



he DAC (digital-to-analogue convertor) is a funny beast. It came to general notice some time around 1990, as the first few hi-fi specialists were making inroads into digital audio by the easiest route making external DACs as an add-on upgrade to existing CD players. Many of these offered a considerable performance advantage, but the CD manufacturers were not far behind in raising the stakes. As a result, when the smaller specialists began constructing whole CD players (thanks to both the availability of highly integrated subassemblies and the generally increasing digital savvy of designers), the writing was on the wall for the DAC and it practically disappeared overnight.

Then a few years ago it suddenly made something of a comeback, a little tentatively at first. And now its existence owes less to the CD player upgrade route - though that's still perfectly valid - than to the proliferation of digital sources, some of which have less-than perfect conversion and analogue outputs built in. In such a world, a DAC that can interface to CD players, DAB tuners and, perhaps, also computer or mobile music sources, is on to a good thing and can fulfil a very useful function. Practically all DACs these days support high sample rates and are, therefore, compatible with all the aforementioned sources and more

The six models we have assembled for this test cover quite a spectrum. Probably the most 'traditional' is the Heed, which has few inputs, no additional features at all and a minimalist demeanour that loudly proclaims it as a simple upgrade

The Apogee, at the other end of the spectrum, features practically every kind of input connection, sample rate and compatibility known to man and will do a lot more than any hi-fi system will ever ask of it. Like Apogee, Lavry aims its products not least at the professional user and its DA-10 is very much a prooriented machine, while the Beresford is clearly a highly attractive conversion hub for the modern multi-source system, offering apparently excellent value.

The Cyrus is a very svelte audiophile product capable of doing a lot more than sitting an a one-make system, while Cambridge's DacMagic has plenty of inputs and tweakable sound thanks to its selectable filter types. A very varied field, then - so let's see what they can offer! HFC

EQUIPMENT USED

- Cambridge Audio Azur 840A
- EAR802 preamp/519 monoblocks
- Description Bowers and Wilkins 803S loudspeakers
- Kimber, Furukawa and custom cables

MUSIC USED

- Mahler Symphony No. 5Penguin Cafe Orchestra Concert Programme
- Benedetto Pallavicino Modrigols
- ▶ Miles Davis Kind of Blue▶ Madness The Business

EARS USED

As ever, we are deeply indebted to our listeners, whose combined experience of many years' critical listening is so kindly put at our disposal – this time:

Ben Beaumont (Audio Partnership) Ed Selley (Yamaha)



LISTENING TESTS

Each of the DACs in the group was subjected to a rigorous programme of listening and laboratory tests, fed from a variety of digital sources – principally CD and a high-sampling-rate professional computer audio card. Our comprehensive listening tests were conducted under blind, level-matched (to 0.1 dB) conditions with some of the industry's most experienced hi-fi panellists. In addition, there were extended sighted listening tests by the author, using a wider variety of equipment and music and a varied range of volume levels to determine real-world performance.

LAB TESTS

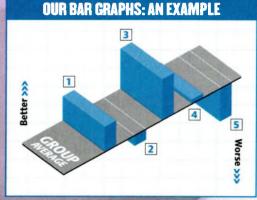
Measurements were made using a combination of custom-made CD-Rs, devised specifically for these tests, and a potent combination of 'traditional' lab instruments with a high-quality ADC, which converted the analogue output of each player back to digital for analysis on a PC, using principally Cool Edit Pro and Mathcad. Our methodology provides a searching analysis of a multitude of aspects, the most important of which are summarised in the bar graphs (with other significant findings mentioned in the text). Not all measurements are reported for all DACs – for instance susceptibility to incoming jitter, which was fine for almost all of them.

No other magazine offers an equivalent test and listening programme for comparative tests.

LAB REPORTS: THE BAR GRAPH

Our 3D bar graphs are a simple way of showing how the products compare across five key technical measurements.

- 1) Total harmonic distortion: The classic distortion criterion, measured as the purity of a single sine wave at various frequencies and levels.
- 2) Jitter: A measure of how stable the timing clock is. Measured at the analogue output, this distortion shows up as increased noise and/or low-level interfering frequencies which can contribute to sonic 'grunge'.
- 3) Linearity: How accurately the output behaves at very low levels. Poor figures can lead to distortion rising considerably in quiet musical passages.
- **4) Dynamic range:** This is effectively the same as signal-to-noise ratio, the difference between full output and the practical noise floor of each player.
- **5) Digital filtering:** Frequencies above half the sampling frequency should be efficiently filtered off. The filter is tested by playing tones at various frequencies and looking for ultrasonic spurious signals that accompany it.





APOGEE DIGITAL MINI-DAC

This mini-DAC proves that big things come in small packages

o relation to the loudspeaker manufacturer of similar name, Apogee Digital is one of the longest-established manufacturers of outboard DACs and ADCs. It started life making replacement anti-aliasing filters for Sony professional digital recorders and its ensuing reputation for sound quality was in no way diminished by the complete convertors that followed. It is still very much a pro-oriented company, but this product in particular, the cheapest DAC to carry the Apogee name, has acquired a devoted following in semi-pro and domestic circles and we were glad to include it in this group.

You'll gather from the photograph that plenty of inputs are catered for. There are actually relatively few connectors at the rear of the unit, just one each of electrical and optical S/PDIF plus a 9-pin D connector for inputs (USB is an option, as is Firewire). That 9-D is used to attach an adaptor with two XLR sockets, for use with professional sources including doublecable 192/176.4kHz devices and multichannel ADAT. Analogue output is balanced via XLR outlets, but a 3.5mm jack offers unbalanced too, while headphones are catered for on the front panel. Headphones and optional line outputs are adjusted from the front panel with a knob that, yes, goes all the way to 11! Actually maximum output in variable mode is healthy some 12 volts via the balanced output

Incoming sample rate is indicated by LEDs on the front, while further LEDs show lock and also a basic signal level indication. When there is no incoming digital signal, all the LEDs flash on and off in sequence like a drugged-up Christmas tree, a good incentive to save electricity by turning off! Internal construction is excellent, based on a board the full size of the case with

dual input receivers, a high-grade Analog Devices DAC and plenty of top-quality op-amps.

SOUND QUALITY

Our listeners seemed united in finding this DAC better with a small group of musicians than with a full symphony orchestra. Criticisms were mild, but it does seem that in very busy material there is some compression of the soundstage and slightly less grandeur and scope to the sound than some of the other DACs managed.

By contrast, our Miles Davis track was spacious, detailed and, perhaps most importantly, full of life and warmth, with a full but not overblown bass and plenty of atmostphere. One listener did comment that the trumpet seemed a touch shrill on its highest notes, but in this case that's probably just being realistic.

As the number of musicians increases, so the precision very slightly diminishes. The Penguin Cafe Orchestra is around ten players and while its sound is still quite vigorous and energetic, there's a hint of a 'halo' around the lower instruments in particular. Full orchestra similarly loses some focus compared with the best of the group, but it is worth noting that the sound is at all times lifelike.

Listening sighted, we felt that the sound becomes slightly impersonal at times, which has an effect on one's sense of overall envelopment. There's nothing to criticise tonally and it's possible to hear that everything one is accustomed to hear in a familiar recording is still there, but the fact that one does have to concentrate is not ideal – the best hi-fi conveys the subtleties without the listener having to make the effort. Recommended for its life and sense of fun, but this doesn't seem the most insightful DAC. **HFC**

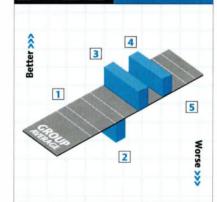




LAB REPORT

Having set the outputs to fixed level via internal jumpers, we used the unbalanced output for most of the tests, though a quick check showed the balanced output to be very similar. Output level is around par for the course and is sourced from a low impedance, so driving long cables should be no problem Distortion is low, though not quite vanishing. And, however nice it is to have incredibly low levels, what is more important is that distortion drops off nicely with level and is largely constant with frequency. We did notice that with a 24-bit input there is some distortion on very low-level signals, but at an absolute level of around -120dB it's probably of academic interest only. Low-level resolution in both 16-bit and 24-bit mode is excellent down to -120dB. We found a surprisingly high level of jitter, mostly sidebands close to the main signal, which may be a sample fault. It doesn't seem to have done much harm to the subjective results.

HOW IT COMPARES



- 1] Distortion >> 0%
- 2] Jitter >> -20%
- 3] Linearity >> +20%
- 4) Dynamic range >> +20%
- 5] Digital filter >> 0%

SPECIFICATIONS	0.63	
Measurement	Rated	Actual
Maximum output level	3.1V	23V
Tot I harmonic distortion	0.00025%	0/20.1%
Signal to no se ratio	119dB	11 0d B





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www.beresford.me

BERESFORD TC-7510

Budget-priced DAC boasts amazing levels of detail

eresford Media and Electronics is a 'small family business' and this DAC is its main product. At this impressively attractive price it's clearly got its applications and we'd already heard some suggestions that it works rather well, so we were naturally inquisitive. It's usefully featured with four digital inputs (two of each S/PDIF flavour) and both fixed and variable analogue outputs. You even get a headphone output thrown in.

Although the case design is basic, the internal construction is perfectly respectable, with familiar integrated circuits looking after the input decoding, conversion and output buffering. Actually we noticed that the receiver and converter chips are rather long in the tooth as designs, but they're both decent components and were used in expensive, high-grade equipment not so many years ago. They are now available cheaply and we absolutely can't fault Beresford for using last year's technology to get 90 per cent of this year's performance for a lot less than 90 per cent of the price.

Sample rates up to 96kHz are catered for and word lengths to 24 bits, so this is still a modern design in a practical sense. Since it's hardly likely to sell into ultra-high-end systems the absence of 192kHz input capability, or fancy upsampling, is hardly a big problem. As with many of the units here, the power supply is a little plug-top affair, switch-mode and compatible with any mains supply voltage.

SOUND QUALITY

Cheap it may be, but the sound of the TC-7510 seems to need no special pleading. Indeed, one of our listeners (by his comments) seems to have found this one of the most satisfying listens of the day, on grounds principally of involvement and timing. Another listener found it less arresting and pointed to a degree

of blandness in some of the tracks. Both may have a point...

It's true that the attack on sharp transients can occasionally be less startling than some of the DACs provided. At the same time, the very pleasant tonal balance and good, clear detail make for very relaxed listening. As a result, this will tend to be one of those products that divides opinion depending on what you look for in sound. If ultimate impact isn't a prerequisite for you, there is still plenty of life in a slightly less overt kind of way and it's easy to find a foot tapping or finger wagging in time with the music.

In terms of detail, Beresford has managed to wring a good deal out of the digital data and while we have heard greater levels of resolution, the limitations on it don't draw attention to themselves – one never feels that more detail is struggling to get out. The lack only becomes apparent in direct comparisons with other kit and it's by no means a serious lack anyway. At the same time, stereo imaging is very good, particularly laterally, with very good extension of the soundstage to, and slightly beyond, the loudspeakers.

Tonality is barely behind the standards of the rest of the group – if indeed at all. We felt the treble was just a shade constricted compared with some and a couple of listening panel comments on harshness point the same way, but bass is extended and weighty with just a little less precision and tunefulness than dearer models achieved. In the all-important midrange, though, there's really nothing to quibble over.

At this kind of price it's impressive that a small manufacturer can make a DAC at all: to make one this good is an admirable achievement. This could be just the fillip an ageing CD player needs and it's a fine way to integrate multiple digital sources. **HFC**

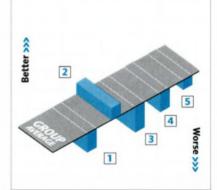




LAB REPORT

The most striking feature of this DAC's performance is distortion at full level. The figure we quote is always at full output (actually 0.1dB below), but in this case all that's happening is that some part of the circuit is just starting to clip a fraction of 1dB early. Drop the signal level by even 1dB and distortion drops to nearer 0.001%. Less than a tenth of a percent distortion in the top 1dB is just not a real problem. What may be more audible is a significant rise in distortion with frequency, reaching around 0.03% in the high treble. There is also a little more noise in the output than some produce. but again this may not be much of a problem in real life as it is substantially better than most CDs offer. Under ideal listening conditions, with a wellengineered 24-bit source, one might just hear both that and slightly below-par resolution at very low levels. Otherwise, this is a well-engineered DAC that performs to a level above its apparent station.





- 1] Distortion >> -20%
- 2] Jitter >> +10%
- 3] Linearity >> -30%
- 4] Dynamic range >> -20%
- 5] Digital filter >> -10%

SPECIFICATIONS	100	
Measurement	Rated	Actual
Maximum output level		1 92V
Total harmonic distortion		0.04%
Signal to-noise ratio		98dB



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CAMBRIDGE AUDIO DACMAGIC

Price and performance are this DAC's excellent credentials

eviewing this recent addition to the Azur range in *HFC3*13, we were so impressed that we gave it our Product of the Year award. Why? Well, it sounded (to us, on that occasion) better than it had any right to and offered a particularly tasty set of features as well. Two of each digital S/PDIF flavours, plus USB, is useful, while balanced analogue output is an unexpected addition to the usual unbalanced phono sockets. And then there's a pair of digital outputs too, useful, perhaps, for daisy-chaining to a digital recorder or indeed for connecting between a USB-out computer and a well-loved, but USB-less high-end DAC.

But the most interesting feature is deep inside: unique upsampling courtesy of proprietary 'Adaptive Time Filtering', a bit of digital signal processing that runs on a powerful chip and gives a choice of three filter slopes, 'Linear Phase' as used in the vast majority of CD players and DACs, 'Minimum Phase' which has no pre-ringing in its impulse response, but otherwise similar performance to LP, and 'Steep' with faster attenuation above 20kHz at the expense of very slight rolloff just below 20kHz.

Much has been made of upsampling. It's no magic fix, but generally, it does give good results and its detailed implementation is one of the few areas available for digital designers to tweak, very subtly, to taste. These three filter options can be expected to sound different, though typically not markedly and while we would make a case for 'steep' being the lowest distortion setting in an ideal world, it's always going to be worth experimenting.

The full ATF monty is found in Cambridge's Azur 840C CD player: here it upsamples to 'only' 192kHz and makes use of a slightly less fancy DAC chip from Wolfson. Other parts are

good quality if nothing fancy: the solid aluminium front panel gives a touch of class.

SOUND QUALITY

Not for the first time, we looked to our listening panel with some trepidation once the main test was over – it's always a little disappointing to have good initial impressions cast down in a formal group test. In this case, happily, no such thing occurred and, in fact, this was probably the best liked, overall, of the group. The upper reaches of treble, however, were not be quite as pure and open as some and one listener thought the tonality just a little dark, by which he meant, subtly lifted in the upper bass.

That was about as strong as the criticism got though, and what's more significant is that the general tone of all the listeners' comments was distinctly positive. The sound was felt to have excellent weight, very good detail and stereo imaging that is both precise and spacious. The presentation is lively, but not overboisterous and timing is also consistently good.

Even though no one specific area of performance about this DAC is necessarily better than all the others here, it's the way the DacMagic combines its various talents that marks it out as an exceptional piece of kit. Not only does it present a very lifelike version of musical events, it never draws attention to itself. It seems equally adept at reproducing a simple voice-and-quitar track or a full-scale opera production and it maintains composure in the face of very tricky textures and close-knit, interweaving melodic lines. Yes, it does lack the last ounce of spit'n'polish that is the mark of true high-end equipment, but even if it cost three times what it does we would be inclined to consider it very good value. At its actual price, it's a steal. HFC

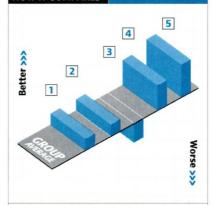




LAB REPORT

Comparison between the three filter types is interesting. The 'Steep' setting does indeed effectively eliminate the usual aliasing distortion that one finds in the output of most digital audio components, even the finest. It does this at the expense of a slightly longer pre- and post-ringing impulse response, but does that matter? 'Min', on the other hand, has next to no pre-ringing and the fact that its frequency response is almost identical to 'Lin' makes it possible to audition pre-ringing. The 'Steep' setting also has some ripple in its inband response, which causes pre- and post-echos (not the same as ringing), visible in the impulse response at 0.95ms either side of the main impulse. That apart, performance is almost textbook - there is a tiny amount of jitter, visible as some noise around 9kHz which is almost certainly never going to be audible and resolution at low levels around -120dB (24-bit input) is a couple of dB off.

HOW IT COMPARES



- 1] Distortion >> +10%
- 2] Jitter >> +10%
- 3] Linearity >> -20%
- 4] Dynamic range >> +30%
- 5] Digital filter >> +40%

SPECIFICATIONS		
Measurement	Rated	Actual
Maximum output level	2.1V	2.1V
Total harmonic distortion	0.001%	0.0012%
Signal to-noise ratio	112dB	111dB





£1,200 2 01480 410900 **www.cyrusaudio.com**

CYRUS DAC-X

Full and expansive music is this DAC's speciality

nother of Cyrus's 'one case fits all' products, in this instance suddenly finding itself the physically dominating one of the group. Cyrus hasn't wasted the available acreage, though, giving this unit the most comprehensive set of connections with two pairs of balanced audio outputs alongside the lone pair of phono sockets. There are no less than six digital inputs (two optical, two phono) plus a single optical output and additional connections for Cyrus's MC-Bus and the optional extra power supply, PSX-R.

The input sockets are simply numbered and that's the default on the front panel, but it is possible to rename each one from a list of options. The display also shows the incoming sample rate when a valid data stream is detected. That sample rate can be any of the standard frequencies between 32kHz and 192kHz, but because the DAC-X uses an asynchronous sample rate converter it can also, in principle, be any intermediate frequency. In practice, we can't remember ever seeing any such oddball frequency, but at least it allows for compatibility with slightly out-of-spec transports.

Inside the case is a generous toroidal transformer with plenty of filtering and regulation following. The other eye-catching feature is a pair of DAC boards, for Cyrus has opted for a dual-mono implementation. All DAC chips we've seen since about 1990 have been stereo, but it's perfectly possible to use them in single-channel mode and, if one's being really hair-splitting, it's surely no bad thing to do so. Each channel has an identical DAC/filter/buffer arrangement, all implemented with high-quality parts of recent vintage.

It's worth mentioning the DAC-XP – a cross between the DAC-X and an analogue preamp – if only because the DAC-X can be factory upgraded to 'XP spec as a later upgrade.

SOUND QUALITY

Although our listeners found plenty of encouraging things to say about this DAC, they concluded that it is a little generalised and lacking incisiveness in its presentation. The strongest criticism was made of its rendition of Miles Davis, which was found lacking in the raw edge so characteristic of that genius.

But there is a lot that the DAC-X does right and its talents are much easier to appreciate in other musical styles. Most successful among the 'blind' listening programme was classical, especially full orchestra, which had excellent soundstaging and very fine detail too. Here there seemed to be far more 'bite' to the sound. Our unaccompanied vocal track (four voices) was also a big success with a particularly refined sound and very clear diction. It did seem slightly less dynamic than a couple of the other DACs had managed, but made up for this with a beautifully pure tonality which extended very well to the high treble. Maintaining the tonal character of voices, especially multiple voices, is a rare enough ability in sound reproduction equipment!

Occasionally the sound was reluctant to deliver real 'slap' with low, or lowish, frequency transients – yes, that's strictly a contradiction in terms, but you know what we mean, plucked double bass, low percussion instruments, aggressively played low reeds and so on. But this was a minor anomaly in what it is really very capable product and its detail continued to impress us. It's well worth a listen. **HFC**

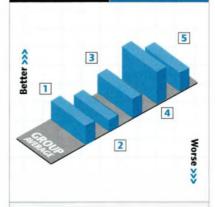




LAB REPORT

Cyrus's use of twin DAC chips is not just windowdressing: because both channels of each chip can be used in parallel for one actual audio channel, noise is lowered usefully and the net result is one of the lowest noise floors we've ever seen from an audio source, at least in terms of broadband (white) noise. The internal mains transformer causes a few hum harmonics to turn up in the noise measurement but these are still very low and in practice, they and the hiss component will be completely masked by the internal noise of most amplifiers - never mind the recording and listening environments! Distortion is very low, only creeping above the 0.001% level on one channel and staying low at HF. Jitter is at or below the measurement limit and just about the only thing we would improve in an ideal world is the frequency response above 20kHz, which doesn't roll off quite as fast as we'd like. Low-level linearity with 24-bit sources is excellent, too.

HOW IT COMPARES



- 1] Distortion >> +20%
- 2] Jitter >> +10%
- 3] Linearity >> +20%
- 4] Dynamic range >> +40%
- 5] Digital filter >> +20%

SPECIFICATIONS		1965
Measurement	Rated	Actual
Maximum output lave	23V	2.31V
Total harmonic distortion	0 002° b	0.0016%
Signal-to-noise ratio	115dB	112dB



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HEED AUDIO DACTILUS

Diminutive DAC holds its own against the competition

o new that at the time of writing it still wasn't listed on the company's website, Heed's first DAC has a features list that extends as far as optical and electrical digital inputs (selected using a rear-mounted switch) and a single unbalanced output! Well, what more do you want? OK, a few more inputs for some applications, but since this is evidently conceived and marketed on the basis of quality rather than convenience, presumably the designer feels he has done his utmost and any other features would interfere with that.

In common with the majority of units here, this one uses an external power supply, in this case a 'lump in the lead' with captive wires both ends. The connection to the Dactilus itself uses a locking connector rather than the usual push-fit DC connector. Inside the case are two circuit boards, both quite small and surrounded by plenty of fresh air. One carries power supply regulation components and the input sockets, while the second board bears the input receiver and DAC chips, plus a small handful of passive parts (decent commercial-grade) and two transistors – the minimalism clearly extends to the circuit design.

This minimalism is enabled by the use of an unusually highly integrated DAC, a tiny chip just a few millimetres square which includes not only the means of turning digits to analogue, but also the basic output analogue filtering. It is capable of handling 24-bit/96kHz sources and, although one couldn't describe its specifications as state-of- the-art, it should be capable of achieving good performance.

SOUND QUALITY

This turned out to be another 'horses for courses' DAC rather than an outright winner, but we can imagine it making a lot of friends simply on the basis of its lively character. It was thought by all of our listeners to be one of the most 'foot-tapping' of the group and it certainly enjoys getting stuck in to some energetic rhythms. In addition, it has a very pleasing, slightly warm midrange which does much to bring out the best in voices.

Where it scores down slightly is detail, which is decent, but becomes a little coarse when there is a lot happening in the music. As a result, the sound is pretty much diametrically opposed to the Cyrus, for instance, scoring most highly with jazz and rock and seeming least successful with classical tracks. All the same, the sound is generally convincing and we're not sure we would have been quite so picky had the listening not been conducted in terms of direct comparison with some highly capable kit.

In terms of specifics, frequency extremes are well presented with well-extended bass that also features good control. It has plenty of impact and, perhaps, just slightly less tunefulness than some. Midrange, apart from the slight warmth noted above, seems neutral and treble is just a shade closed-in at the very top, especially in densely textured music – a single instrument works rather better in that area. Imaging is good with precise lateral placement: depth is not quite as extended as some, but still sounds basically believable.

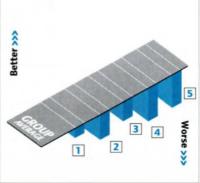
And in all the various tracks we tried, there's a really inviting quality which tends to put specific criticisms out of mind as one feels the essential message of the music taking clear priority over the detailed means used to convey it. As a result, while this isn't the product for the most analytical listener, it's seldom anything other than an enjoyable one to listen to and we're happy to recommend it, at the very least, for an extended audition. **HFC**





Output level is considerably lower than the norm, by some 5dB, which will tend to worsen the signalto-noise ratio a little. What may be more significant is that distortion of all kinds is some way short of vanishing. Regular harmonic distortion, for instance, does not fall away with decreasing signal level as we would like to see, but hangs around at what is probably a just-subjectively-detectable level until the signal drops below 60dB, Below that, though, the spectrum is at least pure. There is very little variation of distortion level with frequency. At high frequencies it is possible to see the effect of slight jitter, which worsens the noise floor by a few dB without introducing any discrete frequencies - this is arguably the lesser of two evils. There is also evidence that incoming jitter is not as well dealt with as the other DACs manage. The digital filter allows some aliasing even below 20kHz, while resolution is fine to -100dB but collapses below that.





- 1] Distortion >> -10%
- 2] Jitter >> -30%
- **3]** Linearity >> -20%
- 4] Dynamic range >> -40%
- 5] Digital filter>> 40%

SPECIFICATIONS		
Measurement	Rated	Actual
Maximum output eve	1 25V	1 27V
Total harmonic distortion	0.09°°	001%
Signal to noise ratio	96dB	97dB

VERDICT	
SOUND ★★★ FEATURES ★★	Minimalist in conception, this DAC offers good rhythm and timing and has a particularly beguiling way with voices. Less assured
BUILD **	with complex musical textures, which can become a little confused.
VALUE ★★★	H-FICHOICE SCORE



LAVRY ENGINEERING DA-10

This DAC is at home with all types of music

ots of audio companies put 'engineering' in their name with more or less iustification, but a quick perusal of Lavry's website soon convinced us that founder Dan Lavry is every inch an engineer and a communicative one at that: we'd go as far as to recommend his detailed and clear articles to anyone interested in reading up on the foundations of digital audio. He has some unconventional views, too, for instance opposing the use of ultra-high sampling rates above 96kHz.

The strong engineering heritage shows in the product in various ways, including the feature set, which includes slightly arcane features such as stereo/mono switching (useful for mastering engineers) and a switch marked 'PLL' (Phase-Locked Loop) with choices Wide, Narrow and Crystal: in principle Crystal should be lowest jitter, but the practical differences seem very small. There's also a digital volume control, giving 1dB steps up to 12 volts maximum output. That's in balanced mode and although the DA-10 only has balanced outputs they can be configured via internal jumpers to feed unbalanced cables via standard XLR-RCA adaptors, with outputs up to 6 volts.

The input provision is one each of phono, Toslink and XLR, while the power input at the rear is a mains connector: this unit does include its own power supply, a universal voltage switch-mode type. That occupies a little over a quarter of the internal area, the rest being pretty well-filled with the latest and greatest in receiver, convertor and op-amp chips. Build quality is very good throughout.

It seems that our listeners respected this DAC

a little more than they loved it. in other words, they had plenty of praise for its detailed performance, but ended up suprisingly unmoved by the music it made. As always, it's the reasons they gave for this that are most interesting.

Perhaps most striking is the number of comments on the treble. This clearly gave superb extension and clarity and was a little ruthless in the way it revealed the chosen test recordings, which are not all entirely without their own quirks in this area. In fact, it may be that the DA-10's treble registered as slightly excessive, which would explain why one listener found it just slightly harsh, while another complained of lack of bass - small subjective imbalances across the frequency range can have widely differing interpretations according to the ears that hear them.

Nothing, but praise from our listeners for the Lavry. Stereo imaging is closely related to detail and was felt to be very good if, at times, a little forward overall (that prominent treble at work again?). There is a very good sense of space around the sound and images are rocksteady, irrespective of how loud the music is or how many instruments are playing.

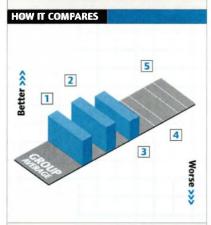
Bass divided opinion markedly. Apart from the comment noted above of light bass, there was praise for its extension and precision. It certainly does go low and if it doesn't seem to have quite the weight and impact of some, it makes up for this with immaculate control (and again this isn't everyone's idea of fun) and very good tuning. It isn't what one would call 'party bass', though, and if rhythm and timing are very much your thing it may seem

underwhelming. Overall, this may simply be **SOUND QUALITY** one of those hi-fi products that are too pure for some tastes. HFC INPUTS MODEL DA10



LAB REPORT

The volume control on this DAC gives adjustment in 1dB steps from 6V (unbalanced) down to about 10mV: for ease of comparison we set it ten steps down from maximum to give 2V out, comparable to the others in the group. At this level the residual noise was not quite the best of the lot, but still very good (4dB better on one channel than the other, almost certainly a sample varition) and, in general, we had the greatest difficulty finding anything much to measure in terms of distortion or other unwanted signals. Distortion is below 0.001% under any realistic conditions while jitter is below the 16-bit measurable threshold. Of all the DACs, this one had the best performance at ultra-low levels when tested with a 24-bit input, giving linearity better than 1dB at -120dB and negligible distortion or spurious output for levels around -100dB. Once again, there is a little aliasing around 20kHz, but nothing serious.



- 11 Distortion >> +30% 2] Jitter >> +10%
- 3) Linearity >> +20%
- 4] Dynamic range >> 0%
- 5] Digital filter >> 0%

SPECIFICATIONS		
Measurement	Rated	Actual
Maximum output level	2V	19V
Total harmonic distortion Signal-to-noise ratio	0 0008% 110dB	0 0007% 104dB



CONCLUSIONS

As our Ultimate Group Test has shown, the DAC still has a great deal to offer the hi-fi buff...

t the conclusion of our panel listening session, we always have a quick chat about the tests which often helps illuminate the hastily written notes our panellists have made. On this occasion, it was notable that the two most experienced members of the panel (both of whom have attended, at least, a dozen such sessions in recent years) agreed strongly that differences between the DACs were relatively tricky to spot and pinpoint, compared with other product, such as amplifiers and CD players.

Taking that in conjunction with the very wide price range across the group (nearly a ratio of 10:1), it would appear that you don't necessarily get what you pay for, at least in terms of raw performance. Indeed, the highestscoring unit overall (if one simply adds up the five star ratings) is the second cheapest, while on the same basis the very cheapest outscores the dearest. So, thumbs emphatically down for Cyrus?

We think not. For a start, it's by no means a duff product. Its sound has plenty going for it and it's obvious that a good deal of money

has gone into making it smart and nifty to use, within or without a Cyrus system. The sort of person who is likely to take a fancy to it may well regard the Beresford as a bland metal box and, while we'd stick up for its appearance, it certainly is relatively plain.

Similarly, the Apogee and Lavry models are considerably dearer than the Cambridge, but offer subtly different takes on events and are both readily compatible with professional sources. Both can also be used straight into a power amp, saving cost and a potentially sound-degrading stage.

The Heed Dactilus seems to us a bit of an oddball. Still, our panel enjoyed its sound and we'd certainly concur that it provides a good match in terms of sonic character to other Heed products we've heard, including headphone and phono amplifiers.

But the Cambridge does seem to tick more boxes than the others, if one looks at the big picture. It manages to sound simultaneously precise and lively, civilised and rhythmic and we reckon it deserves the standing it has rapidly earned itself as one of the bargains of the decade. HFC

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PMC FB1+ £1,695

Floorstanding model with well extended, bass and particularly neutral vocals

HINTS AND TIPS

>> Use decent cables, not only for the analogue output, but for the digital input too as they can affect jitter performance. >> Optical digital connections have

hum loops.

- (including a large transformer) can be a bad idea had a bad press, but can still be worth a try. For a start, they can't introduce
 - >> Don't be afraid to experiment with any settings available, especially absolute phase (polarity).

>>As with all audio kit, siting can play a

part and putting a DAC very close to kit

DACS AT A GLANCE

	0.0.	MHCHOICE	HHEROICE	NIA CONTRACTOR OF THE PARTY OF		HHICKNOCE
MAKE MODEL	Apogee Digital Mini DAC	Beresford TC-7510	Cambridge Audio DacMagic	Cyrus DAC-X	Heed Dactilus	Lavry Engineering DA-10
PRICE	£690	£130	£200	£1,200	£300	£763
SOUND	****	****	****	****	****	****
FEATURES	****	****	****	****	****	****
BUILD	****	****	****	****	****	****
VALUE	****	****	****	****	****	****
OVERALL	****	****	****	****	****	****
CONCLUSION	Immensely flexible, but sense of fun is better than detail. Soundstage could be deeper, and sound can lack focus.	Very pleasing sound that's involving and lively, good imaging and detail. Treble and bass precision just a touch behind the best.	Astonishingly capable piece of kit does all the right things. Selectable filters are a definite plus too.	Smartly presented and exceptionally civilised in presentation, but could do with a little more punch in the bass.	Good rhythm and a particularly beguiling way with voices. Complex musical textures can become a little confused.	Takes some getting used to if one is to appreciate its exceptional detail and insight. Slightly lacks rhythmic drive.
KEY FEATURES	5324 S. L.		and the later	CONTRACT OF STREET		CHINE
ELEC DIG I/ P	1	2	2	4	2	1
OPT DIG I/P	1	2	2	2	1	I Sale Washing
AES/ EBU DIG I/ P	Yes	No	No	No	No	Yes
USB I/P	Opt	No	Yes	No	No	No
BALANCED O/ P	Yes	No	Yes	Yes	No	Yes
MAX SAMPLING RATE	192kHz	96kHz	96kHz	192kHz	96kHz	96kHz
LAB CONCLUSIONS	E = EXCELLENT • G = GOOD	• A = AVERAGE • P = POOR		C. C. C. C.	10000	
DISTORTION	0.003% G	0.04% 🛕	0.0012% G	0.9016% G	0.01% G	0.0007% E
JITTER	0.25ns A	<0.1 ns E	<0.1ns E	<0.1ns E	0.3ns A	<0.1 ns E
LINEARITY	0.1dB E	0.25dB G	0.2dB G	0.1dB E	0.2dB G	0.1 dB E
S/ N RATIO	110dB E	98dB A	111dB E	112dB E	97dB A	104dB G
STOPBAND REJECTION	96dB G	95dB G	>100dB E	>100dB E	70dB G	>100d8 E





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MORE BASS

Dear Alan

My system comprises an Audio Aero Prima CD player, Primare I30 integrated amp and Acoustic Energy AE1 Mk2 speakers. I like the sound of this equipment, but the reduced bass extension of the AE1 Mk2 is a serious problem for me.

For maintaining – or improving – the best features of the AE speakers, I am considering the Neat Momentum 3i or even AE1 Mk3. With these new speakers, I would like to have a more extended, drier and more controlled bass. What is your opinion on this? Are there other options?

Luiz Madalozzo via email

HFC The move from Acoustic Energy's AE1 Mk2 to AE1 Mk3 will generate a little more bass, but probably not enough to keep you satisfied. Fortunately, you use a Primare 130, which is a fine amp that can work well with a wide variety of speakers and its basic sound is dry and controlled... in all the right ways. As you suggest, Neat's Momentum 3i, or the Audio Physic Spark 3 or PMC's FB1i, will add a useful amount of bass, but will change the sound away from that found in the AE1. It's a broad generalisation, but if you like the speed of the AE1, go for the Audio Physic, if you love the midband, go for the PMC and if you enjoy the beat, go with the Neat!

ASK ALAN

Got a burning hi-fi question? Ask Alan...

Send your queries to:

Alan Sircom, Hi-Fi Choice, Future Publishing Ltd, 2 Balcombe Street, London NW1 6NW. Or email your queries to alan.sircom@futurenet.com

WHAT'S IN A WATT?

Hi Alan,

I was wondering if you might clarify something for me relating to power outputs?

My confusion has been caused by the much talked about ADM 9.1 speakers. They have a power output, according to the website, of 250 watts to the bass driver and 75 watts to the tweeter. This is 325 watts per channel – that's more than a Krell 302.

Am I correct in thinking that it is likely that the AVI figures are peak figures, probably measured into the driver's load (5.7 ohms for the woofers I believe)? I saw on a forum post on computeraudiophile.com, by Ashley James, that power output is simply volts multiplied by watts, but I always believed there were different ways of measuring amplifier power output (the car audio industry quote very high figures usually with very high distortion, for example).

I hope you can shed some light on this for me, as I'd like to know if they really are 325 watts when compared like-for-like with most hi-fi amps.

Martin Saunders via email

HFC We spoke to both AVI and Krell on your behalf: "The power quoted for the ADM9.1s is the RMS into the load presented by the drive unit. For example, the



bass/mid amplifier swings +/- 50 volts and has a peak current of 15 amps. This drives a nominal five-ohm load, which will draw peaks of 10 amps producing 500-watt peaks or 250 watt RMS, which gives an SPL of 118dB both driven at one metre.

"This shows the advantage of purposebuilt power amplifiers. A high-quality, standalone power amplifier like the magnificent Krell doesn't know what sort of load it will see and has to be equipped to deal with anything a random loudspeaker designer might throw at it, including short circuits." says AVI's director, Ashley James.

Meanwhile, Bill McKiegan, Krell's Vice President of USA sales and marketing says that "our power amplifier ratings are based on stricter guidelines than required by the US Federal Trade Commission (FTC). The Evolution 302 delivers 300 watts into eight ohms, 600 watts into four ohms, and 1,200 watts into two ohms. This power output is steady rating, not peak and is for the 20Hz-20kHz listening range. Additionally, this performance is less than 0.2 per cent distortion throughout the entire audio spectrum.

"The FTC, in response to car audio specifications, began mandating measurements be done using a 1kHz sine wave into an eight-ohm resistor at one per cent distortion for power specifications. This combination is the basis of virtually all power specifications published in the industry today. In makes for great specifications in published literature but clearly, amplifiers are required to do much more than reproduce 1kHz into an eight-ohm resistor when listening to actual music. Since Krell started 28 years ago, our goal has been to deliver sonic realism not inflated specifications, we continue that tradition to this day."

BEGIN IN THE MIDDLE

Dear Alan

I have an Accuphase E-213 integrated amp and I don't know exactly what to add to it. I am torn between an Ayre CX-7, a Cyrus CD XT/DAC X or a Marantz SA-11S1 as source and for the speakers either a pair of Sonus faber Cremona (clean, and second-hand) or Tannoy Glenair 10. Can you also tell me what interconnect cable (balanced) and speaker cable I should use?

Ali Varal via email

HFC You've started your system in the middle, but – as it happens – it's a very good start. As two of the three players you mention are CD-only devices, we'll assume you are immune to the joys of SACD. As such, we'd recommend the Ayre model, because it features balanced operation and is one of the best CD

choices at the money anyone could make. You could also look to products like the excellent Electrocompaniet PC-1 (not yet tested in *HFC*), which is designed and works best as a balanced player. When it comes to speakers, much depends on the size of room, your music and the way you listen to it and your personal choice of cabinet. However, of the two models you list, the Sonus faber Cremona would suit the system well. By contrast, the Glenair is a horn design that favours low-power valve designs.

Finally, in interconnect and speaker cable terms, many UK Accuphase users favour Siltech or Cardas cables and if you want an Ayre/ Accuphase/Sonus system, we would tend toward the Siltech side of things. Likewise, opting for long nights of experimentation is often the best advice.

3 A SENSE OF BALANCE

Dear Alan,

Is there any advantage in using balanced cables?
I notice many up market CD players and amplifiers used XLR sockets on the back of products – why?

I have a Cambridge Audio Azur 840 CD player and 840A amplifier and both feature XLR and phono connections. I don't have any XLR cables, but would consider buying some if it upgraded the sound significantly.

Brian Anstel via email

HFC Balanced connections offer excellent noise rejection, both from electromagnetic interference and potential earth loop problems. In hi-fi, the potential for noise to affect the signal is minimal. That said, single-ended phono connections begin to show signal loss after about five metres. If you are planning to connect a preamp to a power amplifier that's further away, using XLR would be advisable.

That doesn't mean that there is no reason for using XLR between CD and amplifier; there's always the possibility that the XLR connection sounds better than single-ended. It's worth listening to both balanced and single-ended connections to find out whether you can hear a difference and if so, which one you prefer. That means we think in this contect, you should try to borrow a set of XLR rather than simply go for it.

BACK TO THE LAB?

Dear Alan.

After almost 25 years of sterling service, my Audiolab 8000A integrated amplifier has bitten the dust. My tame local electronics engineer says the repair is going to cost more than the second-hand value of the amp. Do I stump up for the repair, buy an old Audiolab 8000A to replace my existing one, buy a new Audiolab 8000S, or do I look outside the Audiolab camp for a new product altogether? I am reluctant to do the latter, because I love the sound of my 8000A. I listen mostly to classical music, mainly through CD and on FM, although I still have a good collection of operas on vinyl that I still listen to.

Anthony Crimmins via email

HFC A tough call, Anthony. We'd discount the concept of buying a second-hand 8000A unless your old one blew up or burned down – your 'new' 8000A could be just as prone to disorders of age. That said, the 8000A was in production from 1983 to 1997 (with several changes to the circuit in that time) and a mid-1990s model could prove a worthwhile replacement.

Your last comment about vinyl might throw a spanner in the 8000S works. Current Audiolab integrated amplifiers don't include a phono stage. If you don't want an additional phono box, the Arcam FMJ A38 (*HFC* 308) is a perfect alternative.



ALAN'S TIPS

WATT, WATT, WATT!

Disraeli famously said that there are 'lies, damned lies, and statistics', and different forms of power ratings can mislead people when selecting a product.

Watts (or W) are a measurement of energy conversion; one watt is equivalent to the conversion of one joule of energy per second. There are no specially enlarged watts that apply to valve amplifiers. But, in amplifier electronics, with great power comes great distortion. And this is where the confusion can begin to appear.

Measuring just one channel of an amplifier with more than one channel driven by the same power supply can show an unrepresentative rating, because the power supply cannot drive two amplifier stages as efficiently as one. This can be subtly engineered on paper; '50 watts x2' cannot suggest anything other than 50 watts per channel, but '50x2 watts' is vague enough to mean '50 watts into two channels', which could mean 25 watts per channel.

Similarly an amplifier can be tested with a short burst of power, which can skew ratings. Also, testing across the full frequency range, instead of concentrating on a 1 kHz signal shows how the amp behaves with real-world music instead of a sine wave.

Distortion ratings are, perhaps, the reason why some think valve amplifiers have beefy power ratings. Although an amp is measured with a low THD figure, valve amplifiers tend to deliver sweet-sounding even-order harmonic distortion instead of aggressive-sounding odd-order harmonic distortion found in transistor amps. So, you are more likely to keep a solid-state amplifier below the point where it starts to distort, but will be more likely to push a valve amp beyond its rating.

Worst of all is the PMPO (peak music power output) rating, that can be used to 'big up' the power rating of a clock radio or cheap line-fit in-car entertainment. There's no standard measure for PMPO, but this can often be a measurement of a couple of milliseconds of transient power dumped into one channel, with no consideration for frequency response or distortion. This could conceivably mean an amplifier with a 10-watt rating, when measured properly, turns in an outrageous figure closer to a kilowatt PMPO. Unless you are marketing the product in question, PMPO is a totally pointless statistic to quote.

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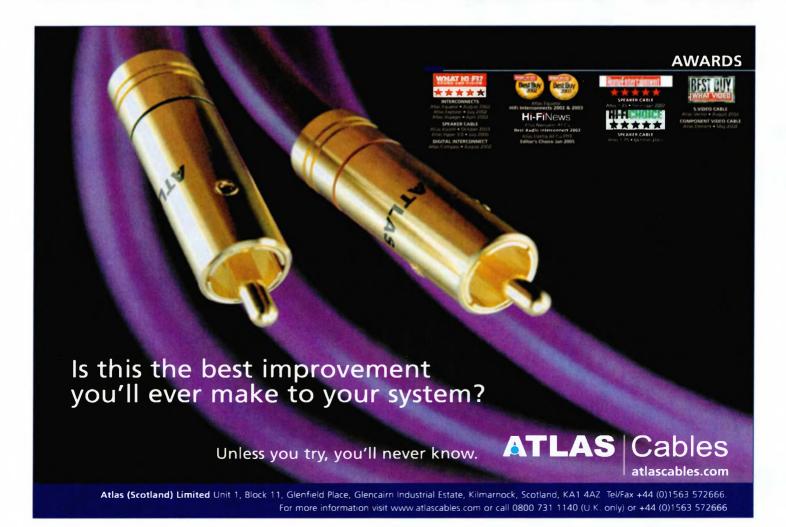
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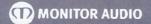
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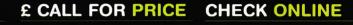
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The Logitech Harmony 1000 features a brilliant 3.5" colour touch screen that allows for one-touch activity based control of even the most sophisticated A/V components. Say goodbye to the wasted time and unnecessary complexity of multiple remotes controlling multiple devices: Logitech's patented Smart State Technology makes it easy! Control your HDTV, adjust aspect ratios, or change sound modes.

Welcome to a whole new world of listening. The Pure Digital Evoke Flow brings you the huge variety of audio available on the internet alongside traditional DAB and FM radio and your own digital music collection. This is achieved through WFI internet connection for internet radio, isten again, podcasts and media streaming from your PC, Mac or laptop. All this comes in a stylish, portable package that has set the standard for the next generation of Pure Digital radios.

Shure's SE420 sound isolating earphones feature Dual TruAcoustic McroSpeakers and a sound isolating design. They use dedicated tweeters and woofers to provide a detailed sound stage that's free from outside noise. Lows, mids and highs are distinct and defined for accurate reproduction for all the details of your music.

InFocus

SPEAKERS

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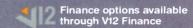
TEAC











TECHNICAL & DESCRIPTIVE TERMS BUYER'S BIBLE

GLOSSARY

TECHNICAL TERMS

5.1-CHANNEL AUDIO Six discrete channels, typically front left and right. centre, surround left and right, and LFE (Low Frequency Effects) for a subwoofer. RALANCE Most loudsneakers have a characteristic frequency balance resulting from emphasising parts of the audio range and/or de-emphasising others. BASS The lowest three octaves of the audio band - 'low bass' refers to the bottom octave (20-40Hz), 'mid-bass' the middle octave (40-80Hz) and 'upper bass' the top octave (80-160Hz). BI-AMP (sometimes tri-amp). Loudspeakers equipped with separate

BI-WIRE (sometimes tri-wire). Loudspeakers with separate access terminals to each drive unit can be driven by separate cable runs between

access terminals to each drive unit can

be driven by separate (matching) power

amplifiers for each driver

CD-R Recordable CD that cannot be erased, though discs that have not been completely filled can have tracks added until the disc is finalised.

CD-RW Re-writable or re-recordable CD. incompatible with older CD players CLASS A The operation of an amplifying stage or device in which current always flows, as opposed to Class B. where some of the devices are effectively turned off some of the time. Class A tends to have the advantage of

tends to generate less heat CLASS AB Most practical amps operate in Class A for the first fraction of a watt and Class B thereafter

offering lower distortion, while Class B

CLIPPING An amolifier's output waveform is 'clipped' if the volume is advanced too far and no more 'volts' are available to sustain ever-increasing power levels. Distortion increases dramatically at this point

CLOCK Any electronic oscillator that is used to generate a timing reference signal. Used to synchronise the data being taken from a disc

CROSSOVER A simple electrical network which divides the full bandwidth signal received from the power amplifier, apportioning appropriate parts of the spectrum to the various drive units

DAB (digital audio broadcasting). Digital radio using frequencies in the 217.5-230MHz band. Broadcasters use varying degrees of compression and offer a broad range of programming

DAC or Digital-to-Analogue Converter The stage in any digital component at which incoming digital data is used to reconstruct a recognisable analogue (music) waveform

DOLBY DIGITAL A compressed digital audio format that typically contains five or more entirely discrete channels, eq. 7.1 EX where side and rear channels are used

DOLBY PRO-LOGIC, DPL Forerunner to DD that 'steers' information to the front L/R, centre and mono surround channels via an analogue matrix

DRIVE UNIT/DRIVER A transducer which converts electrical energy into acoustic energy, eg bass driver, tweeter DSD (direct stream digital) The coding format used for SACD offers a frequency response of over 100kHz and a dynamic range over 120dB. It has over four times the data capacity of CD

DSP (digital signal processor). Integrated circuit that handles the decoding of digital audio streams. In 5.1 processors, it separates the left from right and front from rear while managing the various hass ontions

DTS or Digital Theatre Sound. Competitor to Dolby Digital with a reduced 4:1 compression ratio that, ostensibly promises higher quality

DVD-AUDIO High-resolution variant on DVD offering up to 192kHz bandwidth and 24-bit dynamic range. Discs are compatible with standard DVD players **ELECTRICAL DIGITAL** Any digital connection that uses an electrical cable rather than optical. Includes the balanced

('AES/ERU') interface FILTERS Filters are intrinsic to digital audio, both analogue and digital. These are often very sophisticated in design, and in total they probably have rather more to do with the 'personality' of CD player sound than most other factors

FREQUENCY RESPONSE The range of frequencies, from low to high, which a loudspeaker will reproduce

IMPEDANCE With speakers, the complex electrical load that a loudspeaker presents to the amplifier

JITTER An insidious distortion specific to digital audio caused by imprecision in the clock, used to regulate the conversion of data into analogue audio

KBPS (Kilobits per second) Digital data rate measurement system used primarily with highly compressed formats such as MP3, DAB etc. The higher the amount, the better the quality

LINE LEVEL Practically every modern source component (except phono cartridges) gives an output in the region of 1-2V, referred to as 'line level'. It follows that all inputs labelled 'CD', 'tuner', 'aux' or 'tape' are designed for this input level and are thus interchangeable.

LOSSLESS COMPRESSION A method of reducing the number of data bits (density) without corrupting the original description of the musical signal

LOSSY COMPRESSION Reduction in data density by recourse to a complex osycho-acoustical model that predicts what is, and what is not, 'audible' within a

MIDRANGE The middle three or so octaves of the audio band, where the ear is most sensitive covering the approximate frequency span from 160Hz up to 3kHz

MP3 (MPEG layer 3) Lossy compression format for digital audio that drastically reduces data content in order to squeeze music through internet connections or allow hundreds of CDs to be stored on a hard disc

OUTPUT IMPEDANCE A measure of resistance to alternating current, a source with low output impedance (below 100 ohms) helps ensure compatibility with most amplifiers, even with long interconnect cables

PCM (pulse code modulation) The digital coding system for analogue waveforms used for CD and DVD. Quality is limited by the oversample and bit rates used - CD is 44 1kHz/16-bit while DVD-A is capable of 192kHz/24-bit

PRESENCE BAND Critical section of the audio band at the point where midrange and treble meet

QUANTISATION NOISE A form of distortion or noise resulting from errors in the description of the musical signal by the digital code

SACD (Super Audio CD) was launched in 1999 and is a Sony/Philips format based on DSD coding that offers high resolution stereo and multichannel sound from hybrid discs that can also be played on ordinary CD drives.

SAMPLE RATE The rate at which the musical waveform is sliced up into discrete chunks. For CD, this is 44 1kHz or once every 0.023msec. DVD will also support 48kHz and 96kHz

SENSITIVITY The relative loudness that a speaker generates for a specific voltage innut. Expressed in decibels per watt (dR/ W) measured 1m from the speaker

THX Standards system for home cinema set-ups which includes amplifier power and sneaker disnersion characteristics. The latest THX Ultra 2 standard is more stringent than THX Select.

TOSLINK The proprietary name given by Toshiha to the ontical fibre signal transmission system it invented for

TRANSISTOR/MOSFET The two main types of power semiconductor used in solid state amplifier output stages

TREBLE High frequencies, the top end of the audio band, ie above 3kHz TWEETER Treble driver

TWO/THREE-WAY Loudspeaker crossovers split the signal into two or three frequency bands, a two-way speaker can have more than two drive units

WATTS (per channel) The watt is the unit of electrical power and the WPC rating is the maximum average undistorted power that an amp can deliver to a typical speaker. However, speaker sensitivity variations can make more difference than amplifier output WOOFER Bass driver

DESCRIPTIVE TERMS

AGGRESSIVE Forward and bright sonic character

AMBIENCE The impression of an acoustical space, such as the performing hall in which a recording was made

ANALYTICAL Highly detailed. ARTICULATE Intelligibility of voice(s) and instruments and the interactions between them

ATTACK The leading edge of a note and the ability of a system to reproduce the attack transients in music.

BALANCE Essentially tonal balance the degree to which one aspect of the sonic spectrum is emphasised above the rest. Also channel balance, the relative level of the left and right stereo channels

BODY Fullness of sound with particular emphasis on upper bass. Onnosite of thin

BOXY The sound of a loudspeaker with audible cabinet resonances. BRIGHT A sound that emphasises the

unner midrange/lower treble DARK A tonal balance that tilts downwards with increasing frequency

DECAY The fadeout of a note it. follows the attack

Opposite of bright.

DEFINITION (or resolution) The ability of a component to reveal the subtle information that is fundamental to high fidelity sound.

DEPTH (of image) The perception of music being reproduced behind the loudspeakers and inhabiting a reproduction of the acoustic space of the original recording.

DETAIL The most delicate elements of the original sound and those which are the first to disappear with lesser

DRY A sound that is devoid of 'juice'. which usually comes across as fine-grained and lean. Also a loss of reverberation as produced by a damped environment

DYNAMIC The suggestion of energy and wide dynamic range. Related to perceived speed as well as contrasts in volume both large and small.

EUPHONIC An appealing form of distortion that generally enhances perceived fidelity, often ascribed to the harmonic elaborations of some valve amns

FAST Good reproduction of rapid transients which increase the sense of realism and 'snap'

FOCUS A strong, precise sense of image projection

FORWARD(NESS) Similar to an aggressive sound, a sense of the image being projected in front of the speakers and of music being forced upon the

GRAINY A slightly raw, exposed sound which lacks finesse

GRIP A sense of control and sturdiness in the bass

GRUNT See grip

HARD Uncomfortable, forward. aggressive sound with a metallic

HARSH Grating, abrasive

IMAGING (stereo) The sense that a voice or instrument is in a particular place in the room

JUICY Sound that has joie de vivre, energy and life

LOW-LEVEL DETAIL The quietest sounds in a recording

MUSICAL or musicality. A sense of cohesion and subjective 'rightness' in the sound

NATURALNESS Realism **OPAQUE** Unclear, lacking transparency

OPEN Sound which has height and 'air', relates to clean upper midrange and treble

PACE Often associated with rhythm, a strong sense of timing and beat. PRESENCE A sense of an instrument or voice occupying a place in the listening room

PRESENCE RANGE The upper midrange

SEISMIC Very low bass that you feel rather than hear

SIBILANCE An emphasis of the 'S' sound often heard on radio. SNAP A system with good speed and transient response can deliver the immediacy or 'snap' of live instruments

SPEED A fast system with good pace gives the impression of being right on the money in its timing. STURDY Solid, powerful, robust

THICK A lack of articulation and clarity in the bass.

THIN Bass light

sound

TIMBRE The tonal character of an

TIMING A sense of precision in tempo. See speed and pace

TRANSIENT The leading edge of a percussive sound. Good transient response makes the sound as a whole more live and realistic

TRANSPARENCY, TRANSPARENT A hear-through quality that is akin to clarity and reveals all aspects of

detail TWEAK To tune a system or component in an attempt to get the

best performance from it TWEAKER Someone who enjoys

this process VEILED Loss of detail due to limited

transparency WARM A fullness in the lower midrange/upper bass.

WEIGHT A sense of substance and underpinning produced by deep. controlled bass.





Welcome to the Hi-Fi Choice Buyer's Bible - the ultimate guide to the very best high performance hi-fi and multichannel gear you can buy. Here, you'll find our favourite current products listed under easy-to-use categories, plus useful information on what to look for and how to get the most from your components.

Reviews you can trust

Our test results are the most reliable in the business. We employ the most experienced reviewers 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 multichannel disc players. Whether hi-fi stereo or high performance surround and vision, these components will take you a step closer to reality.

How to use this guide

The Hi-Fi Choice Buyer's Bible is the best way to make a shortlist of components for your system. Pick the ones that best suit your taste and budget, then use our Dealer Classified section to find specialist outlets where you can audition these components with your favourite discs.

Products that score more than four stars overall are automatically considered for inclusion in the Hi-Fi Choice Buyer's Bible. Any Best Buy or Editor's Choice Badges awarded are also displayed.

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CD PLAYERS

Audio disc players for music only

Despite the emergence of new formats and the resurgence of an old one (vinyl), CD is still the king of formats if you require breadth of choice. And despite the fact that other sources will play CDs, if you want to hear your discs at their best, there's little substitute for a dedicated CD player.

It's also the most enduring format on the market. Despite high-resolution contenders like SACD and DVD-Audio, nothing has been able to undermine this universally popular format.

CD players work by reading a stream of 1s and 0s off a disc that spins at a constantly changing speed (to counteract the increasing length of 'groove'). This bitstream is then digitally filtered before undergoing digital-to-analogue conversion in the DAC (D-to-A convertor). Thereafter, the signal is filtered



again before being amplified and sent to the output sockets.

The processes of reading the disc and converting the data are sometimes split between a CD transport and separate DAC in so-called two-box players. A popular approach with very high-end kit, this separates the electronically noisy elements from the sensitive analogue stages, but can introduce timing errors known as jitter, therefore one-box players usually offer best results where budget is a consideration.

A.30

WHAT'S A DAC?

A DAC or digital-to-analogue convertor is a fundamental part of any CD player and converts the digits read from the disc into an analogue music waveform which is amplified to line level.

WHY HAVE SEPARATE TRANSPORTS & DACS?

Discs are read by a transport or disc drive, which creates radio frequency 'noise'. Separating the DAC means the conversion can be done with less interference.

CAN I USE AN OUTBOARD DAC WITH MY INTEGRATED CD PLAYER?

Yes, if it has a digital output - and most do.

DO I NEED DIGITAL CABLES FOR A CD PLAYER?

No. All analogue cables are suitable for connecting a CD player to an amp. Digital specific cables with 75 ohms impedance are useful when connecting the player to a digital recorder or DAC.

WHAT IS OVERSAMPLING/UPSAMPLING?

Oversampling involves multiplying the sampling frequency by a whole number, usually between four and 32, but sometimes higher, and is designed let the DAC to work in a more linear fashion.

Upsampling is where the data stream is stretched out by interpolation and is typically used to refer to large changes in sampling rate such as from 44.1 kHz to 192kHz.

CAN I PLAY SACDS ON A NORMAL CD PLAYER?

Yes. The vast majority of SACD discs are hybrids, with a CD layer that all CD players can read.

CAN I PLAY DVDS ON A CD PLAYER?

No, the same applies to DVD-As. But you can play CDs and DVD-As on normal DVD players.

SUPER AUDIO CD

SACD or Super Audio CD is a relatively new audio-only format introduced by Sony and Philips. It offers higher resolution than CD in the form of considerably greater bandwidth and improved dynamic range. It also has

the potential for uncompressed surround sound using up to six channels, and most new discs take advantage of this. SACD discs are usually hybrids and will play on normal CD players, but you won't be

able to appreciate their highest quality or their multichannel capability without an SACD-compatible player. Some SACD players also play DVD and even DVD-Audio – these are listed in our DVD section.

TOP BUYS



Rega Apollo £498

 $Rega^{\mathsf{T}}s\ latest\ entry-level\ player\ is\ a\ splendidly\ musical\ performer,\ given\ its\ modest\ price.\ Bass\ is\ good,\ mid\ range\ is\ great\ and\ high\ frequencies\ are\ truly\ exceptional.$



Marantz SA8003 £700

Just missing our Awards judging for 2008, the high-scoring SA8003 is our current favourite player under £1,000. Playing both CD and SACD, the 8003 is a class act.

	N = N	71	EST BUY CC EDITOR'S CHOICE			N.	SPEC	IFICA	TION	S		
	PLAY			SACO COMPATIBLE	ELECIDIG OUTPUT	OPT DIG OUTPUT	CD-RW COMPATIBLE		BAL ANALOGUE OUT	HEADPHONE SOCKET	VARIABLE OUTFUT	SOUE NUMBER
	D and SACD	pla	yers	VIPATIE	OUTF	OUTF	MPATE	CO 1EXT	GUE (S00	OUT	NOIVE
ADGE? PRODUCT	3	(COMMENTS	316	ŭ	ŭ	Æ	8	ij	É	\$	0
IP TO £1,000 Aream CD17	50	0 4	Civilised sound, with a positively deluxe treble. Bass is clear, if not the weightiest ever	-	•	•	•	a		-		3.
Arcam CD37			Excellent detail and imaging, neutral tonality and above-average bass resolution do honours to CD and SACD alike		•	•	•	dh				3
Cairn Tornado		-	Excellent detail and magning, hearral torially and aboveraverage bass resolution do noticols to co and sixed alike. The Tornado is a full-on experience that shuns compromise and delivers intensely real sound for its price.	_							0	3
	udio Azur 740C 50				•		•			0	-	2
3			Very flexible, this innovative upsampling player sounds exceptionally neutral and highly informative		•		•			-		3
	udio Azur 840C 75	-+	Ultra-civilised sound is not to every taste: rhythm-lovers may find this player frustrating									
	49 500AF 10	-+	A minute treble lift, otherwise this is a very capable player that offers fine value			-	-					2
		-	Cheap, well built and good, if slightly soft-edged sound quality			0	•			0		2
Marantz CD6		-	A hint of treble unevenness is the only specific flaw: performance is class-leading in most areas			-	-	•		0		3
Marantz SA8			Classic Marantz sound in a classy and attractive package. Our favourite sub-£1,000 player.	•	•	•	•					3
Naim CD5 <i>i</i> Quad 99CD-	87		Its strikingly competent musical performance comfortably exceeds the expectations of an entry-level player				•					;
		-	Revels in big music thanks to fearless presentation: smaller-scale works can lack focus		_	•	0		•			
Rega Apollo	49		Unless you can't abide top-loaders, check this out: musically it's a highly praiseworthy performer		0		•					
Roksan Kand		-	State-of-the-art technology and precision engineering produces a fine CD performance		0	•	0		•			
] Yamaha CD-	S2000 99	99	Sophisticated, this is a beautifully controlled, high-resolution player, although SACD is stereo-only	8	•	•	0	•	0			
BOVE £1,000									_			
Audio Resea			Audibly better than most CD players on the market – natural and refined, yet assertive and very dynamic		0	•			de			
Bryston BCD			Not as open as some but rather more timely than most, it sounds a lot more gripping than it looks		0	•			0			
Cairn Fog 3			Ergonomically challenged, high energy player with Gallic charm and digital preamp on board		80	•					0	
Chord Red R		345	The definitive statement in Red Book CD playing, this player's look and sound places it at the top of the tree		80	•	•		•			
Classe CDP-		000	Rich, dynamic CD/DVD player with a full bottom end, impressive dynamics and a luxurious yet revealing balanced		120		8		•		0	
Cyrus Audio		00	A highly civilised player which can, nevertheless, deal convincingly with raw music		8	**	0					
Cyrus Audio	CD8x/PSX-R 1,4	OC	Lightness of touch is the key here, but there is also good bass and some very fine detail on offer too		0	0						
EMM Labs C	DSA 6,9	195	Classy, stripped down to basics SACD/CD player with some excellent engineering below decks	0	-835	95	9					L
Esoteric X-0	5 3,4	95	Superb resolve of fine detail combined with a perfectly judged balance and an ability to draw you into the music	8		6	•					
Leema Antila	2,4	95	Musically engaging player that will have you going through your CDs afresh. Balanced connection is best		•	8	•		•			ŀ
Leema Strea	m 1,0	95	The most timely disc player at its price point has tactile imaging and good dynamics, but unusual control system		•							
Linn Akurate	CD 3,9	985	This highly engaging multiformat non-video player doesn't have huge transparency, but is musically addictive	-	8		•		•			
Marantz SA-	11S2 2,7	200	Superb value for money, this well-balanced player features various filter settings to customise performance						8			
Marantz SA-	7S1 5,0	000	Something of a bargain even at this price, the SA-7S1 sets the benchmark for CD/SACD players of its ilk		0			•				
Meridian G0	8 2,2	250	Advanced digital processing with special apodising filter that gives a very clean sound		9	9		•	•			
Naım HDX	4,5	600	The HDX hard disk player represents an entirely new paradigm for high-fidelity replay. Who needs CD players?		0	8						
] Roksan Cas	pian M Series-1 1,2	250	An exceptionally fine CD player that provides a high-end and musically rewarding performance		(9	0						
Shanling CD	-T1000SE 1,6	50C	Commendably committed player which gets right to the heart of a wide variety of musical styles		9		•				•	1
Sony SCD-X	A5400ES 1,1	99	Elegant, refined control system and very strong CD/SACD performance. Sound is bold with high resolution		0	40	•	•	•			
Unison Rese	arch CDF 1.9	150	Valve CD player with interchangeable DACs that can double as a standalone DAC that oozes musicality		0		9		0		0	

SPECSICEY SACD COMPATIBLE Plays high-resolution SACD discs in multichannel and/or two-channel mode. ELEC DIGITAL OUTPUT Electrical coaxial output for digital connection to a DAC or digital recorder. OPT DIGITAL OUTPUT Optical Tostink 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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VINYL

Turntables, cartridges and phono stages



Record players or turntables offer the digital revolution serious competition when it

comes to sound quality. Even a modest model can turn musical tricks that most CD players struggle with. Some call it vinyl warmth, but in reality it's a lack of digital hardness that makes the format so engaging. True, the software requires a bit more care, but even a knackered LP is more playable than a scratched CD.

Record players are made of three, perhaps four, fundamental parts. The turntable is the plinth and platter, usually also containing the motor and any suspension system. A tonearm sits on the plinth and allows the cartridge to trace the vinyl groove by pivoting or parallel tracking over the record. The cartridge contains the means of turning the mechanical movement of the groove wall into an electrical signal

A fourth element is an amp dedicated to the delicate job of amplifying and equalising the cartridge's insubstantial output. This is called a phono stage and can be found in some integrated amplifiers and preamps, but is



increasingly purchased separately for use with line-only amps.

There are two types of phono cartridge: moving magnet (MM) and moving coil (MC), and with a few exceptions the latter outperforms the former. But MCs produce a lower output and require better-quality amplification to be heard at their best. As a general rule, MCs offer a broader bandwidth, greater dynamics and more detail, but the better moving magnets do most things well enough to distract you from your CD collection.

Setting up a turntable varies from model to model, but the general principle is to level the platter by adjusting the suspension or, with solid platters, the surface it sits on. Sprung suspensions sometimes require a bit of fine-tuning to sound their best, but the principle is to achieve a smooth, pistonic bounce. Cartridge set-up is even more critical, as the angles at which the stylus traces the groove affects its tonal balance and levels of distortion. A good alignment protractor is essential if you are intending to set up your own cartridge, as is a degree of patience. In essence, there are two angles you need to get right: the tracing angle as the cartridge crosses the record if you are looking from above, and the vertical tracking angle (VTA), which is adjusted by raising or lowering the arm base to bring the arm parallel with the record surface.



Rondo Red £325 Despite being the base model in the Rondo range the Red delivers detail, power and resolution and is very well

priced to boot. A cut above its rivals.



Practical and highly compatible unit offering fine detail and a pleasing mellow balance. If you actually buy one, ask the supplying dealer what OBH stands for



Saffire £1,900

Something of a gem the very individual Saffire is refined and pleasingly neutral with excellent dynamics and very strong timing ability



Avid Volvere £2,750

Avid has been one of the most impressive exponents of the vinyl arts in recent years, and this mid-range deck is a stunning example of analogue engineering.

Roksan Radius 5/Nima

SME Model 10A

SME 20/12A

EC

EC

	ır favourite				CDE	CIFIC	A7101	IC.	
	URNT	AB	BLES		S		SUPPLIED WITH ARM	SUPPLIED WITH CART	155
Rec	ord players			58	ISP SUBCHASSIS	SPEED CHANGE	HIM	WITH (SSLIE NUMBER
BADGE?	PRODUCT	3	COMMENTS	SQEEDS	SSS	HE	MRA	ART	REA
EC	Avid Volvere	2,750	A combination of a heavy platter with a sprung suspension that makes the vinyl it spins sound powerful and solid	33/45	€6	蒙			298
177	Clearaudio Emotion	985	Beautifully built with open and clean sound emphasising mid and top, but delivering nice timely bass	33/45			•	9	309
- 1	Clearaudio Champion	1,365	Small, practical and good-sounding, with impressively 'dead' arm. Isolation recommended	33/45					268
	Clearaudio Performance	1,940	Ceramic-magnetic bearing spells a surprisingly uncoloured performance. Good arm and cartridge	33/45			*	*	295
EC	Clearaudio Ambient	4,220	Innovative use of materials leads to a fast, precise and thrilling sound (tonearm extra)	33/45		@	8	135	271
EC	EAR Disc Master	7,695	Combines new 'no contact' drive technology and high-quality materials to bring state of the art resolution	33/45/78	0		opt		276
1111	The Funk Firm Funk	450	You won't find another turntable at the price that can touch the Funk for dynamics, tone colour or detail	33/45		63	opt		279
	The Funk Firm Funk V	750	Vector drive brings a refinement to the standard Funk that increases resolution. For high-class analogue sound, it's a killer	33/45		69	opt	opt	284
EC	The Funk Firm Saffire	1,900	Individual design and a sound that's refined and neutral with strong timing and dynamics	33/45		@	opt	opt	309
93	Goldring GR2	265	Nicely finished Rega-manufactured deck with RB250 arm and an open, engaging sound quality	33/45			98	Sá	266
	Michell Tecnodec	886	Needs careful partnering but can deliver a very sophisticated result for the money	33/45			69	38	309
14.	Pro-Ject Expression II	250	A smooth and engaging turntable with the ability to revel in the glory of vinyl, with upgradable arm cable	33/45			Ø.		289
160	Pro-Ject RPM 5	450	Great looks plus an on the ball, engaging sound that puts it in the serious league, needs good isolation for best results	33/45		*	:69		279
(A)	Pro-Ject RPM 6.1	600	With its minimal chassis and huge platter this is a steady design that's capable of fine results with a decent cartridge	33/45/78		359	40		294
14(1)	Pro-Ject X-Pack	800	Combines some very strong elements (Ortofon Rondo Red) into a killer package with top sound and value	33/45		0	0	go	309
hel	Pro-Ject RPM 9 X	1,200	A gorgeous turntable that sounds as good as it looks - vital and transparent) Price includes carbon fibre arm	33/45			58		268
r 3)	Rega P3-24	398	Very competent, uncoloured and musical, much improved by £148 outboard electronic power supply	33/45		opt			298
	Rega P5/RB700	698	Combines a great sense of timing with market-leading resolution and a phenomenal tonearm – a hard act to beat	33/45		(5)	opt		257
Est.	Rega P7/RB700	1,298	A highly capable player that could hold its own in the most exalted company – a vivid and natural performer	33/45		0	opt		257

Ou	r favourite	BES1	BUY & EDITOR'S CHOICE				
				S	PECI	FICATI	ONS
P	HUNU	G	ARTRIDGES			REPLACEABLE STYLUS	ISSUE NUMBER
MM	and MC cartridges			MM	M	SUS	EH.
BADGE?	PRODUCT	3	COMMENTS				
	Denon DL-103R	200	Adds refinement to basic DL-103, at a price. One of the best rock'n'roll cartridges around		份		285
	Dynavector DV-10X5	250	A high-output MC with superb dynamics and fine timing that's difficult to mount, but well worth the effort		49		307
	Grado Prestige Gold	110	Produces rich, open and expansive music with the minimum of fuss	0		0	235
100	Ortofon Rondo Red	325	Delivers detail, power and resolution and makes a good case for its price				307
	Ortofon Salsa	200	Despite a touch of midrange coloration, this cartridge really involves the listener with good extension and a clean, agile sound		198		290
	Sumiko Blue Point Spec Evo III	239	High-output MC with refinement at high frequencies and a nimble, articulate and revealing sound		59		270
9.5	van den Hul MC One Special	699	A gorgeous cartridge that's worth the price every time you hear a familiar track in a whole new light				235
EC	van den Hul Condor XCM	2,400	A stunning cartridge with stereo imaging, dynamics and detail resolution to die for				265
EC	Wilson Benesch Naked Analog	1,450	With its smooth clean highs, transparent midband and nimble bass, this is a lot of performance for the money		(9)		253

895 Sophisticated design with accomplished sound quality, excellent imagery and good isolation (acrylic version tested)

11,133 Brings a calmness and precision to vinyl replay that we have rarely encountered, build quality is second to none

33/45

33/45/78

63

195

293

3,411 Elegant and extremely capable design, tested here with Series V/309 hybrid arm

Townshend Rock V/Excalibur (I 7,000 If you want to hear everything that's on a record then there's no better machine for the job (includes Excalibur (I)

Ou	r favourite	BEST	T BUY EC EDMORS CHOICE					
					SPE	CIFIC	ATION	S
r	HUNU	2	TAGES	MM PHONO INPUTS	INC PHONO INPUTS		ADJ. IM	ISSUE
Phor	no stages			OINPL	IN IN	ADJ. GAIN	IMPEDANCE	NUMBER
BADGE?	PRODUCT	2	COMMENTS	SL	STI	ž	Œ	æ
100	Cambridge Audio 640P	60	An outrageously good bargain that suits budget systems, but can confidently survive upgrades before and after in the chain	27	•			305
	Creek OBH15	220	Practical and highly compatible unit offering fine detail and pleasing, mellow balance	0	•			305
w.,	NAD PP2 phono stage	50	A fine buy for turntable users on a tight budget – open tonality and clarity is distinctly impressive for the money		•			245
100	Tom Evans Microgroove	400	For dynamics and real bass extension with good tonal colour this is the one to beat. The Plus version (£700) is even better!		699			234
EC	Tom Evans The Groove	1,800	Plenty of detail, excellent imaging and almost flawlessly neutral: a good choice for maximum information retrieval off any LP					201
	Trichord Dino/Dino+	498	Relaxed yet resolute with very good image depth and natural balance, not to mention great flexibility			0	0	234

TURNITABLE SPECS KEY SPEEDS Speeds offered in rpm. SUSP SUBCHASSIS furntables 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.

CARTRIDGE SPECS KEY 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



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ART emotions	£3,000
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Krell KPS 20 iL Krell KPS 25sc Krell KPS 28c CAST II Lehmann DAC+ preamp/DAC Linn CD12 Marantz CD-67SE Mark Lewnson 315 & 306	E2,250 E7,495 E4,995 E550 E5,500 E75 E12,500
Krell KPS 20 iL Krell KPS 25sc Krell KPS 28c CAST II Lehmann DAC+ preamp/DAC Linn CD12 Marantz CD-67SE	£2,250 £7,495 £4,995 £550 £5,500 £75
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Krell KPS 20 iL Krell KPS 25sc Krell KPS 25sc Krell KPS 28c CAST II Lehmann DAC+ preamp/DAC Linn CD12 Marantz CD-675E Mark Levinson 315 & 306 McIntosh MCD 201 Meridian Audio 200/203 Tran/dac Mendian Audio 518 DAC	E2,250 E7,495 E4,995 E550 E5,500 E75 E12,500 E2,450 E350 E495
Krell KPS 20 iL Krell KPS 25sc Krell KPS 28c CAST II Lehmann DAC+ preamp/DAC Linn CD12 Marantz CD-67SE Mark Lewnson 315 & 30.6 McIntosh MCD 201 Mendian Audio 200/203 Tran/dac Mendian Audio 518 DAC MSB Link DAC 3 24/96	E2,250 E7,495 E4,995 E550 E5,500 E75 E12,500 E2,450 E350
Krell KPS 20 iL Krell KPS 25sc Krell KPS 25sc Krell KPS 28c CAST II Lehmann DAC+ preamp/DAC Linn CD12 Marantz CD-675E Mark Levinson 315 & 306 McIntosh MCD 201 Meridian Audio 200/203 Tran/dac Mendian Audio 518 DAC	E2,250 E7,495 E4,995 E550 E5,500 E75 E12,500 E2,450 E350 E495 E450
Krell KPS 20 iL Krell KPS 25sc Krell KPS 28sc CAST II Lehmann DAC+ preamp/DAC Linn CD12 Marantz CD-67SE Mark Levinson 315 & 306 McIntosh MCD 201 Mendian Audio 200/203 Tran/dac Mendian Audio 518 DAC MSB Link DAC 3 24/96 Musical Fidelity a308cr cd player	E2,250 E7,495 E4,995 E550 E5,500 E75 E12,500 E2,450 E350 E495 E450 E975
Krell KPS 20 iL Krell KPS 25sc Krell KPS 25sc Krell KPS 28c CAST II Lehmann DAC+ preamp/DAC Linn CD12 Marantz CD-675E Mark Levinson 315 & 30.6 Michitosh MCD 201 Mendian Audio 200/203 Tran/dac Mendian Audio 518 DAC MSB Link DAC 3 24/96 Musical Fidelity a308cr cd player NAD NAD CS21 BEE Naim Audio cd3	E2,250 E7,495 E4,995 E550 E5,500 E75 E12,500 E2,450 E350 E495 E450 E975 E0
Krell KPS 20 iL Krell KPS 25sc Krell KPS 25sc Krell KPS 28c CAST II Lehmann DAC+ preamp/DAC Linn CD12 Marantz CD-675E Mark Levinson 315 & 30.6 Michitosh MCD 201 Mendian Audio 200/203 Tran/dac Mendian Audio 518 DAC MSB Link DAC 3 24/96 Musical Fidelity a308cr cd player NAD NAD CS21 BEE Naim Audio cd3	E2,250 E7,495 E4,995 E5,500 E5,500 E75 E12,500 E2,450 E350 E495 E450 E975 E0
Krell KPS 20 iL Krell KPS 25sc Krell KPS 28sc CAST II Lehmann DAC+ preamp/DAC Linn CD12 Marantz CD-67SE Mark Lewnson 31 5 & 30 6 McIntosh MCD 201 Mendian Audio 200/203 Tran/dac Mendian Audio 518 DAC MSB Link DAC 3 24/96 Musical Fidelity a 308cr cd player NAD NAD CS21 BEE	E2,250 E7,495 E4,995 E5,500 E75 E12,500 E2,450 E350 E495 E450 E975 E0 E140 E400
Krell KPS 20 iL Krell KPS 25sc Krell KPS 25sc Krell KPS 28c CAST II Lehmann DAC+ preamp/DAC Linn CD12 Marantz CD-675E Mark Levinson 315 & 30.6 McIntosh MCD 201 Meridian Audio 200/203 Tran/dac Mendian Audio 200/203 Tran/dac Mendian Audio 518 DAC MSB Link DAC 3 24/96 Musscal Fidelity a308cr cd player NAD NAD C521 BE NAIM Audio cd3 Onlyo MSB-1 HDD recorder	£2,250 £7,495 £4,995 £5,500 £7,500 £7,500 £2,450 £350 £450 £975 £0 £140 £400 £500
Krell KPS 20 iL Krell KPS 25sc Krell KPS 25sc Krell KPS 28c CAST II Lehmann DAC+ preamp/DAC Linn CD12 Marantz CD-67SE Mark Lewnson 315 & 30 6 McIntosh MCD 201 Meridian Audio 200/203 Tran/dac Mendian Audio 518 DAC MSB Link DAC 3 24/96 Musical Fidelity a 308cr cd player NAD NAD C521 BEE Naim Audio cd3 Onlyo MSB-1 HDD+CD MSB-1 HDD recorder Ploneer pd d6	E2,250 £7,495 £4,995 £550 £5,500 £75 £12,500 £2,450 £350 £450 £450 £450 £450 £450 £450 £450 £500 £140 £400 £500 £500
Krell KPS 20 iL Krell KPS 25sc Krell KPS 25sc Krell KPS 28sc CAST II Lehmann DAC+ preamp/DAC Linn CD12 Marantz CD-675E Mark Levinson 315 & 30.6 McIntosh MCD 201 Mendian Audio 200/203 Tran/dac Mendian Audio 518 DAC MSB Link DAC 3 24/96 Musical Fidelity a 308cr cd player NAD NAD CS21 BEE Naim Audio cd3 Onkyo MSB-1HDD+CD MSB-1 HDD recorder Pioneer pd d6 Pioneer PD-5703	£2,250 £7,495 £4,995 £550 £5,500 £75 £12,500 £2,450 £350 £450 £975 £0 £140 £400 £500 £500 £70
Krell KPS 20 iL Krell KPS 25sc Krell KPS 25sc Krell KPS 28c CAST II Lehmann DAC+ preamp/DAC Linn CD12 Marantz CD-675E Mark Levinson 315 & 30.6 McIntosh MCD 201 Mendian Audio 200/203 Tran/dac Mendian Audio 200/203 Tran/dac Mendian Audio 518 DAC MSB Link DAC 3 24/96 Musical Fidelity a 308cr cd player NAD NAD CS21 BEE Naim Audio cd3 Onkyo MSB-1HDD+CD MSB-1 HDD recorder Pioneer pd d6 Pioneer pd 5703 Primare CD21	£2,250 £7,495 £4,995 £550 £5,500 £12,500 £2,450 £350 £450 £975 £0 £140 £400 £500 £200 £70 £70
Krell KPS 20 iL Krell KPS 20 iL Krell KPS 25sc Krell KPS 28c CAST II Lehmann DAC+ preamp/DAC Linn CD12 Marantz CD-675E Mark Levinson 315 & 30.6 McIntosh MCD 201 Mendian Audio 200/ 203 Tran/dac Mendian Audio 518 DAC MSB Link DAC 3 24/96 Musical Fidelity a308cr cd player NAD NAD CS21 BEE Naim Audio cd3 Onlyo MSB-1HDD+CD MSB-1 HDD recorder Pioneer pd d6 Pioneer PD-5703 Pmare CO21 Rega Planet Rega Planet	E2,250 E7,495 E4,995 E550 E5,500 E7,500 E2,450 E350 E495 E450 E975 E0 E140 E400 E500 E70 E70 E70 E399 E390
Krell KPS 20 iL Krell KPS 25sc Krell KPS 25sc Krell KPS 28c CAST II Lehmann DAC+ preamp/DAC Linn CD12 Marantz CD-675E Mark Levinson 31 5 & 30 6 McIntosh MCD 201 Mendian Audio 200/203 Tran/dac Mendian Audio 200/203 Tran/dac Mendian Audio 518 DAC MSB Link DAC 3 24/96 Musscal Fidelity a308cr cd player NAD NAD C521 BEE Naim Audio cd3 Onlyo MSB-1HDD+CD MSB-1 HDD recorder Pioneer pd d6 Pioneer pd d6 Pioneer pd 36 Proneer PD-5703 Primare CD21 Rega Planet Rega Planet Rega Planet Shanling CDT 300 3D-Sonics	£2,250 £7,495 £4,995 £5,500 £5,500 £75 £12,500 £2,450 £350 £495 £450 £975 £0 £140 £300 £200 £70 £520 £320 £320 £320 £320 £320 £320 £320 £3
Krell KPS 20 iL Krell KPS 25sc Krell KPS 25sc Krell KPS 28c CAST II Lehmann DAC+ preamp/DAC Linn CD12 Marantz CD-67SE Mark Levinson 31 5 & 30 6 McIntosh MCD 201 Mendian Audio 200/203 Tran/dac Mendian Audio 518 DAC MSB Link DAC 3 24/96 Musical Fidelity a308cr cd player NAD NAD C521 BEE Naim Audio cd3 Onlyo MSB-1HDD+CD MSB-1 HDD recorder Ploneer pd d6 Pioneer PD-5703 Primare CD21 Rega Planet Rega Planet Shanling CDT 300 3D-Sonics Sonic frontiers CD3 Transport	E2,250 E7,495 E4,995 E5,500 E5,500 E75 E12,500 E2,450 E350 E495 E495 E495 E495 E500 E200 E70 E520 E299 E300 E2,495 E2,400
Krell KPS 20 iL Krell KPS 20 iL Krell KPS 25sc Krell KPS 25sc Krell KPS 28c CAST II Lehmann DAC+ preamp/DAC Linn CD12 Marantz CD-675E Mark Levinson 31 5 & 30.6 McIntosh MCD 201 Mendian Audio 200/203 Tran/dac Mendian Audio 518 DAC MSB Link DAC 3 24/96 Musical Fidelity a308cr cd player NAD NAD CS21 BEE Naim Audio cd3 Onlyo MSB-1HDD+CD MSB-1 HDD recorder Ploneer pd d6 Ploneer PD-5703 Primare CO21 Rega Planet Rega Planet Shanling CDT 300 3D-Sonics Sonic frontiers CD3 Transport Sony SCD 777ES (fully upgradec)	£2,250 £7,495 £4,995 £5,500 £5,500 £75 £12,500 £2,450 £350 £495 £450 £975 £0 £140 £300 £200 £70 £520 £320 £320 £320 £320 £320 £320 £320 £3
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For full listing please see website

JVC 4DD-5 CD-4 Disc demodulator

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RADIO TUNERS

FM and DAB hi-fi separates

Radio is a fantastic musical resource that's in danger of being taken for granted, but whatever your tastes there's someone out there catering for it. If you haven't got a decent tuner hooked up to your hi-fi already, you're missing out!

DAB or FM?

Our favourite BEST BAY TO EDITOR'S CHOICE

NAD C445

Onkvo T-4555DAB

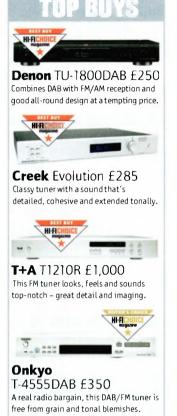
Digital Audio Broadcasting (DAB) is now said to be available to more than 80 per cent of the population and the long-term plan is to switch public broadcasting over to digital entirely. However, hardware prices have yet to come down to a point where this would be acceptable. Its advantages over FM include hiss-free reception, the potential for a wider range of stations and the ability to display comprehensive programming information. FM's RDS system means that station name and occasionally track titles are displayed, but the range of information is fairly limited.

Where FM scores over DAB is in the lower cost of hardware and the greater reception area. It can also provide higher sound quality if reception conditions are favourable. Sound quality judgements are muddled by listening to different forms of compression and processing at the studio for each station.

What is clear, however, is that there are more and more radio stations broadcasting on DAB that aren't available on FM. So if it's variety of programming you're after, they have a lot to offer.

RECEPTION

The quality of signal you feed a tuner will dictate its sound quality. So serious FM listeners should get a decent external aerial and connect it with as few junctions and splits as possible. Every time you split the cable (ie take a feed for another tuner) you halve signal strength! With DAB the same applies but get a DAB-specific aerial. See www.bbc.co.uk/digitalradio for details.



				SPECIFICATIONS SIG. STEDISTH M REMOTE DOW PRE WAVEL							
			WA			REMOTE	SIG. STRENGT		SELEC		
& DAB HI-FI SEPAR	RATES		VEBA	Sara	_	ENG!	至	NG KA	SSUE NUMBER		
PRODUCT	£	COMMENTS	98	S	8	é	丽	83	#		
	285	Sound is detailed, cohesive and extended both tonally and spatially – very classy	FM M	80	500		F	0	308		
Creek Audio T50			· ·			•	•		251		
Cyrus FM-X	500	A classic no-nonsense FM tuner that achieves gratifying sonic results. Upgradable with PSX-R power supply	FM	7		•	•	•	283		
Denon TU-1500AE	130	Well attuned to the crowded modern FM band, this tuner produces clear, detailed sound with plenty of gusto	FM,M,L	100				18	28		
Denon TU-1800DAB	250	There's a little grain on FM, but the decent performance on both bands makes this a great dual-band choice	DAB,FM,M	200	0	40		3	283		
Magnum Dynalab MD 90T	1,295	No remote or presets as standard, manual everything and valves but its sound is simply sublime	FM	opt		opt	\$G!	*	257		
Marantz ST7001	300	FM reception could offer a little more detail and insight. DAB is fine, but near-identical Denon 1800 is cheaper!	200	0	68		29		283		
NAD C422	180	Admirably free of roughness or other obvious nasties, with just a slight lack of clarity	FM,M	30	6		-65		250		
Pure DRX-702ES	210	Apparently good value is restricted by persistent veiling on FM: 'PAC' on DAB mellows sound a little	DAB,FM,M	99	æ	9	69	59	283		
Rega Radio 3	398	Strong bass, clear treble and a high enjoyment factor make this an appealing FM performer	FM,M	20		9			283		
Rotel RT-02	279	A highly competent tuner which always sounds appealing and fuss-free	FM,M	30	-32	•	•		242		
T+A T1210R	1,000	High-end looks are matched by the sound, which is detailed and sophisticated, with useful features too	FM	100	-30	•			283		
NERS											
Arcam DiVA DT91	450	Some grain at low levels, but sound is lively, large in scale and tonally very natural. Very smart!	DAB,FM	16	69	65	98	02	299		
Cambridge Audio DAB500	150	Very good sound, plus optional response tweaks, and slickest operation yet	DAB	10		9	-65	0	248		
Denon TU-1800DAB	200	Very good detail and a highly believable impression of real musicians playing. Imaging can be a little constricted	DAB,FM,M	200	0	e.		61	299		
Marantz ST7001	250	Midband detailed and precise: treble can be thick but bass is extended, and sound generally energetic	DAB,FM,M	200	63	de		0	299		
	PRODUCT PRODUCT PRODUCT Creek Audio Evolution Creek Audio T50 Cyrus FM-X Denon TU-1500AE Denon TU-1800DAB Magnum Dynalab MD 90T Marantz ST7001 NAD C422 Pure DRX-702ES Rega Radio 3 Rotel RT-02 T+A T1210R NERS Arcam DIVA DT91 Cambridge Audio DAB500 Denon TU-1800DAB	PRODUCT Creek Audio Evolution 285 Creek Audio T50 550 Cyrus FM-X 500 Denon TU-1500AE 130 Denon TU-1800DAB 250 Magnum Dynalab MD 90T 1,295 Marantz ST7001 300 NAD C422 180 Pure DRX-702ES 210 Rega Radio 3 398 Rotel RT-02 279 T+A T1210R 1,000 NERS Arcam DIVA DT91 450 Cambridge Audio DAB500 150 Denon TU-1800DAB 200	PRODUCT PRODUCT SECTION PRODUC	RECORD HI-FI SEPARATES PRODUCT RECORD AUDIO EVALUATION 285 Sound is detailed, cohesive and extended both tonally and spatially - very classy Creek Audio Evolution 285 Sound is detailed, cohesive and extended both tonally and spatially - very classy FM,ML Creek Audio T50 550 Very fine results indeed with precision, polish and insight added to excellent basics FM,ML Cyrus FM-X 500 A classic no-nonsense FM tuner that achieves graitifying sonic results. Lipgradable with PSX-R power supply FM Denon TU-1500AE 130 Well attuned to the crowded modern FM band, this tuner produces clear, detailed sound with plenty of gusto FM,ML Denon TU-1800DAB 250 There's a little grain on FM, but the decent performance on both bands makes this a great dual-band choice DAB,FM,M Magnum Dynalab MD 90T 1,295 No remote or presets as standard, manual everything and valves but its sound is simply sublime FM Marantz ST7001 300 FM reception could offer a little more detail and insight. DAB is fine, but near-identical Denon 1800 is cheaper! 200 NAD C422 180 Admirably free of roughness or other obvious nasties, with just a slight lack of clarity FM,M Rega Radio 3 398 Strong bass, clear treble and a high enjoyment factor make this an appealing FM performer FM,M Rotel RT-02 279 A highly competent tuner which always sounds appealing and fuss-free T+A T1210R 1,000 High- end looks are matched by the sound, which is detailed and sophisticated, with useful features too FM,M THA T1210R Cambridge Audio DAB500 150 Very good sound, plus optional response tweaks, and slickest operation yet DAB,FM,M Denon TU-1800DAB 200 Very good detail and a highly believable impression of real musicians playing, maging can be a little constricted DAB,FM,M	PRODUCT © 10 COMMENTS Creek Audio Evolution 285 Sound is detailed, cohesive and extended both tonally and spatially – very classy FM, 20 Company 190	BODDE HI-FI SEPARATES PRODUCT OF REA AUGIO EVOLUTION OF SOUNT IN THE PRODUCT OF REA AUGIO EVOLUTION OF SOUNT IN THE PRODUCT OF REA AUGIO EVOLUTION OF SOUNT IN THE PRODUCT OF REA AUGIO EVOLUTION OF SOUNT IN THE PRODUCT OF REA AUGIO EVOLUTION OF SOUNT IN THE PRODUCT OF REA AUGIO EVOLUTION OF A classic no-nonsense FM tuner that achieves graftfying sonic results. Upgradable with PSX-R power supply FM. 128 32 OF UNS FM-X SOO A classic no-nonsense FM tuner that achieves graftfying sonic results. Upgradable with PSX-R power supply FM. 7 1 Denon TU-1800DAE 130 Vell altuned to the crowded modern FM band, this tuner produces clear, detailed sound with plenty of gusto FM. 10 2 Denon TU-1800DAE 130 Verence a little grain on FM. but the decent performance on both bands makes this a great dual-band choice DAB.FM. 10 3 Magnum Dynalab MD 901 1,295 No remote or presets as standard, manual everything and valves but its sound is simply sublime FM. 001 Magnum Dynalab MD 901 1,295 No remote or presets as standard, manual everything and valves but its sound is simply sublime FM. 001 Magnum Dynalab MD 901 1,295 No remote or presets as standard, manual everything and valves but its sound is simply sublime FM. 001 Magnum Dynalab MD 901 1,295 No remote or presets as standard, manual everything and valves but its sound is simply sublime FM. 001 Magnum Dynalab MD 901 Mag	PRODUCT OF THE MATERIA STAND S	BRILIFE SEPARTS RECORDER HILF IS SEPARTS RECORDER AUGIO EVOLUTION 2005 RECORDER EVOLUTION 2005 RECORDE	A DAB HI-FI SEPARTES PRODUCT 1		

SPECS KLEY 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 littles 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

300 FM is laid-back despite bright balance, but has good detail. DAB slightly livelier than most

350 Admirably free of grain or obvious tonal blemishes, this tuner achieves a high standard in all areas on

9

299

DAB,FM

DAB_EM

40

STEREO AMPLIFIERS

Integrated and pre/power amps

Amplifiers come in two basic forms: integrated and preamplifier (pre) plus power amp. Integrated simply means that both pre and power are in one box. There are definite advantages to separating the delicate signals in the preamp from the radiations of a power amp, so the more ambitious designs come in two or more cases. In some cases, each channel has its own power amp called a monoblock.

Amplifiers use two basic technologies: transistors or valves. Transistors are popular because of their practical and technical advantages, but valves - aka tubes - live on owing to aspects of sound quality that trannies can't replicate.

The fundamental of amp/speaker interfacing is power rating and speaker sensitivity. You can drive a high-sensitivity speaker with a 10-watt valve amp, but it takes a 200-watt behemoth to get the best out of speakers which present a difficult load. Although, as a rule, you can't have too much power.

How to choose an amp

The main areas in which amps vary are: timing, dynamics, stereo imaging and transparency. Timing is the ability to present the attack and decay of each note precisely; amps with strong timing have a snap and coherence that is very appealing



Dynamics is a general term for the ability to portray variations in level between individual notes and is different to dynamic range (the difference between the loudest and softest notes). Dynamically strong amps tend to have more life and energy.

Stereo imaging is how solid or threedimensional an instrument or voice sounds. The point of having two rather than one speaker is to make it possible to recreate the soundstage of the original recording, thus amps that have strong imaging skills can create a sonic space that seems to extend the room.

Transparency of detail is the most obvious difference between amps. One amp will present more subtlety than another, but the drawback with using this as your main criterion is that a forward or 'bright' sounding amplifier will emphasise detail at the expense of overall musical coherence.

SHOULD I LEAVE MY AMP ON FOR THE BEST RESULTS?

All audio electronics (including amplifiers) perform better when they are warmed up. To help protect the environment, switch your amp on, at least one hour before listening.

WHAT IS BI-WIRING AND **BI-AMPING?**

Running separate cables to the treble and bass/mid terminals on a speaker is bi-wiring. In most instances, this improves sound quality so long as identical cables are used. Bi-amping is using two stereo amps to drive one pair of speakers, using one amp to drive the treble and the other for the bass/mid sections.

WHY DO VALVE AMPS HAVE **SOLITTLE POWER?**

Valve amps are inherently low powered, but when partnered with high-sensitivity loudspeakers, they are quite capable of producing perfectly adequate head-banging levels.

Our favourite | BEST BLY (C EDITOR'S CHOICE **STEREO AMPLIFIERS** Integrated amplifiers BADGE? PRODUCT Arcam DiVA A70 A smart and practical amp offering good snap and pace, with natural dynamics and good detail 60 5 Adv. Acoustic MAP305DA II 600 100 A lot of amplifier for the money and capable of revealing and exciting sound in the right company. Includes 4 digital inputs Arcam DiVA A90 850 Practical, affordable and impressively flexible amp with a laid-back approach but plenty of insight too 100 Cambridge Audio 640A v2 Slightly cheap-feeling controls are the only real downside to this powerful and lively little amp 6 75 279 300 Cambridge Audio Azur 740A 500 Ticks all the boxes for bass, clarity, imaging etc. and invites the listener into the music with uncommon grace 6 100 294 Cambridge Audio 840A v2 A chunky powerhouse with features aplenty, this amp revels in loud music, but also offers detail and delicacy when required 8 120 315 750 Creek Audio Evolution 545 Dynamics can seem understated, but energetic bass and fatigue-free treble make it an enjoyable listen 5 opt 85 40 293 Cyrus 6vs2 600 Spunky little amp that reproduces instrumental timbres and acoustic spaces well, with real musical involvement Denon PMA-700AE 250 One of a growing number of new low-cost amps, it offers good timing and analysis at up to moderately high volume levels 4 MM . 50 284 5 MM Marantz PM8003 630 Detail isn't the utmost, but great vitality makes this amplifier quite thrilling 95 315 3 Musical Fidelity X-T100 899 By separating amp and TRIPLE-X power supply, this deceptively powerful valve-sporting amplifier is both enticing and musical 70 288 Naim Audio Nait 5i 750 More versatile than previous Nait's, the 5i is a great all-round amplifier that offers vivid insights into all manner of music 4 .0 50 305 5 80 278 Onkyo A-933 Puts the music first, with sound that delivers the basics correctly but above all involves the listener

STEREO AMPS BUYER'S BIBLE

	r favourite				S	PECI	FICAT	IOMS	
2	IEKEU	J	AMPLIFIERS continued		PH	REMOTE CONTROL	HEADPHONE SOCKET	POWER OUTPUT (W.	ISSI
nte	grated amplifiers			LINE INPUTS	PHONO INPUT	CONT	€ SOC	Malm	ISSUE NUMBER
	PRODUCT	Ē	COMMENTS	SIL	R	HOL	Ä	3	BER
UP TE	£1,000	10100						100	0.1
	Rocksan Kandy K2	750	Superior design and high performance credentials makes this amplifier a must-have bargain		MM		69	125	31
	Unison Research Unico P	795	Sound belies indifferent measured performance with good detail, balance and flowing melodic quality	-	ММ			50	29
	Vincent SV-236	999	Valve hybrid whose sound is as idiosyncratic as its styling, short on neutrality but high on sparkle	6		9		100	29
AROV	E.£1.000			393					
С	ATC SIA 2-150	2,248	Revealing, dynamic and powerful amplifier that works with a wide range of speakers. Superb build quality	4	Ш		49	150	31
1	Arcam A38	1,200	A winning combination of sonic virtues including highly developed detail and musicality	7	opt		9	105	3.
C	Boulder 865	7,750	Extremely transparent to detail but less revealing of energy, high power, superb build but only balanced inputs	4		88		150	30
	Copland CTA405	2,498	A musical and involving amplifier, which also has incredible insight and is user-friendly by valve amp standards	5	MM	0		50	3
	Creek Destiny	1,100	A highly assured performer that doesn't superimpose its personality on the music	6		0		100	28
c]	Jadis Orchestra DiP	2,995	A smooth, refined, yet dynamic-sounding tube amplifier with the added 'novelity' of an iPod dock	5				40	3.
	Leema Pulse	1,195	An organic and revealing sound alongside good power reserves and superb features, including a great MM/MC phono stage	5	160	4		80	30
С	Moon Evolution i-7	4,750	Sophisticated, with an elegant build and sound quality, very limited features, even by high-end standards	5		49		150	28
С	Musical Fidelity A1008	2,999	With DAC, phono stage and built-in valve buffer, this powerhouse amp can really grab hold of a loudspeaker	4	62	9		250	29
:1	Mystère ia11	1,250	Small, deceptively powerful integrated valve amp with a crisp, pacy sound	4				40	30
	NAD M3	1,899	Massive and flexible, it goes very loud with fine authority and dynamic range, but lacks some sparkle	7		89		180	28
С	Naim Audio SuperNait	2.400	Serious communicative ability meets convenience in this sophisticated and powerful integrated design	6		Qp.	9	80	29
	Pathos Classic One MK3	1,535	An attractive amp offering a beautifull musical presentation with good tonality and detail	5		46		70	30
	Primare I30	1,500	A smooth, sophisticated yet agile performer, and beautifully built too	6			10	100	2
5	Pure Sound A30	1,100	Valve integrated, with the accent on music rather than rhythm. Needs more inputs, though	3				30	29
	Sugden A21aL Series 2	1,299	Lovely solid-state Class A amplifier, sweet as a nut and more powerful than its predecessor	5	opt	0		21	29
	Unison Res. Unico Secondo	1,200	Very good detail and coherence. Tonality is natural, imaging precise and deep, and dynamics are wide and unforced	6	opt	0		110	29
С	Unison Research P70	3.495	Delightful valve amplifier with fine neutrality, sweet midband, impressive bandwidth and ample power	4		0		70	30
	Yamaha A-S2000		One of the few amplifiers to offer the benefit of true balanced operation at this price point	5	opt			160	-

	r favourite 💷					SPE	CIFIC	ATIO	NS	
	JEKEU Dower amplifiers	AI	MPLIFIERS continued	PREAMPLIFIER	POWE 3 AMPLIFIER	TINE IN	PHONO	REMOTE CONTINU	POWER OUTPUT (W.	ISSUE NUMBER
	PRODUCT	3	COMMENTS	FER	E	NPUTS	NFIG	TOFILE	(W) TO	MBGR
UP TO	£2,000									4
g.	Advance Acoustic MPP206/MAA406	900	This pair has good build and finish and a balance of qualities that's hard to beat for the price	(2)	0	4	opt	0	150	30
Ph	Cambridge Audio Azur 840E/840W	2,800	Enterprising technology delivers a pre/power combo that always sounds detailed, composed and controlled	65	0	8	opt	0	200	30
ii)	Croft Precession VPolestar I	1,400	Compact pre/power combo with battery preamp and hybrid power, with freedom from timesmear, bass could be firmer	0	0	6			25	29
1/0	Cyrus Pre Vs2/6 Power	1,000	Pre offers stunning resolution and feature count for the money and power is subtle, open and musical	0	8		39	0	50	29
EC	Naim NAC 122x/NAP 150x	1,575	Musically rewarding with outstanding sophistication, grip and insight for such a modestly priced design	0	0	6	opt	0	50	28
EC	Rotel RC-06/RB-06	598	A capable and surprisingly powerful-sounding combination which offers real value	45	0	5	0	0	70	28
111	Russ Andrews HP-1/PA-1	1,198	Simply featured, but sounds appealingly realistic and solid. Highly capable in all areas design	65	25	2			50	30
ABOVE	£2,000									7
10)	Arcam C31/P38	2,050	Very civilised sound, in the best possible way. Well featured and smartly built	9	102	7	opt		100	30
145	Border Patrol Control Unit	2,995	Bluff looking valve preamp, with one of the most neutral yet dynamic sounds around	卷		5	opt			27
-1-	Bryston BP26/3B-SST	5,300	The epitome of the iron fist in a velvet glove school of hi-fi. Dynamically superb and very detailed	6		8	opt	0	150	30
EC	Bryston BP26 DA/28 SST	5,500	Bryston's top preamp is now a serious competitor. The power amp reveals a lot of signal and serious grunt	es:		6	opt	0	100	27
EC	Chord Prima/Mezzo 140	6,100	Small, muscular, beautifully made and styled and sounds like a dream	3		5		9-	120	26
EC	Classé CP-700/CA-M400	13,350	Pre plus mono power combo with superb build, huge power and enormous flexibility. Sounds stunning, too	9	0	6	opt	9	400	29
EC	Cyrus DAC XP	2,200	A knockout DAC/pre with naturalness and resolution to die for and six digital inputs for signals up to 96kHz	60		2		0		26
. :)	Densen Beat B-200/B310	2,300	Lively, energetic combination that bring a great sense of scale to familiar recordings	100	0	8		opt	80	27
EC	Densen Beat B-250/B-350	8,200	Upgradeable to surround, with sweet preamp and slightly coloured power amp, but sound is big and assured	0	0	6		0	125	27
EC	Gamut D3	3,430	Creamy smooth, yet lets you hear all the fine detail that goes to making a tonally rich, dynamically strong sound	20		5	opt			26
EC	Gamut D200 Mk3	3,950	A great power amp that's now even better – one of the best regardless of price		0				200	24
EC	Hovland HP-100/RADIA	12,745	Uncommonly musical valve/transistor hybrid transcends stereotypes, one of the genuine high achievers	0	0	9	opt		125	25
EC	Krell FPB 700cx	14,998	Reference class amplifier may represent overkill in many systems, but when no compromise is called for, this is it		2(0				700	23
EC	Marantz SC11S1/SM-11S1	5,300	Preamp and power amp duo delivers high resolution and is consistent with different loudspeaker loads	49		6		0	220	30
lsh-	Roksan Caspian M Series-1	2,245	A well-matched, powerful and enjoyable sounding amplifier combo that brings out the strengths of its CD player	25		5		0	85	30

SPECSICEY 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 onboard 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.

[Reformance of the control is supplied with the amplifier. HEADPHONE SOCKET To drive your cans with

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SYSTEM WAS £759.85



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STEREO SPEAKERS

Speaker pairs for stereo sound

While loudspeakers are relatively straightforward in construction, they have one of the most difficult jobs in hi-fi - turning an electrical signal into an acoustic one. Most consist of two or more drive units in a box that usually has a port in it to make life easier for the cone in your mid and/or bass driver Alternatives to this arrangement include panel speakers, which use electrostatic or ribbon technology, and horns, which use drive units in complex cabinets that greatly improve efficiency.

Box speakers are either designed to stand on the floor (floorstanders) or on a stand (stand or shelfmounts). Floorstanders have greater internal volume which can translate into greater efficiency and/or bass extension, but less substantial designs also introduce cabinet resonance and thus distortion. But they don't need stands and therefore have the aesthetic edge Standmounts have less cabinet to vibrate and often score in terms of imaging and timing, but need good stands to work well.

Positioning

The closer the speaker is to a wall, the greater the reinforcement of bass. As all rooms differ, there's no simple formula for placement and experimentation will yield the best results. Altering the angle at which the speakers face the listener can also make a difference to balance and stereo image.

Going multichannel

Many stereo speakers can be augmented with centre and surround channels from the same brand to create a multichannel system. The most important element is a centre channel, which needs to match the stereo pair as closely as possible. For the best musical results, surrounds should be as per the front left and right channels, but if space or funds don't permit, smaller designs can be used quite effectively.

POWER

Though some speakers have a power rating, this isn't as informative as a rating for how difficult they are to drive, nor does it indicate wattage extremes for the partnering amp. In practice, an amplifier cannot be too powerful. Our listings quote ease of drive to indicate how much power

your amp needs to avoid a mismatch. An above-average (A+) speaker will work with amps rated at 25W plus, while an average (A) speaker will need 50W or more, and a below average (A-) speaker could require 100W plus to sound its best. These are quidelines rather than rules.



Choosing speakers

Because speakers and the rooms they are used in vary so much, choosing a pair tends to be quite subjective. To find some that will suit you, try to listen to a good variety to hear how they differ, and if possible, audition some at home. Tonal balance tends to vary the most, but is less important than more subtle factors such as timing and dynamics. Finally, listen with your ears not your eyes – great-looking speakers aren't necessarily great sounding.

Spikes

Floorstanding speakers and stands have threaded inserts for spikes that allow rigid coupling with the floor. These have the advantage of draining resonance from the speaker and giving tighter bass, but can result in more vibration getting back to the electronics and often cause the floor to resonate as well.

0&A

IF SPEAKERS ARE RATED AT **75 WATTS, DOES THAT MEAN** I NEED A 75 WATT AMP?

No, see the box on power for the full story.

WHICH SPEAKERS ARE BEST **FOR SMALL ROOMS?**

Those designed to work close to the wall will be smoother in confined spaces. Speakers that have relatively dry, tight bass will also sound better.

WHICH SPEAKERS ARE BEST FOR BIG ROOMS?

Big, efficient, easy-to-drive designs are more likely to be able to fill a room better than compact models.

DO I NEED TO BUY CENTRE AND SURROUND CHANNELS FROM THE SAME BRAND AS **MY STEREO SPEAKERS?**

Yes, assuming that you're wanting to create a homogenous surround sound experience, where voices don't change when they move from one channel to another.

BUYER'S BIBLE

TOP BUYS



Mercury F4 £350

Tannoy's Mercury speakers have a long history of 'quality' sound at low prices, and the latest range is no exception – this floorstander is thoroughly engaging.



Ikon 6 £899

Complete with a ribbon super-tweeter, this is an exceptionally capable floorstander for the money, delivering a highly detailed and truly engrossing sound.



805S £1,600

A superbly well-engineered standmount that's capable of delivering magnificent musical communication, alongside superior subtlety and delicacy.



Mordaunt-Short Performance 6LE £4,000

This extraordinary speaker stands at the pinnacle of Mordaunt-Short's current range. State of the art resolution and imaging are among its many attributes.

Our favourite BEST BUY CO EDITOR'S CHOICE

	TEBE!		ARFIVERA		Sr	2012	PALL	UNS		
Ster	eo speakers	ĵ ,	SPEAKERS	SIZE W.H.D. (CM)	FL00RSTANIJER	EASE OF DEVE	BASS FROM :HZ	FREE SPACE	CLOSE TO WALL	ESUE NUMBER
	£1,000	-	OMINELE ID	STATE OF THE						-
ii.	Advance Acoustic UM20	200	Classy styling and finish, with solid build and fine overall balance when sited close to a wall	18,30,21		А	43		0	30
	Acoustic Energy Aegis Neo 3	370	Pretty, neutral floorstander sounds open with wide dynamic range and good bass weight	20,90.5,24	0	А	24			29
	Acoustic Energy Aelite 3	750	Wood-veneered all-rounder has exceptional neutrality with deep smooth bass	20,103,39	0	Α	22	0		29
	Amphion Helium 520	1,000	Sharp styling and fine value for money with excellent voice band coherence	16,104,22	0	G	28	0		31
	Amphion Ion L	750	Sharp styling, fine mid/treble coherence and a sweet treble, but less happy bass alignment in test room	162,326,265		А	40	0		31
	ATC SCM11	849	A very fine little speaker that's at its best with good, natural recordings where it adds little and reveals much	21,38,25		A-	55			29
	Aurousal A1	450	Single-driver system is coloured but wonderfully coherent and very effective at communicating emotions	20.5.36.27		А	40			29
	AVI Neutron IV	499	A great example of what can be done with a genuinely small speaker, but the warts-and-all balance won't suit all	15,27,21		Α-	65	0		26
	Bowers and Wilkins DM303	180	Chunky looking and lively sounding, with deep bass, a fine midband and a restrained top end	30,33,23		Α	23		0	22
	Bowers and Wilkins CM1	500	Luxury miniature has neutral, laid-back sound, with low coloration, fine imaging but weak dynamics	165,28,28		A-	40	0		27
	Bowers and Wilkins 684	699	A fine all-rounder at a realistic price, this floorstander has a smooth, even and nicely open balance	20,91,30	0	G	22	0		31
	Bowers and Wilkins 683	899	A fine all-round performer with high-class drivers at a very realistic price	20,99,34		Р	20	0		30
	DALI Ikon 6	899	Needs care with setup, but rewards you with impressively transparent and almost obsessively detailed sound	19,100,33	0	Α	37	0		27
	DALI Ikon 7	999	Bulky vinyl floorstander has high sensitivity and a bright sound with superior coherence, delicacy and transparency	20,114,34	9	A+	22	0		27
	DALI Monitor 1	1,000	Beautiful miniature with advanced drivers sounds marvellously coherent with fine vocal expression	16,32,24		Α	40	9		29
	Dynaudio DM 2/10	775	Unfashionably bulky standmount has fine dynamics, grip, bass and headroom and is delicate and well mannered	27.5,45,35		Α	22	0		29
	Epos M5	349	Gorgeous miniature works well close to wall. Could be smoother but communicates with authority	18,33,21		A-	40		0	26
	Epos ELS 303	399	Midband is impressively smooth, even and coherent, but the sound lacks some dynamic grip and top end detail	18,85,20	0	A-	28	0		27
]	Epos M1 2.2	449	A true classic standmount with lovely presentation, fine sound balance, superior coherence and low coloration	20,37,25		A-	40	0		26
	Focal Chorus 706V	369	Advanced drivers deliver a smooth, even, overall balance with healthy dynamic expression and tension	22,39,25		Α	30	0		30
	Focal Chorus 816 V	1,000	Fine, warm balance, superior dynamics, and a sweet top end, but could be smoother	28,100,37.5		Α+	20	0		28
	Heco Celan 300	595	Does tone colour, dynamics and detail with aplomb and communicates superbly in its +2dB mode. Sensitive, too	23,36,33		Α+	40	0		30
	JBL Studio L880	700	Good value floorstander with neutrality, massive headroom and plenty of punch. Could be more transparent	22,99,37		А	25	0		27
	KEF IQ3	280	Shapely, vinyl-covered standmount has lively dynamics and fine imaging, but could be smoother and sweeter	22,37,33		A+	40	0		28
	KEF (Q50	499	Looks cute and very discreet, with spacious imaging, good balance, a sweet treble, but weak dynamics	17.5,81.5,26	0	А	23	0		3.
	Mission élan e34	400	A return to form for Mission with a pacey, vibrant sound matched to good looks	35,96,34	0	A+	48			29
	Monopulse 42A	995	Uniquely different in style and sound, midband time coherence is magnificent but treble is too restrained	26,110,25	0	Α+	28	0		27
	Monitor Audio BR2	200	Good looking standmount has a muscular sound with superior coherence	18.5,35,25		A-	30		0	29
	Monitor Audio BR5	400	Not the best dressed in its class, but detailed, bold sounding, good value and an easy electrical load	17, 85,25	0	A-	36	0		29
	Monitor Audio GS10	800	More neutral tonally than some recent MAs. High-quality stereo design which takes up little room and is easy to drive	20,36,27		A-	40	0		28
	Monitor Audio Silver RS8	800	Bold, dynamic sound marks it out from the crowd, and it's an easy load that works well in larger rooms	90, 18, 27	0	А	33	0	0	27
i.	PMC DB1i	825	Could be more neutral, but a very effective musical communicator with fine warmth and sweet treble	15.5,29,23.4		A+	30	0	0	31

SPECS KEY SIZE WXHXD (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

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ı	Ariston RD60, ex condition	99
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ı	Alphason Opal arm, excellent	149
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1	Clearaudio Master Solution c/w MTQI Reference Parallel arm	Call
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ı	Clearaudio Goldfinger - minimal use - a steal at	2799
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ı	Graham Phantom, ex demo, excellent boxed	Call
ı	Koetsu Black, mint	Call
ı	Koetsu Red K Signature, mint	Call
ı	Koetsu Urushi Vermillion, mint	Call
1	Linn Linto, excellent boxed	599
ı	Linn LP12, Ittok LV11 and Sumiko BPS really pretty example	
ı		1599
ı	Linn LP12, Cirkus, Lingo, reasonable	899
1	Linn LP12, Ittok LV11 and K18, excellent	799
ı	Michell Tecnoarm, nr mint	Call
ı	Michell Gyro SE Michell Orbe SE	Call
ı	Nottingham Analogue Ace Spacedeck and Ace Spacearm	
ı	NAIM Armagedon, late olive excellent boxed	499
ı	Origin Live Silver, mint boxed new version	449
ı	Rega P3, in black	179
ı	Roksan M Senes Phono Stage	Call
ı		1799
ı	Roksan Xerxes Reference Power supply, nr mint boxed	599
ı		1499
ı	Roksan TMS2, as new boxed with power supply	Call
ı	Roksan Radius, acrylic, mint boxed	Call
ı	SME Model 10, excellent boxed	1499
ı	SME V, as new boxed	Call
ı	SME IV, boxed with all tools	Call
ı	Systemdek II (biscuit tin), ADC arm, vgc	249
ı	Technics SL1210 mk2, various from	199
ı	Thorens TD850/RB300, excellent boxed	Call
ı	Townshend Elite Rock, Excalibur arm, Merlin p/s, plinth & lid	
ı	Transfiguration Spirit 3, demo use only, mint boxed	599
ı	Transfiguration Aria, brand new end of line	499
۱	Accessories/Cables	
١	Chord - various cables, call for details	Call
ı	Isotek - Sigmas, Minsub and various cables ex demo	Call
ı	NAIM Supercap	749

NAIM Flatcap 2X

Accuphase E212, mint boxed

H	Accuphase P450, very large power amp, ex boxed	17
9	Accustic Arts Pre 1 & Amp 2 Power, as new boxed	С
ı	Accustic Arts Integrated Amp1	C
ı	Aloia PST Pre /ST Power, superb and hugely underrate	
ı	Arcam A65+, excellent boxed	Due
9	Audio Analogue Primo, mini size integrated	2
1	Audio Analogue Puccini Settanta	С
9	Audio Innovations Series 700 integrated, excellent box	red 4
9	Audio Research SP11mk2, inc phono stage fantastic	22
ı	Audio Research SP16, inc phono stage ex boxed	12
ı	Audio Research VS55, excellent	13
ı	Audio Research VS110, nr mint boxed. 3 months old	21
1	Cairn 4808NF Integrated	5
ı	Cairn Mea monoblocks, excellent	4
9	Conrad Johnson PV15, excellent boxed	15
9	Creek 5350SE Classic, mint boxed	3
9	Cyrus 8vs, nr mint boxed	4
)	Cyrus XPA, Smartpower & Smartpower plus, from	2
9	Cyrus ACA7 and Monoblocks	5
1	Cyrus AV Master	2
1	Copland CSA28, hybrid integrated, remote, excellent box	
i	EAR 834L, decent little valve line preamp	4
i	EAR 890 Poweramp, nr mint ex demo	С
1	EAR 868P Preamp, nr mint ex demo	С
	Eastern Electric Minimax integrated	С
	Exposure 3010 power, excellent boxed	4
	Graaf GM50, nr mint boxed	24
	Halcro DM38 Power, nr mint	C
	Halcro Processor and 5 Channel Poweramp	C
	Krell KSA80, excellent	C.
	Linn LK100, excellent from	19
	Linn Kolector ex boxed	3:
	Linn Wakonda nr mint boxed, phono boards	2
	Marantz PM7200, boxed	2
	Musical Fidelity kW500, excellent	199
	Musical Fidelity MVX/P170 Due in	C
	NAIM NAC42.5/NAP90, Chrome, boxed, phonoboards,	
	NAIM NAP140, Olive, boxed	29
	NAIM NAC 282, NAPSC, excellent, boxed	179
	NAIM NAC112 used with ex demo NAP150X	89
	Pathos Classic One Mk2, ex demo	89
	Pathos Cinema X, mint boxed	C
	Pathos Logos, ex demo nr mint boxed	C
	Quad QC24 Pre & II Forty Monoblocks, nr mint boxed	224
	Quad 44 Preamp, 405 Power amps NOW from	
	Roksan Kandy L3 ex demo in black	Ca
	Shanling STP80 vgc boxed with remote	64

Shanling STP80 vgc boxed with remote Unison Research P70 Integrated, lovely

ı	Accustic Arts Integrated Amp1	Call	Audio Analogue Rossin
ı	Aloia PST Pre /ST Power, superb and hugely underrated	Call	Audio Analogue Maestr
ı	Arcam A65+, excellent boxed	Due in	AVI Lab Series, mint bo
9	Audio Analogue Primo, mini size integrated	299	Carrn Fog v2, in silver wit
1	Audio Analogue Puccini Settanta	Call	Consonance Droplet, ex
)	Audio Innovations Series 700 integrated, excellent boxed	499	Chord Blu Transport, ex
)	Audio Research SP11mk2, inc phono stage fantastic	2249	Cyrus DAD3Q24, excell-
1	Audio Research SP16, inc phono stage ex boxed	1299	Cyrus CD8S, excellent to
1	Audio Research VS55, excellent	1399	Esoteric XO3SE, ex den
i	Audio Research VS110, nr mint boxed, 3 months old	2199	Esoteric DV60, ex demo
1	Cairn 4808NF Integrated	599	Esoteric X-01, nr mint b
i	Cairn Mea monoblocks, excellent	499	Esoteric P-03Uni/D-03,
	Conrad Johnson PV15, excellent boxed	1599	Krell CD DSP Top loader
,	Creek 5350SE Classic, mint boxed	399	Krell KID iPod dock ex
	Cyrus 8vs, nr mint boxed	499	Linn Karik, v late version
	Cyrus XPA, Smartpower & Smartpower plus, from	249	Linn Numerik, v late SP
	Cyrus ACA7 and Monoblocks	599	Marantz CD63se KI Sign
i	Cyrus AV Master	249	Marantz CD6000 KI Sign
	Copland CSA28, hybrid integrated, remote, excellent boxed	679	Meridian 203 DAC, exce
	EAR 834L, decent little valve line preamp	449	Meridian 506, ex boxed
	EAR 890 Poweramp, nr mint ex demo	Call	Musical Fidelity A308CF
	EAR 868P Preamp, nr mint ex demo	Call	Musical Fidelity Trivista
	Eastern Electric Minimax integrated	Call	NAIM CD5i, as new box
	Exposure 3010 power, excellent boxed	449	NAIM CD5X Due in
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	Halcro DM38 Power, nr mint	Call	Pathos Digit, superb
	Halcro Processor and 5 Channel Poweramp	Call	Pathos Endorphin, crate
	Krell KSA80, excellent	Call	Primare CD31, nr mint e
	Linn LK100, excellent from	199	Roksan Kandy L3, nr mi
	Linn Kolector ex boxed	329	Roksan Atessa transpor
	Linn Wakonda in mint boxed, phono boards	299	Roksan Caspian M Serie
	Marantz PM7200, boxed	249	Shanling CDT80, excelle
	Musical Fidelity kW500, excellent	1999	Shanling CDT200, excel
	Musical Fidelity MVX/P170 Due in	Call	Shanling CDT300 Omega
	NAIM NAC42.5/NAP90, Chrome, boxed, phonoboards, vgo		Stello DP200 DAC Prear
	NAIM NAP140, Olive, boxed	299	Sugden SCDT1 player, e
	NAIM NAC 282, NAPSC, excellent, boxed	1799	Sugden CD21, excellent
	NAIM NAC112 used with ex demo NAP150X	899	TEAC VRDS10, good co
	Pathos Classic One Mk2, ex demo	899	Theta TLC and power su
	Pathos Cinema X, mint boxed	Call	Unison Research Unico
	Pathos Logos, ex demo nr mint boxed	Call	Omson Nesearch Omco
		2249	Radio/Recorders
	Quad 44 Preamp, 405 Power amps NOW from	99	
	Roksan Kandy L3 ex demo in black		Linn Kudos, excellent
	Shanling STP80 vgc boxed with remote	649	
	Stello DP200 Preamp with DAC and M200 Monoblocks	Call	Pure 702ES, excellent m

Accuphase DP75V, analogue card, excellent boxed Accustic Arts DAC1 Mk4 Accustic Arts DACT Mk4
Accustic Arts Surround player (Universal m/c), excellent
Call
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n Numerik, v late SPS version

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ridian 203 DAC, excellent idian 506, ex boxed sical Fidelity A308CR CD, excellent, remote, box sical Fidelity Trivista 21 DAC, ex boxed M CD5i, as new boxed M CD5X Due in M COSX Due in Call
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Call	Roksan Caspian Full system with FR5 floorstanders	Cal

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Castle Howard S2, Mahogany 599
Dynaudio S2SE, maple excellent boxed 499

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Final ST Electrostatic, superb top line speakers Kudos Cardea C20 excellent boxed Linn Keilidh, nr mint late versions, with Ku Stone, boxed Martin Logan Vista, nr mint Martin Logan Purity, ex demo, for details Martin Logan Summit, ex demo slight mark, BARGAIN! Meridian DSP5000, excellent

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Monitor Audio RS1 in cherry, nr mint boxed

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	TEBE		SEST BUY © EDITOR'S CHOICE		SP	ECIF	ICATIO	DNS		
ter	eo speakers		SPEAKERS continued	SIZE W.H.D. (CM	FLOORSTANDER	EASE OF DRIVE	BASS FROM (HZ)	FREE SPACE	CLOSE TO WALL	TOTAL STATE OF THE PARTY OF THE
TUGE?	PRODUCT PMC TB2+	795	COMMENTS Classy transmission line standmount has superior midband, restrained presence and a bright clean top end	20,40,30	20	A	28		-	2
	ProAc Tablette Ref Eight	699	Stunning standmount with electrostatic-like imagery. Its Signature brother costs £200 more and is even better!	15,27,23		A+	40			2
_	Q Acoustics 1010	99	Neatly styled miniature has limited bass and power handling but fine midband voicing at a very sharp price	15,21.5,19.5		A	48			ı
	Q Acoustics 1050	330	Great value, the sound lacks smoothness but has fine dynamics and impressive transparency	19.5,97.5,30		A+	28	0		
	Quadral Pico	849	Could be more muscular, but neutral and open with spacious imaging and little coloration	19,34,26		Α-	30	0		
]	Rega R1	298	Cute baby sounds busy, coherent and involving, if a touch thin. Sweet and delicate treble with even bass	15,32,24		A	50		0	
]	Russ Andrews SP-1	399	This tweaked Focal 705V RA has a sound that is immediate, engaging and, most importantly, great fun	19.2,31.5,24.8		A+	65		0	
)						Р				
	Spendor S3/5R	725	Lacks dynamic muscle and loudness potential, but lovely smooth neutrality and good bass extension	16.5,30.5,190			25	۰	0	
	Tannoy Mercury F4	350	Floorstander has an engrossing sound with good dynamics and a warm, restrained output	20.5,97,29	۰	A+	24		0	
]	Tannoy Revolution DC6	900	Pretty compact standmount likes wall loading, delivering a lively even bass and smooth coherent midband	23,36.5,23	-	A	40		•	
	Triangle Antal Esw	995	Smoother than its predecessors, with a beautifully balanced bass and midband, though the top end is uneven	20,108,34		A	20	0		
	Wharfedale Diamond 9.1	180	Superior shape and finish at an exceptionally sharp price. Sound is laid back, but free from boxiness	19.5,30,28		Α-	45	0		
	Wharfedale Opus2-M1	1,000	Elegant mid to compact three-way, a new direction in recent years for Wharfedale	23,51,36		Α-	42	۰		ı
900	VE £1,000 A2T Mezzo	2,000	Seamless overall coherence, with persuasive monitoring capabilities. Sounds a little mid-forward. Top could be sweeter	27.5.40.26		A+	40	0		i
	Amphion Prio 520	1,600	Gorgeous styling and a lively sound with good voice band integrity and a sweet top end	16,104,22		A	40	0		
]	ALR Jordan Classic 5	1,200	Slim, laid-back floorstander has sweet sound with fine coherence, imaging and dynamic range	17.99.26	0	A	28	0		
,	ALR Jordan Note 3	1,350	Costly but clever; adjustable ABR gives much of the weight of a floorstander with the agility of a standmount	245,37,31.5		Α	26			
]	ATC SCM19	1,499	Super linear motor system, heavy weight construction and fabulous veneer that makes the ATC a pro favourite	22,44,31.5		Α-	54			
]	ATC SCM16A	2,203	Makes a great case for the active speaker. Good value, including built-in amps and fuss-free	27,45,33		ACT		0		
]	Aurousal VS	1,650	The fine coherence and imaging of a single driver system, plus extra help at the frequency extremes	21.5,107.526.8		G	20	0		
)	AVI ADM9	1,000	Active mini-monitors that are exceptionally accurate and dynamic, and they give good iPod, too	20,30,26		ACT		0		
]	AVI Duo	1,299	Sophisticated floorstander, a natural partner for AVI's electronics. Unusually clean and honest musical presentation	19,77,28	ò	А	50	0		
	Bowers and Wilkins 805S	1,600	Classy standmount with excellent coherence and imaging. Can sound laid back but otherwise a real delight	24,39,33		A	25			
]	Bowers and Wilkins 802D	8,000	Great bming, superior dynamics and a sweet top end all enhance musical communication. Makes sweet music	37,115,56			<20			
]	Dynaudio Focus 220	1,850	Cleverly tapered floorstander has a brilliantly smooth, neutral balance and very sweet treble. Could be more dynamic	20.5,98,29.5	0		<20			
]	Focal Chorus 826 V	1,250	Times nicely, goes loud with ease and will produce precise imaging if appropriately set up	28,104,37.5	0	A	45			
)	Focal Chorus 816WSE	1,399	The W cone treatment makes some of the qualities associated with Focal's high-end models more competitive	99.8,28.2,37.5			39	0		
]	Focal Chorus 836V	1,549	Bulky, sharply priced three-way could be prettier. Has good bass with genuine grip, but top could be sweeter	28,115,38			28			
]	Focal Electra 1027 Be	4,000	Outstanding mid and top with fine delicacy and low coloration, but lacks some bass grip and drive	26.5,111,35			25	0		
	Free FS1	3,000	An elegant active design for anyone after the minimum of wiring. Wireless with Sonos or Airport Express	16.87.27		ACT		0		
	Gamut Phi5	2,550	Lovely and discreet floorstander has excellent sound and several very clever engineering touches	17,100,24				0		
	Guru QM10	1,595	A very clever close-to-wall standmount with fine imaging, that sounds a lot bigger than it looks	30,25.2,23.2	-	A	40			
]	KEF Reference Model 201/2	3,500	Very classy but costly three-way standmount with much improved Uni-Q; could be more transparent	25,42,41		A			-	
	Kudos Cardea C1	1,450	A very pretty compact standmount with a delightfully subtle and delicate sound quality	20,35,27		A		-		
]	Kudos Cardea C30	5,250	An absolute honey that fully justifies its hefty pricetag, lacking only a little dynamic tension		0	G		0		
]	MartinLogan Source	1,599	Careful install needed, but capable of remarkable transparency at an extremely competitive price	24,120,37		A	42			
	Monopulse 42A	1,495	Oddball styling, fine bass-to-mid balance and dynamics, and superb voice coherence, but untidy treble	26,110,25						
			ECOCOME SEVEN E DES EMESTRE DE DAGADEZ ADO OVIADORS. ADO SUDED VOICE DIDERENCE. DOLUMOVITEDE				(4)			



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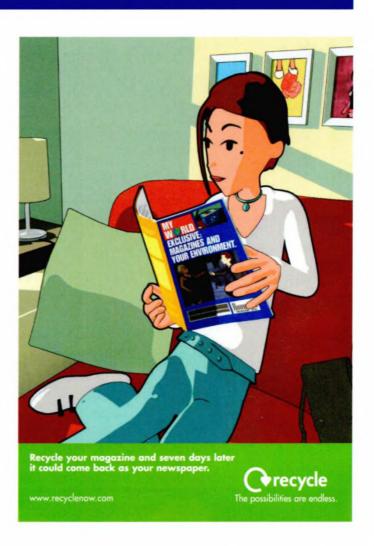






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	TENE		CDEAVEDO	MANDELE	SP	CIE	CATIC	INS		
	eo speakers		SPEAKERS continued	SIZE W.H.D (IJM	FLO DRSTANLER	EASE OF DRIVI	BASS FROM (HZ)	THE SPACE	CLOSE TO WAL	SS.JE NJMIJER
	PRODUCT	Σ	COMMENTS	(M	NOEH	DRIVI	(HZ)	PACE	WALL	M H
EC	Monitor Audio PL300	5,500	Completely new level of sophistication from a brand best known for mainstream, cost-effective designs	41,111,47	0	Α-	28			30
	Mordaunt-Short Perf 6 LE	4,000	Striking moulded enclosure minimises coloration, while overall balance is smooth, neutral and open	24,115.43	(3)	А	22	0		30
•	Neat Elite SE	1,499	Smooth and natural performer with notably expressive midband. Fine voice articulation and unusual sweetness	20,90,18	0	А	25			26
_	Neat Momentum 3i	1,745	Sounds a lot bigger than it looks, with good coherence and an impressively wide dynamic range	22.38.27		A-	23			30
c	Opera Callas	2,195	Technically innovative multi-tweeter system, this is a grown up and articulate performer	23x37.5x34		В	32	0		31
	Opera Seconda	1.525	Fine styling and finish, plus very superior voicing, if a shade lacking in warmth	24,102.5,31.5	0	А	20	0		31
	PMC Wafer 2	1,650	Clever 'hang-on-wall' speaker has minimal sonic compromises. Smooth midband delivers impressive stereo imaging	33.5,57.5,10		Α+	45			28
	PMC FB1i	1,950	A floorstander that boasts impressive bass extension and a smooth sweet top end	20x100x30	0	G	20	0		31
1	PMC GB1i	1,330	Pretty little floorstander has great class with fine delicacy and sweet detailing	15.5,87,23.4	10	А	30			30
	PMC 0B1i	3,200	This floorstander delivers a smooth overall balance with wide bandwidth and dynamic range	20,102.5,32.5		А	20			3
	Quad ESL 2805	5,000	Uniquely wonderful natural realism, exceptional imaging, coherence and low level detailing	70,107,38.5	0	A-	45			29
	Rega R7	1,498	Super-slim and super-smooth floorstander has fine agility with a slightly bright overall character	27,98,35		А	25	0		27
	Rega R9	2,498	This subtle, laid-back but very informative performer has a very superior dynamic range, especially in the bass	17,103,39		А	25	0		27
	Revel F32	3,200	Meticulously balanced, tonally neutral design makes for a taut, well disciplined sound	22,105,39		А	20	0		2
	Revel M22	1,800	A remarkably clean and revealing speaker with superb tonal and microdynamic capabilities	22,37,30		A-	48	0	0	2
	Roksan Caspian FR-5	2,000	Sharp looking speaker sounds exceptionally open and lively without aggression. Could be warmer and richer	20,100,25	0	А	22	0		29
	Ruark Talisman III	1,499	No bass demon, but a sophisticated and agile speaker epitomising Ruark's design ideals	22,84,31	0	А	22			2
	Sonus Faber Cremona Audit	2,690	Open, exciting and with surprisingly good bass this is 'The Little Speaker That Could' (stands £575 extra)	20,35,37		А	50	0		30
	Sonus Faber Minima Vintage	2,150	Easy, graceful sounding compact is a natural for acoustic material at moderate volume levels	20,33,27.5		A-	55			3.
	Spendor SA1	1,100	Exceptionally fine sub-miniature, especially with its partnering stand, with surprisingly effective dynamics	16.5,30.5,19		Α-	25	-6		24
	Tannoy Glenair 10	2,999	With a 250mm dual concentric driver this is a generously proportioned, highly engaging speaker for a good price	36,100,35	0	Р	28	0		3.
	Totem Model 1 Signature	1,595	Expensive, but very seductive miniature delivers a beautifully smooth and balanced midband	17,31,23		А	35	0		27
	Triangle Genese Quartet	1,995	Great material value and a solid all round sonic performance with great loudness potential	23,117,37		А	25	0		30
	Triangle Celius Esw	1,395	Not the smoothest sound around, but has great vigour and enthusiasm, plus good scale and weight	20,117,34		А	22			27
	Triangle Magellan Concerto	14,750	New 'sw2' version is less immediate than its predecessor, but it's easier to live with and remains highly enertaining	60, 160, 45	0	A-	32	8		29
]	Usher Compass CP-6381	2,500	Lots of speaker for your money, with plenty of deep bass, unusual styling and massive build	35,127,65		А	20	0		27
]	Vivid Audio B1	7,750	Impressive cabinet design combined with hi-tech drivers to make truly world class speaker	27,110,38	0	A-	40	9		26
	Wilson Benesch ACT	8,400	Superb enclosure gives uncanny freedom from 'boxiness'. Well balanced, but top end might be sweeter	23,108,36	0	А	20	0		2
	Wilson Benesch Curve	5.000	Much (but not all) of the ACT's performance in a much more compact and affordable package	23.91.37		А	28			2:

_	r favourite IIRWN	_	<u> </u>	SPE	CIFICAT	TIONS	
Bass	ISS SPEAKERS SEZ PRODUCT B&W PV1 950 Corgeously styled sub shakes the air but not the floor, delivering a very clean sound with negligible coloration B&W ASW850 2,000 Does all the things subwoofers should do with music and movies alike, but transparently and seamlessly Eclipse TD725sw 2,700 Delivers solid meaningful bass, but with unusual tunefulness, speed and articulation Monitor Audio ASW100 300 For the price, this compact subwoofer performs particularly well REL 305 795 Landmark mid-price sub, works particularly well with low crossover frequency, looks great too REL Stampede 550 Few subs at this price match the Stampede's subtlety and ease of integration. Much more hi-fi than AV REL T1 595 Standard setter at the price: flexible, easily set up and packs quite a punch	SIZE W.H.D. (CM	POWER (W	BASS FROM (HZ)	ISSUE NUMBER		
DALUGE				29,34,35	500	20	259
EC 03	B&W ASW850	2,000		53,56,52	1,000	18	246
EC 03	Eclipse TD725sw	2,700	Delivers solid meaningful bass, but with unusual tunefulness, speed and articulation	52,47,50	500	40	287
	Monitor Audio ASW100	300	For the price, this compact subwoofer performs particularly well	32,32,34	120	27	225
EC	REL 305	795	Landmark mid-price sub, works particularly well with low crossover frequency, looks great too	32, 36, 34	300	25	284
	REL Stampede	550	Few subs at this price match the Stampede's subtlety and ease of integration. Much more hi-fi than AV	28,40,29	100	18	257
ri6	REL T1	595	Standard setter at the price: flexible, easily set up and packs quite a punch	36,40,420	300	25	291
	REL Strata 5	700	Highly musical sub that integrates well but the REL Stampede offers near-identical performance for less money	32,46,33	150	18	257
	REL Storm III	900	Excellent sub with powerful, detailed and deep bass. Comprehensive facilities, including flexible filter adjustment	42,62,33	150	18	225
	REL Storm 5	1,000	Well engineered, good bass depth, appropriate for mixed hi-fi & home cinema/multichannel systems	34,52,37	200	15	267
(6)	MartinLogan Dynamo	449	Refined, compact sub brings established MartinLogan virtues to a new price and size point	29,35,32	200	25	301
	Velodyne SPL-800R	699	Powerful, highly configurable sub with auto setup feature and attractive, compact packaging	26, 27, 33	1,000	28	286
EC 03	Wilson Benesch Torus	5.200	Amp and sub package built like a sophisticated pile driver, with deep, state of the art performance	45.33.45	1.000	10	290

1,500 Great material value and a solid, if bright and forward sound. Has great loudness potential

1,200 Cunningly crafted standmount with a beautiful balance that always sounds lively, open and involving

SIZE WXHXD (CM) Width, height and depth of one cabinet in centimetres. POWER (W) How many watts the onboard amplifier of active models delivers. BASS FROM How low the sub goes, the smaller the number the deeper the bass.

Wharfedale Opus

Yamaha Soavo 2

26,100.5,41 A 23

A 28

22,38,35

314

296



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the experts in home entertainment

HEADPHONES

For your ears only



Headphones come in several varieties and some are designed for particular usage. The majority of 'cans' use dynamic cone and coil-type drive units and can be used with anything from a personal stereo to a dedicated amplifier. Other types also exist, most significantly electrostatics that use a charged panel membrane to produce a distinctly refined sound. These are supplied with their own dedicated

Cans are split into several types. There are open and closed-back designs, the latter being

amplifiers, which tends to increase the price.

best for noisy (or noise sensitive) environments as they minimise leakage and intrusion. Open-back types tend to have a more open, less 'in-head' sound. There are also three variants of earpad design: circumaurals enclose the ear and press on your head, supra-aurals press on the ear and intra-aurals sit in the ear and are particularly popular with personal stereo users.

Getting the best from your cans

Getting a good result with headphones is not

quite as straightforward as it should be Merely plugging them into the output on your CD player or amp will not give particularly engaging results unless you are very lucky. If you are planning on serious listening, invest in a dedicated amp - the increase in dynamics is not in the least bit subtle. A variety of models are made and prices start at around £80 for a QED, a little more for designs from, say, Creek or Musical Fidelity. And if you're really into cans, look up the valve-powered Earmax.

	r favourite					S	ECIF	CAT	ONS		100
H	EADPI	H	DNES	ELECTROSTATIC	SUPF	CIRC	유	OLCS	75	3.5MM JACK ADAPTOR	ISSUE
Ster	eo headphones			ROSTA	SUPRA-AURAI	CIRCUMAURA	OPEN BACK	OLCISED BACK	WEIGHT (g)	ADAPT	SSLIE NUMBER
BADGE?	PRODUCT	3	COMMENTS	O.	ž	£	Š	Š	3	뮸	Ħ
EC	ACS T2	500	Earcanal earphones display an impressive midband intelligibility and a knack for digging out the detail						28		315
EC	AKG K1000	650	Neutral, analytical and completely out of the head sound, suitable for connection to speaker outputs only				0		270		244
	Audio Technica ATH-W1000	400	Superbly comfortable and very revealing. Long listening sessions are a pleasure with new musical insights			0		0	250		304
10	Beyerdynamic DT770	190	A touch coloured in the mid, but less than most closed cans: detailed and with excellent bass			0		0	290	-	287
10	Beyerdynamic DT880	230	Combines musical involvement with a high degree of analytical virtues. Very comfortable		0	0	0		205		312
41	Denon AH-D2000	250	Among the best closed-back headphones we've heard and very fine by any standards.			0		0	350	133	309
	Denon AH-D5000	500	Sound is comparable with good open-back models, while isolation both inward and outward is useful			99		0	320		312
EC	Denon AH-D7000	800	One of the best closed-back designs, bearing comparison with the finest open models. Bass, in particular, is excellent			0			295	46	314
EC	Grado GS1000	995	One of the finest transducers on the planet, with detail to die for			0	0		250	S.	288
12	Sennheiser HD595	160	Technology from upmarket HD650 model makes this a very revealing headphone that's also extremely comfortable			0	0		270	0	266
7.8	Sennheiser PXC450	299	Noise-cancelling model: as good as it gets for making the most of listening in planes, trains and automobiles			0			240	\$	302
	Sennheiser HD650	330	Clear and detailed, with very natural tonality through bass and midrange and just a little treble coloration			0	0		275	de	312
	Shure SE420	240	Expensive and no replacement for top conventional 'phones, but streets ahead of most in-ears with real refinement						15	88	295
	Shure E500PTH	420	Sophisticated in-ear design with three drivers, plus switchable 'voiceover' mic in the lead; high-quality stuff					0	20		285
	StaxSR-001 Mk II	239	Expensive and power hungry, but this electrostatic drags personal stereo into the world of high fidelity	0	0		0		280	6	268
EC	Stax SRS-2020 Basic Sys. II	349	Luxury option at its price, but the sound delivery is five-star quality all the way	0		0			205		295

SPICS NAT 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



After 5 years in production, the Dino is still one of the most popular phono stages around. Highly versatile with accessible switches on the baseplate to facilitate a wide range cartridges.

power supply technology virtually removes all incoming mains noise allowing only the music to be heard. Visit our website to learn more about this exciting product and the high performance Diablo phono stage.





BUYER'S BIBLE STEREO SPEAKERS

CABLES



Wires to hook your system together

Hi-fi cables come in two varieties: interconnects and speaker cables.
Analogue interconnects come in preset lengths, generally with RCA (phono) plugs attached, though some equipment uses XLR connectors for balanced connection – this

can be sonically advantageous, especially over

longer runs. Speaker cable is commonly sold

by the metre and can be used without plugs

or can be fitted with screw or solder-on types.

Choosing cables is not quite as straightforward as it might seem. One problem is that components interact with the cables you use and this often results in audible effects, but there are few cables that are fundamentally incompatible with any components, and we recommend the advice of a good dealer. In any case, you should look to spend as much as you can afford.

Digital cables come in two flavours: electrical and optical. In most instances electrical varieties sound better than optical, given the choice, but optical cables may be a better bet over long runs (10m+). Optical inputs/outputs usually use Toslink connectors, while most electrical types use RCA plugs, but some opt for BNC connection instead – check your components before you buy.

_		_	BEST BUY EC EDITOR'S CHOICE			SPECIFICATIONS					
CABLES Interconnects and speaker cables			STRANDED	SOLID CORE	COPPER	SILVER	DIGITAL CABLE TYPE	ISSUE NUMBER			
BADGE?		5	COMMENIS	8	兩	9	男	吊	99		
	Atlan Quantar	70	Very apparent of the part and frequencies with elightly drubbes Imaging continuous frequency			~			20		
56	Atlas Questor	70	Very open and informative at high and mid frequencies, with slightly dry bass. Imaging particularly fine			*			29		
	Audioquest Sidewinder	45	A lively and detailed cable, with fine tonality and excellent rhythm. Slight added upper-bass warmth does little to detract	*		4			29		
£1-	Black Rhodium Prelude	80	Practical and sensibly priced all-rounder that seems happily compatible with a wide range of kit	0		9			29		
EC	Black Rhodium Coda	150	Superb bass and excellently neutral and detailed midrange: treble generally sweet with occasional slight constriction. The DCT exhibit from the Delay range gives a districtively dark timber, such a detail, with law exhibitors across			0			29		
	Black Rhodium Concert	255	This DCT cable from the Polar range gives a distinctively dark timbre, rich in detail, with low subjective noise	0					27		
	Cambridge Azur Reference	50	Performance wouldn't shame a cable at twice the price: especially adept in the treble with no trace of dryness	0		0			29		
	Clearer Audio Copper-Line Alpha		Sounding like something a good deal dearer, this cable offers near high-end detail and seems highly compatible too	8:		0			29		
-	Clearer Audio Silver-line	244	Complex, well-screened cable which offers good sound all round with exceptional bass – at a price!	0		*			27		
EC	CrystalCable Piccolo	260	Thin cable, but tougher than it looks, Piccolo has some qualities of a solid core type generically - notably resolution, focus and articulation				**		29		
99	Kimber Timbre	118	A very neutral cable that will complement even very upmarket systems	0		0			3		
•	Monster M350i	45	Few cables at this price reveal so much about the recording space. Clear treble, too			0			28		
	Monster M1 000i	200	Very capable, with only a hint of bass dryness to set against excellent results elsewhere	0		*			28		
	Nordost Wyrewizard Dream	95	Sight lack of precision in extreme treble, otherwise detailed and neutral with authoritative bass		ē,	ā			30		
	Oehlbach NF214	63	The bass is a matter of taste, but suits many smaller speakers. Very good mid and treble	9		ş			28		
	Profigold PGA3000	60	Not the ultimate for lovers of clinical precision, its character is engaging and detail and extension are good	*		0			29		
	Supra EFF-1X	77	Lively-sounding cable which maintains a high level of detail and neutrality. Musically, a great all-rounder	**		*			30		
	Townshend Isolda DCT 100	99	Sound has a particularly enjoyable cohesion and naturalness that makes for a great listener involvement		®.	•			31		
*	van den Hul Integration Hybrid	125	Bass is nothing remarkable, but mid and treble are outstandingly open and clear: very transparent			形			30		
45	van den Hul The Wave	100	Generally neutral, with a hint of upper-bass richness: images seem to reside slightly further away than most	**		529			31		
IIGH	LINTERCONNECTS										
P.	Atlas Compass	50	Slight improvement in detail over giveaway cables, plus distinctly more tuneful bass and more open treble, make this fine value	N.				Е	28		
С	Clearer Audio Silver-line	125	Very satisfying performance with finely-etched detail and sweet treble					Е	27		
	Supra AnCo	80	This cable can give a useful fillip to a good transport/DAC combination, even in a high-end context	0		0		E	30		
С	Wireworld Starlight 5	90	Clear gains in detail and imaging precision are this cable's main strengths, good value and near-high-end performance	9		à		Ε	27		
PEAK	TA CABLES PRICE PER METRE				-01						
-	Atlas Hyper 1.5	10	Don't look to this cable to beef up the bass, but its performance at higher frequencies is revelatory at the price	8/		۰			29		
	Atlas Ascent 2.0	55	A highly analytical cable, with more bass extension than at first appears and very fine detail across the board						29		
6	Chord Silver Screen	6	Screened speaker cable with excellent treble, but just a little light in the bass at times	99		•			31		
c	CrystalCable Piccolo	1,480	A chip off the old block, this speaker cable has a similarly fast, fluid and subtle sound				0		30		
	Kimber 8PR	12	A cable that really enjoys the music, also admirable for the levels of analytical detail it allows through. Excellent value						29		
8	Monster MCX-1s	8	Notable for its bass, which is perhaps a touch overdone at times but could be a good foil to small speakers. Good mid and treble	120					28		
С	Nordost Heimdall	162	Alternative to Valhalla, silver plated, micro-monofilament construction, low coloration, hi-res and suitable for exacting systems	0		63			27		
ė.	QED Silver Anniversary XT	5.50	Full bass and nicely detailed treble combine with good imaging – a budget bargain	0		0			27		
8	QED X-Tube XT300	10	A natural and well controlled sounding cable that's cost effective for mid-priced systems		9	0			23		
С	Supra Sword	116	Zero inductance construction, medium resolution cable that has an excellent midband and is fundamentally musical	0		0			28		
С	Townshend Isolda DCT	50	Cryogenically treated 'impedance matched' cable with stabilising components added: great sound all round		19-	87			24		
	van den Hul The Bridge	6	Better bass than treble, with good detail though a touch of constriction at firmes	0		9			29		
	Wireworld Solstice 5°	45	Rather bulky and awkward, but performance amply justifies it with superb bass solidity	0		70			31		

SPECSION 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, 0 – optical Cables are one metre length unless otherwise stated.

STANDS AND SUPPORTS BUYER'S BIBLE

STANDS AND SUPPORTS

Equipment racks and speaker stands

If you want to get the most from your source and amp components, it's important to consider good quality support. Dedicated equipment supports are racks and tables made specifically to hold hi-fi gear, and the best can have a profoundly positive

effect on sound because, for example, they can help to isolate kit from ground-borne vibrations and mechanical or electrical interference. Equally, if you own a pair of small 'bookshelf' or 'standmount' speakers, it's important to place them on good quality, purpose-built speaker stands.

Our favourite BEST BUY C EDITOR'S CHOICE

_				SPECIFICATIONS		9			
	QUIPN pment supports	Λl	ENT SUPPORTS	HEIGHT CM	TOP PLATE SIZE	WE	NUMBER OF SHELVES	SHELF TYPE	ISSUE NUMBER
,	PRODUCT	3	COMMENTS	T CM)	SIZE (CM)	WELDED	LVES	TYPE .	VIBER
	Alphason A5-G	399	Nice looking, very solid and practical with a pretty well balanced sound, but lacks a little detail	80	66,46		5	Glass	24
	Atacama Equinox	280	Stable, modular design with style. Excellent bass transients and a fresh design concept	81	50,50	-	4	Glass	21
55.	Audiophile Base Std Supp't	1,200	Expensive and quite bulky, but it's all worth it as sound is unusually detailed and resonance-free	57	46,35		3	MDF	30
8	Custom Design Inert Matt	70	Isolation platform that can improve the sound of hi-fi components, but is a bit small for most kit		40x25			Metal	31
	Custom Design Icon Signature	330	Gorgeous wood and glass looks: sound lacks a little detail, but is nicely lively		56,37		4	Glass	28
	Custom Design XL4	380	Simple construction pays off in smart looks. Sound contribution is minimal and largely harmless		60,42		4	Glass	29
	Custom Design Milan	449	Respect is due to any stand that looks this good with nothing more to complain of than slight muddying of detail	57	48,39		4	Glass	30
8	Custom Design Icon 400	600	Beautifully built, conveniently adjustable and with little sound of its own, a very classy rack	75	57,41		5	Glass	26
98	Milty Foculpods	19.50	A set of four isolation pads that are amazingly useful for damping vibration and improving sound	2	5			Polymer	31
	Partington Minim	420	Adds its own character to the benefit of rock, most particularly, but slightly to the detriment of acoustic sounds	78	45,37	6	5	Glass	30
	Quadraspire Q4 Reference	480	Excellent performance from the school of wobbly racks. Natural sounding and plenty of detail	51.5	49,39.5		4	MDF	21
100	Russ Andrews Torlyte Platform	130	This unassuming platform can be a godsend, cleaning away mid/treble muddle from the sound	8	48,36		1	Torlyte	30
	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	24
EC	Townshend VSSS	1,300	The Seismic Sink goes all glassy and attractive, yet retains the same excellent vibration-killing sound quality	76	35,50		4	Glass	27:

Our favourite BEST BUY (C) EDITOR'S CHOICE

SPEAKER STANDS

Speaker stands			IGHT (C	SIZE (CM)	FILLABLE	WELDED	R OF LEGS	E NUMBER	
BADGE?	PRODUCT	Σ	COMMENTS	(QM)	Š	Fi	=	SS	99
	Anvil Sound Display Stand	226	A variety of smart looks available – sound is clear and precise	50	20,17	0		1	293
	Custom Design SQ402	100	More a range than a model, capable of fine results especially with Acoustic Steel top plates	62	18,16.5	69		2	299
18	Custom Design RS300	110	An attractive stand whose lack of coloration and ringing suits it to high-resolution systems	56	16,5,18	(3)		1	281
EC	Custom Design SQ404	200	Robust four-pillar design gives very low coloration and maximises performance of speakers great and small	61	18,16.3	0		4	283
68	Partington Ansa 60	99	Elegant flat-packer 'disappears' sonically; restrained but neutral and coherent	62	18,15			4	232
88	Partington Dreadnought BS	295	Sound is better defined in almost all areas than cheaper, slimmer stands can offer	62	17,23	0		5	309
EC	Partington Heavi II	399	Robust to the <i>n</i> th degree, this stand helps produce very taut, precise bass and detailed upper frequencies	53	31,22	178		6	287
EC	Russ Andrews Torlyte	299	Very relaxed sound from this metal-free design, with excellent imaging too	60,50	15,21			3	280

EQUIPMENT SUPPORTS SPECS KEY HEIGHT Of complete stand. TOP PLATE SIZE (CM) Width by depth of the supporting platform(s). Single figures indicate a square platform WELDED As opposed to bolt-together construction. NUMBER OF SHELVES To put your kit on (different configurations are often available). SHELF TYPE Material that shelves are made of.

SPECIAL RESTANTING SPECS KEY HEIGHT Of each stand, not including spikes. TOP PLATE SIZE (CM) Width by depth of platform. Single figures indicate a square platform. Speakers generally overhang top plates.

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2nd-hand shootout

£2,000 turntables put us in a spin...

Ithough something of an opinion divider, the Linn Sondek LP12 can't be faulted for its longevity and value retention. It's well worth a recap here. Today's LP12 costs anything between £2,000 and £9,500, but for our budget you'll get something second-hand that's much better sounding than a new Linn Majik LP12 – a very basic model with a Pro-Ject arm. Go for a model from the mid-nineties (serial number 90,582) onwards and you'll find a deck with the relatively recent, mechanical Cirkus upgrades.

Incidentally, a maple finish guarantees a post-2002 model. The latest Keel is a one-piece aluminium sub-chassis that makes for more consistent arm alignment. Sadly, it was only introduced in 2006 and, at £2,000 alone, is beyond our price. But, by having an LP12 serviced at a Linn dealer (a good investment for any second-hand LP12), they can ensure that the conventional arm board sits as squarely as possible for a more accurate sound and can expertly adjust the suspension 'bounce'.

Another recent improvement was the Trampoline MkII. The 'MkII' is important, as the original is much older and made from MDF rather than aluminium. It's a useful extra to look for because it aids isolation. In terms of power supplies, the separately enclosed Lingo is the one to go for. Arms are very much a matter of personal taste but, as ever, the Linn Ekos or Naim Aro are most popular. Spend wisely and you'll not only have an easily tweakable deck, but also a solid audio investment.

If you want to feel you've got the maximum engineering content for your money, then Clearaudio's Avantgarde Magnum (AM) is well worth a look. Like most Clearaudio turntables, the AM uses a separately enclosed, powerful motor. The base is formed of two pieces of acrylic sandwiching an aluminium plate. The Magnum version of the Avantgarde goes one further with a massive, 70mm thick acrylic Below: Lipa Sondek LP12

platter. Helping the deck move in to the class above is the option of a magnetic bearing. This amazing, ceramic-shafted bearing allows the platter to literally float above the main bearing. The bearing has so far proved to be every bit as strong as a conventional one and suits the heavy acrylic platter superbly. If we were buying an Avantgarde Magnum we'd thoroughly recommend it. The new price for an AM is £2,800 plus £515 for the bearing. A suitable Clearaudio arm is around £600-£800. The Satisfy arm is good, the Silver carbon even better. For just £200 over our budget ,we managed to find a deck with the magnetic bearing and Satisfy Carbon Fibre tonearm - a useful saving of nearly £1,900. At just over a year old it had nearly four years to run on its warranty.

Also originating from Germany and equally precisely made is the T+A G10. Although rare in the UK, distributors Kore Trading supply many UK retailers, so getting service or parts for one shouldn't be too hard. With its Perspex topped, aluminium casing, the G10 looks expensive. It's heavy, too, no doubt due to the sand and lead filled damper! With their digital systems experience, T+A have also taken the



Above: Clearaudio's Avantgarde Magnum (AM)

A built-in phono stage, known as the PH-G10, is another option and, as built-in stages go, pretty good quality. While this deck might not have the kudos of the Linn or upgradeability of the Roksan, it's certainly fantastic value second-hand. We found a top of the range, ex-demo G10-S model with the PH-G10 for exactly half its new price of £3,950.

Our final choice is something of an oddity in that it never officially existed! The Roksan TMS 1.5 is essentially an original TMS with a modified plinth. Launched in 1991, the first TMS used a three-piece plinth design, soon to be used in the Xerxes 10. Eleven years later, it was replaced by the TMS2 with a new four-piece, 'grounded' plinth, a new motor, spindle, power supply and other modifications. As a good TMS2 still costs well over £3,000, a

"Our final choice is something of an oddity in that it never officially existed!"

unusual step of fitting a Digital Signal Processor (DSP) to the motor, which greatly reduces wow and flutter. Long-term reliability has yet to be proven, but the early signs are that the whole system is extremely reliable. When buying second-hand, it's important to take note of the different variants. The G10-R uses a Rega arm and is £900 cheaper new than the £3,700 G10-S that uses a version of the SME M2 arm. A superior quality Benz C-10 rather than C-5 cartridge is also included.

thoroughly modified TMS makes great sense at our budget. To ensure you're getting a 'proper' 1.5, simply check the plinth is in four sections and not three. Alignment is important, so a recent service by Roksan is always worth looking out for. With the oldest TMS 1.5s now being over 17 years old, you'll also need to carefully check the motor and pulley system. It's worth getting the motor speed and stability checked and carefully inspect the metal pulley for signs of wear and tear. Roksan still fully support the original TMS and offer a wide range of upgrades from mats to power supplies. Our budget found us a proper, 4-plinth, TMS 1.5 with the excellent Artemiz arm, Shiraz cartridge and a recent full service by Roksan. If you like the solid, 'dark' sound of Roksan turntables then this would make an

excellent choice **HFC**Dominic Todd

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a budget.

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MP3 and WMA discs, a DAB tuner, 30W amplifier and M37 speakers





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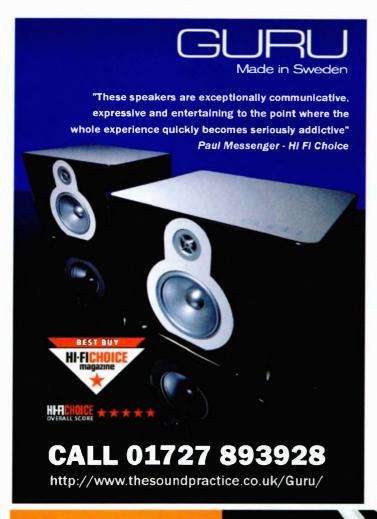


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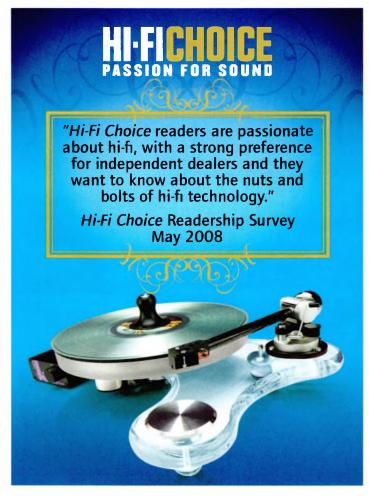
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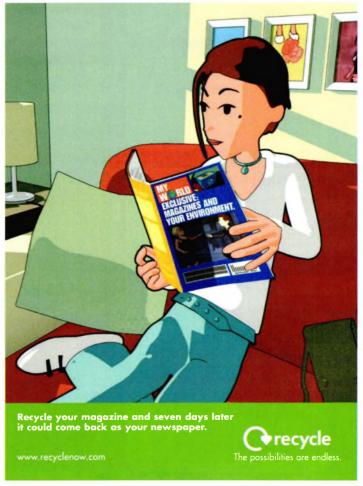
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ARCAM ALPHA 9 CD player, mint condition, black finish. boxed, £155. B&W P3 compact floorstanders. As new appearance, black ash, boxed, £135. 01752 790419 (Devon).

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GRADO SR80 headphones, brand new, £80+ p&p. 07791 936281 (Kent).

ESOTERIC CD player with VRDS tray, only a few weeks old, have to sell due to moving abroad. (£9,995) £8,000. Also Roksan TMS3 turntable with Artemiz arm and Shiraz MC cartridge, with Trichord phono stage. (£9,999) £8,000. 01242



Above: Roksan TMS3 turntable

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HI-FI NEWS January 2007 to March 2008. Hi-Fi Choice January 2005 to December 2007 40 copies, £20. Buyer collects. 020 8590 8530 (Essex). JPS ALUMINATA XLR high-end interconnects, one metre long, excellent condition in aluminium box, £1,200ono. 01302 327513 or 07866 367060 (S. Yorks).

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MARANTZ CD6000 KI Signature CD player, £275. Rotel RA05 amplifier, £275. 01903 813883 (W. Sussex). 🔼

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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!

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player, multi-award winner, latest model, fully boxed in excellent condition. (£270) £140. 01384 412234 (W. Mids)

MARANTZ CD17 MkII KI Signature, £400. Arcam A85 amp, with Arcam phono boards, £400. Marantz CD Recorder DR6000. Plays, but needs attention, offers, can demo. 07941 015908 (Surrey).

MUSICAL FIDELITY A5 CD player, as new, upgrading, low usage. (£1,500) £800. 01268 415017 (Essex)

MUSICAL FIDELITY XA-50

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NAIM NAC 72 preamp with MC phono board. Naim NAP 180 power amp, black, £750 the pair. Rega R3 speakers, £350. All excellent condition. Cash only. Buyer collects, can demo. 07773 756277 (Bristol)

NAIM NACD 3 CD player, NAC 62 preamp, NAP 140 power amp, plus KEF Q55 floorstanding speakers. All perfect condition, £500 the lot. 01254 233745 (Lancs).

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PRIMARE C32 Deluxe remote control, titanium finish, never used, still in box, £40ono. 01753 704762 (Wilts).

PRIMARE 121 amp, black, two years old, excellent condition, boxed, £300, price negotiable. 01689 834136 (Kent)

PROAC RESPONSE 1SC late model with bolt-on back panel and massive high-spec crossover. Stunning speakers and a rare second-hand purchase opportunity, £500 no offers. 07876 705266 (W. Yorks)

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floorstanding loudspeakers, Dialogue 2 centre channel with bracket, Epilogue 2 compact standmount loudspeakers. Ruark Logrhythm 150 ASW subwoofer. All natural cherry finish, mint condition, (£3,000) £1,500. 01324 815461 (Stirlingshire).

SENNHEISER HD 600 headphones, boxed (£269) accept £90. 07891 533084 (Swansea)

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ITEM DESCRIPTION

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Audio Note Japan M7. Line and phono pre amplifier. Very desirable. Built 1996.	£5000	-
Audio Note Japan Kageki. Parallel single ended 2A3 stereo amplifier. Sought after rare bird. Built 1999.	£12000	-
Audio Note Japan M7. Line pre-amplifier. Built 1999.	£4500	-
Resolution Audio S30 Integrated amplifier. Works in conjunction with Opus 21 CD player.		
Very neat office stylie solution. New unused.	£800	£2150
Resolution Audio Opus 21. Silver/silver.3 years old. Condition as new.	£1650	£2950
SME 20/12A turntable with KSL silver wired 312S arm. Demonstrator - less than a year old.	£8500	£11500
Living Voice Avatar II Maple.	£1500	£2700
Living Voice Avatar I Black gloss.	£1000	£3000
Lector MM phono stage. Nice looking. Sounds alright as well	£400	£800
LV MC step up transformer. 80 Ohms.	£350	£650
Michell ISO /Hera phono stage.	£200	-
Benz Micro Glyder. As new.	£400	£650
Transifguration Esprit. Only 20 hours use. Perfect condition	£600	£1200
Jan Allaerts MC2 Finish Gold. Only 100 hours of use.	£1750	£4500
VDH Condor XPM Platinum. Optimum load 40 ohms / .15 mv output. Less than 20 hours use. Perfect.	£1850	£2850
VDH Black Beauty Special X Optimum load 500 ohms / .5 mv output. Just serviced & calib. by VDH.	£1500	£3700
VDH Grasshopper III GLA: Optimum load 500 ohms / .45 mv output. Just serviced & calib. by VDH.	£1500	£3350
VDH Grasshopper III SLA. Optimum load 200 ohms / .65 mv output. Just serviced & calib. by VDH.	£1250	£2700
Kuzma Airline tonearm. Boxed. Bit of a palaver, but sounds great. Perect condition.	£5000	£7500
Sugden A21SE Integrated.3 years old. Very tidy.	£1000	£2150
Sugden A21 power amplifier. Titanium.	£475	£1200
Cairn Integrated. Remote control & balanced input. Black.	£450	-
Monopulse 42A loudspeakers. Sand.	£450	-
Vitavox MM300 12" high power handling bass drive units. Very light use. Super serious.	£400 pr	
Vitavox RH330 4-cell mid range horn.	£400 pr	-
TAD 4003 compression driver. Less than 2 hours use.	£2000 pr	£3700
Audio Innovations 1st Audio amplifier. A bit of a collectors classic Lots of sound for	£400	-
Pioneer PDS 801 CD player. Looks good, but is broken. Good project for geek.	£50	-
CEC AMP 3300R Class A single ended solid state integrated amplifier. 100 hours use. Perfect.	£400	-
Velodyne 1812 active subwoofer with parametric EQ and 5 microphone set-up kit.		
Silver / black. Ultimate home cinema sub'. Ex -dem, just about run-in.	£8000	£13500
Audio Note Japan M7 mkll Signature pre-amplifier. Built in phono. Year 2000.	£6500	£16600
Audio Innovations Series 800mkll. 25 watt dass A power amplifier. Just serviced.	£300	-
Audio Innovations L2 line preamplifier.	£350	-
Kuzma Stogi reference 12" tonearm. New and unused.	£1100	£1900
Kuzma Stogi reference 9" tonearm. New and unused.	£900	£1600
Kuzma Stogi S tonearm. Second hand.	£350	£650
Rogue Cronos. EL34 Integrated amplifier.	£1350	-
Audion Sterling Plus KT88 SE stereo with volume control.	£400	-
Bryston 1.7 Home cinema 5.1 processor. Excellent condition. Highly regarded by AV fans.	£1200	£3800
JPS Labs Super Conductor FX balanced interconnect 1m pair.	£180	-
B&W DM2 loudspeakers. 1970's. Good working order. Take them away for only	£50	-

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Audio Innovations P2 phono stage. Pristine condition - original specification

Art Audio Quintet. Classic EL34 Class 'A' integrated. As new, ex-dem.

Sugden CD 21. Just serviced by Sugden. Excellent condition.

Magnum Dynalab MD10 surround sound decoder

Horning Agathon Gold loudspeakers with Lowther PM4 Alnico drivers. Natural Oak.

Michell GyroDec. Smoked perspex lid/ bronze. Approx 9 years old. Particularly nice condition.

Art Audio Concerto integrated. Shiny triode coupled 6550 integrated. Beefy sound. As new.

Western Electric Gotham type 39 mono amplifiers. 50 watts of 300B in Class A. Beefcake with manners.



ISSUE 317 MARCH 2009 ON SALE 05 FEBRUARY 2009

In-depth reviews of the most vital new kit, including...

- Naim NAIT XS integrated amplifier Opera Grand Callas loudspeaker
- AstinTrew AT2000 integrated amplifier Jamo R907 loudspeaker
- ▶ Keith Monks vinyl cleaning system
 ▶ Pure Evoke 2s portable DAB radio



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