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Melody's spellbinding Pure Black 101d tube preamplifier

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AAD SILVER 5



MARCH 2007



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NAIM n-Vi DVD SYSTEM
TEAC CD-X9 MINI SYSTEM
JOLIDA JD102B TUBE AMPLIFIER
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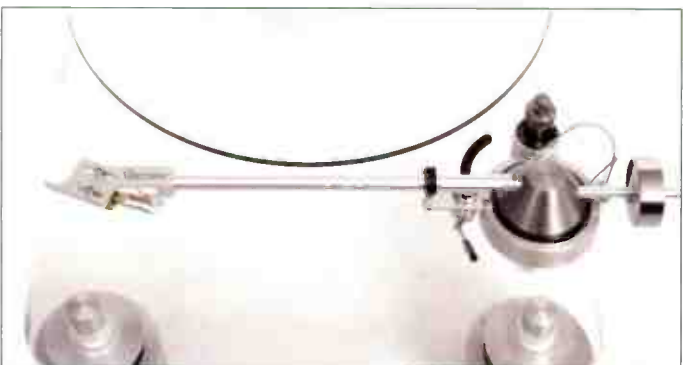
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LOOK SHARP

Aesthetix' new Calypso is one of the most striking high end preamplifiers we've seen. Joining the Rhea phono stage, Calypso line stage and Janus preamp, it is part of the Saturn series, which is claimed to "combine the sonic excellence of the Jupiter preamps in single chassis; beautifully styled, remote controlled components that elevate the performance of all high-end music and home cinema audio systems", no less. The Calypso is a six input (five, plus tape monitor) high gain line stage with all gain accomplished with valves and no solid state amplifying devices in the signal path. All inputs are fully balanced and feature both XLR and RCAs. The fully balanced differential circuitry is able to internally balance a single ended signal.

Only the highest quality components are used in the Calypso, the company says. A discrete resistor volume control is employed with eighty eight 1dB steps. Special attention is given to quality control. All valves are tested, gain matched and then carefully selected for low noise and microphony. There are front panel controls for input selection, volume adjustment, mute, absolute phase, display brightness, bypass selection and standby. Vital statistics are 457x447x111mm and 17.5kg, and the Calypso will make a £3,600-sized hole in your wallet. For more details, call Audio Reference on +44 (0)1252 702705 or click on www.audioreference.co.uk.



TOWERS OF LONDON

One of the most impressive sights at the London Park Inn Sound and Vision show, sponsored by Hi-Fi World last September, was the Podium-1 loudspeakers. Exclusively sold through London's prestigious Listen Carefully dealership, they are the first in a range of dipoles "using a novel application of compliant surround loudspeaker technology, the exact details of which remain confidential". The drive mechanism is utterly new, proprietary and does not use cones, electrostatic elements nor ribbons. Podium-1 has no cabinets and no crossover. The company claims a "flat frequency response from 25Hz to 20kHz - note, not minus 3dB at 25Hz". Efficiency is quoted as being at least 95dB, and impedance is circa 2 ohms. Dimensions are 72" (H) x 24" (W) x 0.66" (D), and weight less than 20kg per pair, making them fairly comparable to Quad ESL989s in vital statistics. The manufacturer says "power handling is pretty high" and room positioning is non critical. We were extremely impressed on hearing a pre-production pair at the show, and more than a little surprised to hear their retail price was "under £4,000". Watch this space for the first UK review, very soon. Meanwhile, Listen Carefully are their exclusive global representatives - call +44 (0)208 447 8485 or click on www.listencarefully.co.uk/podium.html.

SPIN FLYER

Hi-Fi World has been most impressed with NAD's entry-level CD spinners over the years, so the new C525BEE should be a soar away success like its predecessors. The £200 full width slimline separate is CD, CD-R and CD-RW compatible, and also plays the latest copy-protected and hybrid discs. The machine has been developed under the direction of Bjorn Erik Edvardsen (hence the BEE suffix), and it sports a fine-tuned circuit that reads and tracks the CD to improve performance with the latest copy-protected and hybrid CDs. NAD's engineers have also improved the audio performance by upgrading the op-amps to lower distortion types, to "improve musicality and detail". The machine measures 435x70x85mm and weighs 4.1kg. To meet the strictest environmental standards in the world, the construction of the C525BEE is completely lead-free. The C525BEE will be available from the end of January 2007, in either titanium or dark grey finishes. For more information, call Lenbrook UK on +44 (0)1908 319360 or click on www.nadelectronics.com.



MINI ADVENTURES

After a decade of making high quality AV separates, the signs are that Japan's oldest hi-fi company is shifting its gaze back to what it always did best. The new Denon CX-3 is a genuine high quality two channel stereo separates system, with a range of interesting features and the stunning build you'd expect from top flight Denon products. The princely sum of £2,700 buys you a CD/SACD player, stereo integrated amplifier and matching loudspeakers – all in a small, neat package. Said to be "hand-built in Japan by Denon's finest craftsmen", it boasts massive cast-alloy construction, ultra-short circuit paths, "the finest audiophile components", a brand new bespoke CD/SACD transport, a newly developed high power amplifier giving 2x150W (4 Ohms, 0.7% THD) with optional iPod integration and an aluminium remote controller.



Denon DF103



Denon CX3

Moving down to the £1,000 price point, Denon's new D-F103HRDAB Network Hi-Fi is described as a, "21st Century Stereo System" no less! It takes the successful D-F102DAB mini system, deletes the CD player and adds a "Hard Disk Recorder/Internet Radio/Networking component". The stylish aluminium design uses audiophile components, the speakers are tuned for critical UK ears and combined with high-grade amplifiers, says Denon. It boasts DAB/FM Radio, Internet Radio, CD playback, HDD for 10,000 songs with CD Ripping and CDDB, Music Streaming from Mac and PC, music playback via USB Port, iPod integration and – shock horror! - a phono input for record decks. A pair of SC-F103 speakers are included, designed by Denon and "Europe's leading hi-fi speaker design team". For more information, call 01234 741 200 or click on www.denon.co.uk.

WIRED WORLD

The new i-world audio cable from WireWorld is designed to provide improved performance over standard mass market cables used to hook up portables to separates hi-fi systems. This cable can be used with MP3 players, computers and any other device which requires a 3.5mm stereo jack to RCA connection. Although modestly priced, the i-world cable boasts high very specifications which include grain-optimised oxygen-free copper conductors, low-inductance 30 Ohms audio co-axes and gold plated connectors. The princely sum of £22.95 buys you one and a half metres, and it is now available in the shops. Call +44 (0)20 8991 9200 or click on www.wireworldaudio.co.uk.



EASTERN ECCENTRIC

It's always good to hear of new real hi-fi dealers, so Hi-Fi World extends a hearty welcome to Breckland Audio of East Anglia. The shop offers a select range of Class A valve amplifiers, CD players and high sensitivity loudspeakers. They pride themselves on, "being able to supply products which offer superior value and performance compared to normal high street brands". There's also, "honest, knowledgeable advice and service, tuned to your specific needs", on offer, and Breckland are particular fans of tube amplification. On permanent demonstration are such delights as the Pure Sound Bewitch A8000 CD player, Bewitch A30 integrated Class A amplifier and Living Voice Avatar II loudspeakers. For further details, contact Breckland Audio on 01842 755170 or visit the website at www.brecklandaudio.co.uk.

GLOSS LEADERS

Tangent's new Clarity series of loudspeakers is by far their most prestigious development project, the company says. It consists of three different models (a floorstander, bookshelf and centre) plus a matching subwoofer. "All these elements complete a multichannel surround sound set up", says Tangent, but the floorstanders and bookshelf speakers are available in pairs separately for stereo use. Most distinctive about the new Clarity series is the high gloss piano finish, available in both black and red, "which reflects their surroundings like a mirror". This is down to a long and very careful production process with nine coats of lacquer followed by careful polishing. To avoid fingerprints, the speakers are delivered in soft cotton bags together with white cotton gloves. Tangent claim that "the speakers deliver a very refined sound reproduction with a detailed treble and rock-hard lower frequencies with attitude". For more details, click on www.tangent-audio.com.





TWO'S COMPANY

Arcam's immensely successful Solo is to become a double act. The Solo's new brother is called the Solo Movie 5.1, and is the surround sound version with vastly expanded functionality. On sale at the end of February for £2,000, Arcam says that, "with the launch of Solo Movie 5.1, Arcam has achieved a world first - the advanced feature set of an esoteric home cinema system plus world class sound and picture quality in a stylish, neat and easy to use package". The Solo Movie 5.1 boasts connectivity and playback abilities far beyond current high performance 'one box' home cinema systems, claims Arcam. Its internal 1080 video scaler, HDMI switching and universal disc playback make it the perfect partner for today's high definition video displays. However, it is the unit's audio and video quality, stylish, understated good looks and ease of use that will capture the hearts of music and movie fans the world over. For more information, call Arcam on +44 (0)1223 203 200 or click on www.arcam.co.uk.

NAGRA SELECTION

One of hi-fi's most prestigious high end brands has a new series of CD players out and, as usual with Nagra, those who need to ask the price need not apply! The new machines are said to be "a historic first for Nagra, who wanted to complete the high end hi-fi product line with a player of uncompromising sonic quality, unparalleled precision and robustness synonymous with the Nagra brand the world over". Nagra says its aim is to "offer the finest possible CD player, which can reproduce at home the original quality of a concert or studio recording, often made using a Nagra recorder - the absolute reference." The mechanics of the new silver disc spinners boast a multitude of innovative solutions which the company says were inspired directly from those used in their professional recorders, particularly the NAGRA VI. Three models are available: the CDT transport with AES, S/PDIF and optical outputs, the CDP player offering a choice of digital and analogue outputs, the latter available through both XLR and RCA socketry; and the CDC concept with remote control, built-in preamplifier and discrete headphone section. For more information, contact R.T. Services on +44 1235 810 455 or click on www.rtsaudio.co.uk.



NEW BEGINNING

We've seen it all now! Southend based Genesis ICE Ltd used the Las Vegas CES 2007 electronics show to launch a special edition Class A amplifier with valve front-end... for automotive applications! The Gordon Taylor designed amplifier uses a Russian built 6H30Pi tube, a very linear triode developed for use in missile guidance systems, so it should be able to withstand some spirited A-road roundabouts. The company says it can withstand up to 500G-force while working quite happily at loads of 100G. The power amplifier features OnSemi 'Thermaltrak' series transistors configured to run in Class A up to 30W RMS, or 200W RMS in Class AB. The amplifying devices are specifically designed for audio and have specific on-board sensing built into each transistor to ensure perfect bias tracking. Separate power supplies are provided for both preamp and power stages with a third supply dedicated to preheating the tubes on activation of the vehicle's central locking. This ensures that by the time the driver is ready to drive off, the amplifier is ready to deliver awesome performance all the way to his/her destination. The amplifier casing is made from 10mm thick aluminium plate with pillars turned from solid billets. These provide anchor points for the cooling fins, which are individually machined from solid 4mm alloy plate. A plexi-glass top cover adds visual highlights by exposing the warm glow of the tubes within. For more information, click on www.genesis-ice.com.

WEBWATCH

Finland's Vacuum Tube Shop is a veritable cornucopia of all things thermionic. There's lots to browse over or buy, including new vacuum tube source pages with some amplifiers and speakers. For more information, email Antti Roine at antti.roine@saunalahti.fi or call +358-2-538-7383. www.vacuum-tube-shop.com



SING IT BACK

Chord's new Anthem 2 interconnect comes in RCA, DIN and XLR versions, and ranges from £325 to £525 per metre depending on termination. The company says it is a complete departure from the complex cable geometry and woven configuration of the original Anthem. Although appearing to be a far simpler design, performance is enhanced by the introduction of an advanced multi-layer shielding system, says Chord. The central conductor core is a multi-stranded silver-plated design. It is surrounded by low density Teflon insulation and a tri-layer silver-plated flat ribbon weave shielding system, similar to that used on the Chord Indigo. The original Anthem was the first interconnect in the Chord product range to use a high frequency shielding system. The success of this prompted further research into high frequency shielding methods, and the result of this enabled the design of the award winning Signature and Indigo series of interconnects, and now Anthem 2. For more information, click on www.chord.co.uk.



Sound of Music

Is the striking Melody Pure Black 101D high end preamplifier a technological relic or a sonic revelation? Noel Keywood tunes in to find out...

If valves catch your eye and imagination, the large globe-shaped Western Electric 101D triodes used either side of this preamplifier are probably the most eye catching and evocative you'll find on tubular hi-fi today.

I'm used to seeing sights like the 6C33C Russian 'trawler' triode and monster 212E (designed for transmitters and used by the Japanese in nightclubs!), but all the same, Melody's Pure Black 101D preamplifier still surprised me. It looks evocatively vintage, as these tubes were amongst the first amplifying devices to ever see production. Indeed, Western Electric's 101D triodes date back to the 1920s no less, so this preamplifier, you might think, is a modern museum piece.

Luckily though it's a repro. The 101Ds used by Melody are of contemporary manufacture, coming from China. I think I would be right in saying that such is the demand for valves nowadays that original 101Ds would be almost impossible to obtain, and hideously expensive if you could find them.

Although the 101Ds look authentically trad., the rest of this preamplifier is bang up to date, especially its deep gloss black finish and sculpted chassis - so it's no museum piece in reality.

Contrasts between old and new are further strengthened by the nature of the design: it is fully balanced - a very up-to-date idea. So the Pure Black 101D Signature is a fascinating synthesis of the very old and the very new and as such it caught my attention and my imagination. If ever there's mileage in hi-fi design it is found using simple, pure design techniques together with the very best components - and the Pure Black 101D does exactly this in the best modern tradition. It may look retro, but that's not the design rationale.

I'd better explain - before receiving a torrent of letters from

valve aficionados who read Hi-Fi World - that the 101Ds, although audio triodes, in this design do not directly handle the audio signal; they are used as voltage stabilisers in the power supply. Doing audio duty are four 6SN7 twin triodes, a popular design from the 1940s, all fed from one VT-145 rectifier (in our sample) seen sitting at the centre of the group. They're a chunky group of tubes for a preamp, making the Pure Black 101D look more robust and workmanlike than most alternatives, that commonly sport compact and less visually intriguing valves like the ECC83.

This preamplifier puts its thermionic complement on full display. With a chassis the size of a power amplifier, measuring 44cm wide and needing a 44cm deep shelf, this is no compact space saver. It is meant to be seen and admired; it is beautifully built and finished to ensure that it is so. Hi-fi products like this work at every level; they are visually intriguing, functionally simple yet effective, built and finished to a standard not yet common and carry out their prime task - amplifying music - with aplomb.

Another little explanation I'd better make early on in this review is that our preamp isn't a p1688 Signature as on the website, but a European Pure Black 101D, hence the different rectifier tube!

Melody products are manufactured in China, but the company is based in Melbourne, Australia. Here is another example of how the Chinese have always given valves more credence than most, seeing them - correctly I feel - as more appropriate to audio than transistors due to superior sound quality. That you also get a product that can draw attention to itself in a modern home is another plus point when otherwise we are surrounded by a sea of faceless electronic devices nowadays.

The preamplifier possesses one

balanced input, as well as a balanced output to feed a power amplifier, both using standard XLR sockets. Of course, there is a full complement of normal unbalanced line inputs, four in all, using phono sockets switched from the front panel. Input No5 is the balanced one. There is no phono stage; you would need an external one.

Matters get a little more complicated with the outputs. There are low and high outputs, giving normal gain (x4.6) and high gain by preamp standards (x9.6). Using the latter in conjunction with a power amplifier having a normal 1V input sensitivity would give 100mV input sensitivity - very high. The all-balanced route gives double this gain, or x19. I don't want to go into the technicalities of balanced and unbalanced sources, loads and amplifiers, but generally speaking all-balanced systems are best, rejecting hum and noise.

There's some scepticism about this from engineers who realise that balanced solid-state inputs and outputs are often derived from an extra conversion stage, increasing the amount of electronics in the signal path. This is always the case with silver disc players, but turntables can be wired as pure balanced sources, as mine is, and valve amps can be designed to be balanced without difficulty, especially when high quality audio transformers are employed to facilitate the topology.

The Melody can be connected to balanced outputs in some CD and SACD players, and some phono stages. This is especially beneficial when the connecting lead is long. The same applies to the power amplifier connection. You will have to use chunky balanced cables of course, one per channel, each terminated with large XLR plugs. These things were designed to survive the gentle attentions of horny handed Roadies at Rock Concerts, although mini types do now exist.



A subtle benefit of the full size XLR is, however, the fact that it is one of the few plugs large enough to accept today's complex balanced super-cables, with two conductors, lapped screens, earth drains, ptfе dielectrics and all else.

For this review I used the Signature preamp with various unbalanced power amps., but especially a solid-state Naim NAP200, and also a pair of Melody M88Q monoblock power amps connected with balanced cables.

The Pure Black 101D is a class act to use. Its switchgear feels authentically clunky and solid, its chassis is heavy and stable and turning the power switch lights an intense blue led and causes the valves to glow impressively. You can see inside the 101Ds, their glowing zig-

zag filament arrays lying within the encompassing anode plates.

SOUND QUALITY

I know what valve preamplifiers sound like, as I have been using a World Audio Design KLP-1 and a KLPP-1 at home for a long time now. Also, our in-house resident Quad QC-twentyfour preamplifier is in regular use. So I felt confident I would recognise the sound of the

tation, possessed of purity and clarity that tends to counteract the worst effects of solid-state glare and jitteriness.

The Pure Black 101D is immediately an altogether more vivid performer than I am used to hearing. It has a conspicuous clarity that was a little alarming, almost too obvious to be real, so initially I suspected it wasn't so. Although I love valves, I do know some valve products

"a fascinating synthesis of the very old and the very new..."

Pure Black 101D - and was taken aback to find I didn't! Valve preamps are generally gentle in their presen-

can enhance, usually by adding high third harmonic distortion levels that brings a glassiness to the sound. But

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measurement showed this is not the case here. Melody's Pure Black 101D measures well, so what it does is real - and that is bring a sense of vivid openness and clarity that was extraordinary. Here, it is in a class of its own in my experience.

Until we received the M88Q power amps the preamp was used alone, its first task being to drive a Naim NAP150 stereo power amplifier, to see how this pairing worked as a hybrid. I had already replaced Naim's own solid-state NAC122X preamplifier (£750) by Quad's valve QC twentyfour (£1,500) with interesting results, enjoying the sound of a hybrid possessed of a smoothness and dimensionality beyond any all solid-state combination.

When the Pure Black 101D replaced the Quad the sound stage seemingly lit up; it was a dramatic difference. This preamplifier brings a sense of clarity that is abundant, even intrusive! It is all but surreal in its openness and the way it brings singers and instruments out of the gloom and into a vividly lit environment, one that lacks colour of any sort. There's no warmth in the sound at all, it possesses a cool clarity that is almost stark, yet liquidly natural and free from artifice in a way only the best valve designs can be. This is a preamplifier with a capital P, one that grabbed the NAP150X and turned it into an amplifier of a stature it had never dreamt of!

It is seemingly almost magical in its powers of revelation. Instruments and singers were laid out on a broad sound stage where space and air abounded, but each instrument had firm outline and full body. There was always a mass of fine detail within the sound, especially at high frequencies, where the Melody is far less reticent than most of its thermionic rivals. At the time of pairing the Pure Black 101D with the Naim I was using our Sendor S8e loudspeakers and an Eastern Electric Minimax CD player.

When the M88Q monobloc power amps arrived I could use the preamp's fully balanced output. This gave extra focus to the sound, a slightly drier quality and a little extra dynamic drive too. In all, balanced connection offered an improvement, although in that the sound was grippier it was also a trifle less easy going. With KT88s in push-pull pairs able to deliver 90W the M88Qs proved viciously dynamic and Melody like a sound that is tight and dry I find, rather than the easy going, fulsome and generally warmer presentation that valves usually provide.

The M88Qs get the best out of KT88s - and this valve is as fine an audio device as you'll find if you want a fast yet fluid sound - all of what solid-state can do, yet with the naturalness, liquidity and insight of valves. Which brings me to 'Copperhead Road' and its opening drum rolls; against all that had gone before the Melody combination suggested this was a real drum, with a membrane and a body that together possessed their own characteristic sound, rather than the generalised bass event I am used to. The power amps, on their 4 Ohm taps, gripped the Spondors in a way that defies other valve amps, McIntosh 275 excepted, giving the drum mighty power, yet under deft control. That the combo managed this whilst resolving nuances of this instrument's character is a testament to what a really good valve amplifier can achieve - and the more I listened to this pairing the more I realised it possessed rare qualities.

With classical music they became apparent in a different way. The strings of Berliner Philharmoniker had more force behind them, with a greater range of expression and more insight into the composition of each orchestral section playing Rachmaninov's Piano Concerto No1 than I am usually aware of. Leif Ove Andnes piano seemingly expanded in dynamic scale and expressive power. The orchestra interjected more forcefully too. The Melodys are not soft, warm or romantic, ironic perhaps in view of their appearance. They lie more in a mould of dramatic modernity - and this is where they may catch listeners by surprise.

CONCLUSION

Personally, I live with the easier presentation of 300Bs, sans feedback, so



listening to an amplifier combination like this one is almost a fright. It is also an experience beyond what you will encounter in most of today's hi-fi products. In other words this is a breathtaking preamplifier and power amplifier combination, one I could only one fault with: there's so much gain that with CD the volume control has to be set close to minimum. Overall then, this is one of the finest preamplifiers I have ever heard - or seen.

VERDICT ●●●●● £

A wonderful preamplifier that sounds as dramatic as it looks; one of the best.

PURE BLACK 101D PRE.£3,295

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FOR

- breathtaking sound
- balanced operation
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AGAINST

- can sound stark

MEASURED PERFORMANCE

The balanced in/ out route offers vast gain of x18, whilst lowest gain - but still enough - is x4.6 through the Low unbalanced output. Curiously, this output has a rolled off high frequency response that will give a warm sound, at all volume control positions, whilst the High and Balanced outputs were flat to 100kHz, again at all volume control positions (frequency response is commonly volume setting dependent). So Low will sound warm compared to High and Balanced - odd.

Gain also starts to fall away below 100Hz, measuring -1dB at 30Hz, a relatively high frequency. This affects all outputs and inputs, and is likely to make the Melody sound a little bass dry.

Output overload varied according to the output used but was always satisfactory, being higher than the 1V - 2V needed by power amps. Input overload was also very high, more than the 4V limit of the generator.

Hum measured 0.2mV - an acceptable maximum. One channel had more distortion than the other, measuring 0.02%, but this is to be expected with valves and as it was pure second harmonic this would not be audible.

The Pure Black 101D is complex as preamps go and offers it all. It measures well but will likely sound either light or dry in basic balance. The all-balanced route should give

interesting results. NK

Frequency response (-1dB)	
Low out	30Hz-20kHz
High out	25Hz-100kHz
Balanced	25Hz-100kHz
Separation	62dB

Noise	
Low out	-84dBV
High out	-72dBV
Balanced	-80dBV
Distortion	0.02%

Gain	
Low out	x4.6
High out	x9.4
Balanced	x18.6

Overload	
Low out	2.6V
High out	5.6V
Balanced	10V

DISTORTION





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One Scoop or Five?

With measurement microphone in one hand and strawberry sauce in the other, Adam Smith welcomes some new faces to the UK loudspeaker market...

The loudspeaker market is lively at the moment. New names are arriving on the scene (or at least, new to the UK), and design departments of better established names have been busy as well. Thanks to our ability to measure loudspeakers properly, using the latest industry standard equipment, and our own ability to design loudspeakers, plus a proper listening room, we are overwhelmed with requests to run reviews. Hi-Fi World's offices recently started to resemble a loudspeaker storage facility as brand new models flowed in. As we like to bring you the latest products straight away - scoops in other words! - here are a bevy of the latest designs to hit the market.

Starting at the bottom of the price ladder, and we're not sure if there is another rung below them, are the Tangent HTD-100s. The paltry sum of £80 buys you a well built and finished pair of Danish loudspeakers that aim to redefine value for money in transducers.

The next candidates up to the rostrum will be a new name to many in the form of the £600 Chario Silhouette 100Ts. Hailing from Italy, these have recently reappeared in the UK courtesy of our old friend Haden Boardman and Audio Classics, but Chario have been producing loudspeakers for over thirty years and so have a wealth of experience in this field.

The third pair of loudspeakers we are evaluating here come from a more familiar name, that of Vienna Acoustics. Now distributed by REL Acoustics, the Bach Grands retail

for £1,295 and are their smallest floorstanders, coming in below the Mozart Grands. Utilising proven technology and featuring Vienna Acoustics' typically high quality construction, the Bach Grands promise to deliver a performance that belies their size.

Another familiar name to regular readers will be American Acoustic Developments, or AAD. Founded by loudspeaker design supremo Phil Jones after he left these shores, AAD are becoming increasingly well known for their high quality designs at reasonable prices. With an importer now secure in the form of Synergy Distribution, AAD products are much easier to obtain in the UK and AAD know we know about loudspeakers (er...the publisher and Phil like to discuss them during hot tropical evenings in Malaysia!). The model chosen was the floorstanding £1,500 Silver 5s, second only to the Silver 7 in the Silver Reference range.

Finally, and marking the top of the tree for this test, we return to Italy and revisit a rather high end product, courtesy of Ars Aures Audio. A little cheaper than the Mis reviewed back in our November 2006, the F1 Monitors will still lighten your wallet to the tune of £1,995 plus a further £300 for the matching stands.

So there we are, a veritable cornucopia of new transducers, ranging from the budget vanilla of the Tangents right up to the sticky toffee chocolate sundae of the Ars Aures F1 Monitors. Read on to find out if they're worthy of the excitement with which we welcomed these new models into the office. And would you like a flake with that?

Right Angle

Adam Smith isn't obtuse about Tangent's brand new HTD-100 standmounting loudspeakers...

It would seem that we need to dispel two loudspeaker myths when considering these little fellas. Myth number one is that hi-fi loudspeakers cannot be this small. Well, the ALR Jordan Classic 1s reviewed last month are even smaller and were true hi-fi products, so that's that one dealt with. Myth number two is that real hi-fi 'speakers cannot be bought for £80, so let's see if the Tangents can manage to overturn that one as well.

Tangent are a Danish company and part of Eltax, but they do not currently have a UK distributor. Their products consist of a wide range of electronics, such as the CDP-100 and AMP-100 reviewed back in our October 2006 Issue. These are available through Richer Sounds but currently, the only your friendly neighbourhood branch of Dixons has any Tangent loudspeakers, and they will sell you the HTD-100's smaller brothers, the HTD-40 and 50, or the floorstanding Avantgarde 200s.

The HTD-100s are a two way design featuring a four inch (100mm) bass/mid driver and a one inch (25mm) soft dome tweeter in a diminutive cabinet measuring 220 x 135 x 205mm (H x W x D). Bass output is aided by a rear-firing port and one pair of good quality binding posts permit connection. Heck, the HTD-100s even come with a couple of lengths of very basic 'speaker cable to start you off. OK so it is very thin and not really for hi-fi use but it's the thought that counts!

SOUND QUALITY

After a suitable run-in period I was pleased, and more than a little

relieved, to hear that the Tangents do not try and impress by coming charging at you with an aural battering ram, albeit a small one. The HTD-100s are a well-balanced and competent loudspeaker that more than belie not only their diminutive cabinet size, but their price as well. Bass is surprisingly pacy and agile and even has a decent extension to it. Mounted on good quality stands and positioned within a foot or so of a rear wall to reinforce the port output, bass lines came across with great confidence and there was never a sense that you were missing vast amounts from the lower end.

Midrange was pleasingly open and

spacious, with good detail and a creditable soundstage meaning instruments could be placed fairly well. There was, however a slightly artificial tint to presentation, meaning that some singers could come across as a little husky and dry. This same aspect also could tend to make some snare drums sound a tad plastic. This said, the HTD-100s projected well and never sounded uncomfortable.

Possibly the best aspect of the Tangent's performance was their treble. High frequencies from the 25mm tweeter were smooth, sweet





"the Tangent HTD-100s produce a thoroughly grown up and enjoyable sound..."

yes! Of course it is possible to be picky about aspects of their sound but for their price this is just plainly unnecessary and rather mean. The Tangent HTD-100s produce a thoroughly grown-up and enjoyable sound and are more than suitable for playing 'spot-the-speaker' style tricks on your audiophile friends.

They also proved to be quite benign with respect to partnering amplifiers, giving equally good results on the end of a 20 Watt valve amplifier and the Class D Flying Mole CS-A3 amplifier, as well as a couple of expensive pre/power setups. For less than many hi-fi enthusiasts spend on a length of cable, it is indeed possible to buy a pair of loudspeakers that befit the term 'hi-fi' and you can do much worse for your first step on the audiophile ladder:

translates into a gentle and polished treble.

and detailed. In absolute terms, this is not the most incisive unit I have ever heard but it can certainly bear comparison with tweeters on loudspeakers that cost many times more. Tangent have engineered the unit's output well, resisting temptation to add any artificial brightness, and the smooth output seen on the frequency response graph

CONCLUSION

So, can we dispel myth number two as well? Are these real hi-fi loudspeakers for £80 or not? Well...

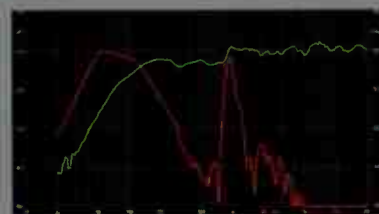
MEASURED PERFORMANCE

The first noticeable aspect of the Tangents' frequency response is a change in output level of around 3dB at 900Hz. This will tend to reinforce the midrange and treble compared to the bass, but as the responses both above and below the change point are commendably smooth, this is unlikely to present itself as a 'top-heavy' sound.

Bass rolls off below 150Hz but is assisted by the rear-facing port which is tuned to 60Hz. The location of this allows close to wall placement for bass reinforcement, which is always a handy option for small loudspeakers like this.

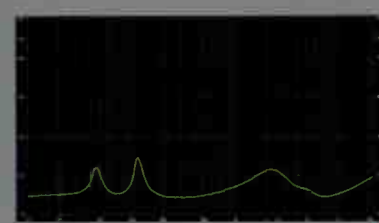
The impedance curve is flat across the frequency range and average impedance measured at 5.7 Ohms, dipping to a minimum of 3.9 Ohms at around 300Hz; as a result, the HTD-100s are a genuine 4 Ohm load. However, combined with a good sensitivity figure of 86dB, a partnering amplifier of 30-40 watts minimum should drive them well. AS

FREQUENCY RESPONSE



Green - driver output
Red - port output

IMPEDANCE



VERDICT ●●●●£

Great loudspeaker bargain - surprisingly competent and enjoyable.

TANGENT AUDIO HTD-100 £80

Tangent Audio
+45 9641 1500
www.tangent-audio.com

- FOR**
- price
 - sweet, detailed treble
 - pace and agile upper bass

- AGAINST**
- midrange a little artificial



Charios of Fire

Chario's Silhouette 100T floorstanding loudspeakers are real Italian stallions, thinks Adam Smith...

subwoofer for surround sound use. The 100Ts are one model from the top of the range and are the smaller floorstanders.

Construction and build quality are excellent, and driver lineup consists of a five inch (130mm) midrange driver with a polymeric compound cone and a one inch (26mm) soft dome tweeter mounted on the front baffle. Supplementing this is a further five inch (130mm) bass driver and port, both of which fire downwards out of the bottom of the cabinet. This is the reason for the lower part of the 'speaker resembling a stand, as it creates a sufficient gap below the main cabinet for the driver and port to operate. Unusually there is no provision for spikes on the underside of this plinth, which means that the speakers are just sat directly onto the floor or carpet, unless you fancy some DIY trickery to install some dedicated upward-facing spikes into your floorboards.

A single pair of binding posts are on the rear panel for connection, but these are not of a conventional design. As a consequence, normal 4mm banana plugs were rather loose when plugged into them, and they do not have holes drilled through them to accept bare wire - this seems to be just a case of having to remove the centre of the connectors and 'trap' the wire inside them as you screw them back in. For a truly secure connection, spade terminals on the end of your speaker cable would seem the best bet.

The 100Ts are a compact and neat design that will not dominate a room. Available finishes are black, light or dark walnut and cherry, the latter being supplied for review.

SOUND QUALITY

The first thing that leaps out of the Charios and slaps you round the face is

Chario doesn't exactly have a major market presence here in the UK, although the company has made some very nice products since its inception in 1975, such as the Hyper One that *Hi-Fi World* reviewed back in 1995. Nowadays, a glance at their website reveals no less than nine different ranges, encompassing some very

interesting designs. Their development processes make good use of psychoacoustic research and, we have no doubt, more than a little Italian flair...

The Silhouette range lies somewhere in the middle ground of the lineup and consists of eight models, comprising three standmounters, two floorstanders, a centre channel, rear channels and

the treble - there is plenty of it. As shown by the frequency response [see MEASURED PERFORMANCE], output rises steadily above 8kHz and this endows the Silhouette 100Ts with a noticeably forward balance. However, this should not give the impression that the Charios are harsh - they are certainly bright but at the same time, treble is clean and crisp. Only when really cranking the volume up do they become slightly spitty, but under normal circumstances anyone who likes to hear right into the high frequencies of a mix owes it to themselves to audition these loudspeakers.

The high frequency performance carries over nicely into the midrange and adds detail and atmosphere. Combined with an excellent soundstage, the 100Ts were able to convincingly reproduce vocals with emotion and realism, although sometimes there was a suggestion that singers were a little distant. Personally I would point an accusatory finger at the drop in level from 1kHz to 4kHz for this, as material in this area will be slightly overshadowed by the higher output levels present both above and below this.

As an example, Rebecca Pidgeon's delightful rendition of 'Spanish Harlem' from her album 'The Raven' came across beautifully with a superb sense of space and depth, but Rebecca herself did not seem to be quite as close to the microphone as normal. This was not a glaring problem, and in a strange way seemed to increase the sense of scale offered by the track when combined with that capacious soundstage. Ultimately the Charios offered a slightly different presentation, but one that was nonetheless competent and enjoyable.

Assisting with the lively and dynamic presentation offered by the 100Ts was the bass. Surprisingly deep given the diminutive cabinet, it was also dynamic and fast with excellent 'punch' and pace. Tracks that made good use of bass guitars or double basses showed that the level of low frequency detail retrieval is not as high as other loudspeakers, but the Charios never sounded muddy or indistinct.

Spinning the track 'Take California' from Propellorheads showed that the Charios really sing when fed some pacy music and like nothing better than to kick out a pounding dance track. However, I was pleased to find that they are equally happy

with slow and melodic material. Pachelbel's 'Canon' was reproduced with pleasing fluidity and emotion, and the raised treble of the 100Ts added real atmosphere to stringed instruments such as violins without making them sound screechy or unpleasant.

CONCLUSION

As mentioned previously, Chario are a new face on these shores, but on the evidence provided by these loudspeakers I feel that they are highly likely to be a name from which we will be hearing more.

The Silhouette 100Ts are dynamic, fast and exciting loudspeakers that really do blow the cobwebs away and present music in a new light. I tried them on the end of several different amplifiers and was amused to find that they can even turn the little 25 Watt EL84 Jolida JD102 amplifier reviewed elsewhere in this issue into quite a party animal, albeit still one with a somewhat limited volume level!

They offer a bright and lively presentation with bags of detail and presence although it must be remembered that for some people this could well be a sticking point. In a less than couth system, their overall exuberance could be too much. To avoid hammering your ears, an audition is essential and partnering them with bright transistor amplifiers is probably a bad idea!

However, if your system needs an octane injection then it's a racing certainty that the Silhouette 100Ts will do the job. They make some other loudspeakers sound lifeless by comparison.

"exciting, dynamic speakers that really blow the cobwebs away..."



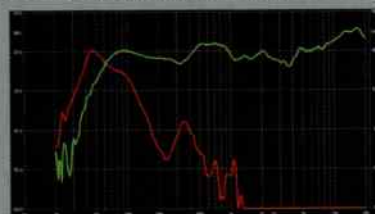
MEASURED PERFORMANCE

The response of the Charios is, frankly, a little uneven, but fortunately the peaks and dips are in the 'right' places! The rise in midrange output level from 500-900Hz will add definition to vocals and the rise in treble above 8kHz will pay dividends in high frequency detail and definition. As a result of these aspects, the Silhouette 100Ts are likely to sound quite bright.

Bass output is healthy for such a compact enclosure, with main driver output gently rising before rolling off at 80Hz, subsequently assisted by the port coming in at 45Hz. This should add good low end punch to the sound and make for a dynamic performance.

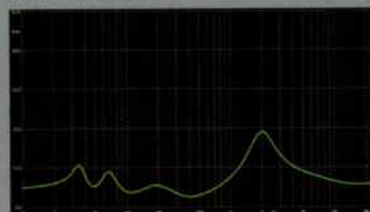
An 88dB measured sensitivity means the Charios will go loud with as little as 30 watts, but measured average sensitivity of 5.3 Ohms and a minimum value of 3.8 Ohms mean that an amplifier properly compatible with a 4 Ohm load will be needed. AS

FREQUENCY RESPONSE



Green - driver output
Red - port output

IMPEDANCE



VERDICT

Bright and dynamic loudspeakers that really do make music exciting and fun

CHARIO
SILHOUETTE 100T £600
Audio Classics
☎ +44 (0)1942 790600
www.audioclassics.co.uk

FOR
- dynamics and pace
- treble detail
- value

AGAINST
- require careful matching

Oh, Vienna



Adam Smith finds out if Vienna Acoustics' new loudspeakers have a Bach worse than their bite...

Continuing our whistle-stop tour of European loudspeaker manufacturers by moving north from Italy, we stop off in Austria courtesy of Vienna Acoustics. Fortunately there is plenty of time to enjoy the aural experience offered by the new Bach Grands.

Vienna Acoustics like to name their loudspeakers after composers, and the Bach Grands are the baby floorstanders of the range, despite the image of a huge behemoth that their name conjures up! Standing 88cm (34.6 in) high, they're a compact two way design that incorporate a seven inch (175mm) bass driver with an eye-catching transparent cone, and a one inch (25mm) soft dome tweeter. Bass loading is rather unusual as the Bach Grands are ported at both the front and rear, utilising a system that Vienna Acoustics refer to as Twin Balanced Reflex (TBR).

The rear port is quite conventional but the front item fires around the sides of the tweeter. Vienna Acoustics have engineered this item very well and made use of a carefully designed central 'wedge' behind the tweeter that divides the airflow from the port into two. Any inaccuracies in the design or assembly of this item will result in turbulence within the port opening and associated port noise, but the Bach Grands do not exhibit this at all. Measurement also shows that the front and rear port outputs measure identically, again proving that it has been well implemented. Vienna Acoustics claim that this design imparts symmetrical loading on the bass driver at the frequency



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where the driver and port interact. As a result, bass performance should be good.

Connection to the Bach Grands is via a single pair of binding posts which are solid, large and spaced sufficiently apart from each other to allow bare wire connections to be well tightened without breaking a nail.

The Bach Grands come in a choice of four finishes, namely Black, Maple Cherry and Rosewood. Our review samples were in Cherry and were impeccably finished and screwed together. It certainly appears that your £1,250 buys you a very well designed and built product, but most importantly, how do they sound?

SOUND QUALITY

Connected up to the Vincent SA-TI/SP-T100 amplifier combo also reviewed in this issue, the Bach Grands gave an excellent account of themselves. That unusual balanced port system proved its worth as bass was well extended and agile but with excellent detail. Bass lines had a pleasing solidity to them and the Viennas have a more than capable rhythmic ability. Even moving to an amplifier that is less of a bass powerhouse than the Vincents, the Bach Grands remained punchy and tight.

Diana Krall makes extensive use of the double bass in her music as more than just a backing instrument and the Viennas really made the most of this by reproducing it very well. Fingers could be heard sliding up and down the fretboard and the leading edge of the strings came across very well as they were plucked. Shifting up to faster paced music, the Bach grands were more than happy to boogie and still remained fast and clean, although I did detect a slight hint of 'thump' at the very lowest frequencies with some dance music. If raving is not your thing however, you are unlikely to ever experience this!

Female vocalists like the aforementioned Diana Krall, gave performances full of emotion and yet the rather huskier tones of Jeff Buckley on his track 'So Real' were equally well presented. Midrange from the transparent plastic-coned bass/mid driver was very clean and detailed. There was an excellent amount of detail retrieval but there was something of a sense of distance about the Bach Grand's performance in this area.

As can be seen from the frequency response graph [see MEASURED PERFORMANCE] there is an overall slight fall in output level as frequency increases, before

a peak appears in the treble, and this appears to be pushing some aspects of the midrange into the background a little. The Viennas have a very stable and deep soundstage and there was never any sense of the midrange being overcome, but the Bach Grands do not sound especially large and they can be a little 'shy' in some ways, as if they were afraid to really let rip with vocals - just occasionally I wished they would let their hair down and shout a bit! The upside of this is, of course that they remain composed and pleasant to listen to, no matter how consorcially-challenged the singer is.

Treble was another area in which the Bach Grands were extremely accomplished. Output from the soft dome tweeter was smooth and meticulous, with every little detail being well captured. This added a lovely sense of space and atmosphere to recordings and added to the overall sweet nature of the 'speaker. Never veering into harshness, the Viennas again remained composed no matter what material they were receiving, without masking any poor recording or mastering.

CONCLUSION

The Vienna Acoustics Bach Grands are a well designed and thoroughly enjoyable loudspeaker. Whilst not pulling off the trick that some loudspeakers manage, of sounding much larger than they look, they have a deep and detailed soundstage and their overall balance is sweet, clean and accurate.

I found them to be quite happy with a wide variety of music material, from classical to dance and their overall character is essentially sweet and neutral. Attempts to maximise bass output from an average-sized enclosure can often end in tears, but the Twin Balanced Reflex system utilised on the Bach Grands works very nicely, and augments their low frequency performance very well. I enjoyed my time auditioning the Viennas and when one takes into consideration their sound, build quality and finish, they definitely make an excellent case for themselves at the price.



VERDICT ●●●●£

Sweet, detailed sound plus superb build make these excellent value loudspeakers.

VIENNA ACOUSTICS BACH GRAND £1,250
 Distributed by REL Acoustics
 ☎ +44 (0)1656 768777
 www.viennaacoustics.com

- FOR**
- sweet, neutral character
 - good bass weight and detail
 - superb fit and finish

- AGAINST**
- restrained midrange

MEASURED PERFORMANCE

The frequency response of the Bach Grands has a general downward trend with increasing frequency, which should give their overall sound quite a weighty character. The treble peak at 13kHz combined with the steady rolloff afterwards will add high frequency detail but ensure minimal harshness.

At the low end, the bass output rolls off at around 60Hz and is reinforced by the dual ports which operate at 45Hz. One port is at the front of the loudspeaker, located behind and firing around the tweeter, and the other is at the rear, which allows for fine bass tuning through judicious positioning.

Sensitivity is high at a measured 88dB and minimum impedance is 3.8 Ohms so partnering amplifiers do not need to be overly powerful but need to be able to drive a genuine 4 Ohm load. Average measured impedance was higher at 6.3 Ohms thanks to the large reactive peak in impedance response at 2kHz. This may not get the best

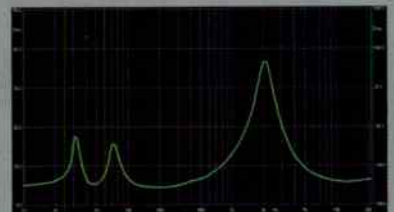
out of some amplifiers, and so careful auditioning will be wise. AS

FREQUENCY RESPONSE



Green - driver output
 Red - port output

IMPEDANCE

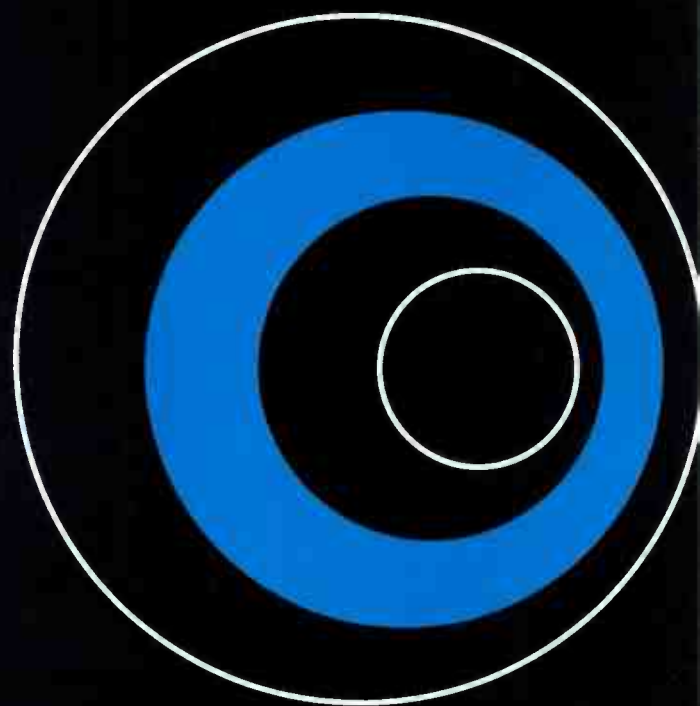




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Silver Dream Machines

Adam Smith has a blast with the new AAD Silver 5 floorstanding loudspeakers...

reinforced by several braces to maintain rigidity, and the cabinets respond to the good old knock test with a pleasing 'thud', suggesting well damped cabinets.

Driver lineup is a pair of five inch (125mm) bass/mid units, allied to a one inch (25mm) tweeter of unusual design. AAD call it a 'Spiral Ribbon Horn' and it differs from a conventional tweeter in that the voice coil is a spiral of pure aluminium directly bonded to a lightweight Kapton substrate, giving incredibly low mass but good heat dispersal and mechanical deformation properties, it is claimed. This also removes the need for a separate dome and thus, also the breakup problems associated with such an item.

The unit itself is located at the mouth of a specially designed horn, which improves off axis response and assists with achieving good transient response.

The Silver 5s come with a substantial plinth that is bolted to the bottom of the main cabinet, and this permits the angle of the loudspeaker to be adjusted before it is finally tightened up. Into this fit four beautifully machined spikes that can be easily adjusted for levelling. Input terminal count is four, which allow for bi-amping or bi-wiring.

SOUND QUALITY

The AADs are a tall loudspeaker and have a correspondingly capacious sound to go with it. Their soundstage is wide and deep and really gives superb sense of atmosphere to recordings. This is aided in no small part by the bass, which is deep, powerful and totally belies the two

One of the names that will undoubtedly spring to mind when considering highly capable loudspeaker designers is that of Phil Jones. Responsible

for the original Acoustic Energy AE1s back in the 1980s, Phil then decamped to the US and, after working on various projects with a variety of companies, founded American Acoustic Developments (AAD) in 1990. As might be expected, AAD design and manufacture all their drive units and cabinets in-house in their

Missouri factory. We have already covered their model C550 back in our September 2006 issue, and the Silver 5s sit a little higher up the range hierarchy.

Your £1,500 buys you immaculately finished and weighty loudspeakers which tip the scales at 24kg (53lbs) each, and are available in two finishes - the high gloss cherry and piano black of the review samples, or high gloss maple plus metallic silver. Finish is impeccable, although very attractive to fingerprints. Internally, the cabinets are

Signature Audio Systems

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brands



“The F1 Bookshelf is exceptional value... and provides amazing bass reproduction for such a small speaker.” Phil Gold. enjoythemusic.com

Hi-Fi World
VERDICT ●●●●

Indulge your senses

Occasionally, a loudspeaker is created which distinguishes itself from the rest. The new F1 monitor from Ars Aures does exactly that – due to its sublime sound and stylish Italian design.

Developed over two years by Ars Aures' Head of Acoustics, Maurizio Salvo, the F1 monitor is a reference speaker. Never before has a monitor loudspeaker of this size produced such soundstage and imaging, the base response is comparable with a floorstanding loudspeaker.

The F1 monitor:

- Uses bespoke drive units.
- tweeter is capable of a lower crossover frequency allowing the application of 6db/octave phase coherent slope.
- crossover network features premium audio capacitors and super litz inductors.
- is created from 25mm MDF to reduce cabinet resonance, with a front baffle of 30mm.

These are handmade by Italian craftsmen and luxuriously finished in one of 14 standard colours. Or why not specify the colour of your choice?* At £1,999 (including matching stand and VAT) this represents incredible value for money.

If you would like to realise the true potential of your existing audio components we highly recommend the new F1 monitor from Ars Aures. For more information contact Signature Audio Systems.

*Additional fee for non standard colours

Ars Aures Loudspeakers

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Mapleshade Audio

Silver Audio Cables

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relatively small drive units from which it emanates.

Playing some more complex material reveals that this capacious bass is pleasingly agile and will keep up with more sophisticated bass lines without breaking into a sweat. Jah Wobble's 'The Sun Does Rise' has a typically Wobble-esque complicated and driving bass line; the Silver 5s lapped this up and pounded it out with gusto. However, there was a sense that this enthusiasm right at the very bottom end was somewhat swamping upper bass detail.

The finely played bass guitar from Simply Red's 'Sad Old Red' revealed that this was indeed the case. The overall bass line was powerful, but the finer details of the strings being plucked and the sliding of bassist Tony Bowers' hand up and down the fretboard tended to be rather overshadowed. Whilst never becoming boomy or uncontrolled, the well extended bottom end did occasionally tend to dominate finer upper bass detail.

This same track, however, also highlighted the real strengths of the AADs, namely their midrange and treble. The unique tweeter design used on the Silver 5s really does work as treble is superb. Detail retrieval is impeccable and yet at the same time, the tweeter never draws undue attention to itself. All too often, loudspeakers achieve good levels of detail by artificially boosting the whole of the treble output which has the side effect of making the sound quite forward or bright. The Silver 5s show the benefits of excellent tweeter design as the rise in output over the 5-8kHz region clearly adds detail but without hardening or brightening the sound unnecessarily.

Matched well to the treble is the midrange from the two bass/mid drivers. Vocals were very well projected, giving singers great body and definition and firmly locating them centre-stage. The vocals from 'Pretty Good Year' by Tiri Amos were fantastically stable and precise, as was her piano. My wife plays the piano and has long been of the opinion that quite a few of the systems I drag her along to listen to do not reproduce this deceptively complex instrument too well. I feel sure, however, that she would approve of the Silver 5s!

Moving to orchestral works, Holst's Planets Suite proved that the Silver 5s are more than capable of laying an orchestra out in front of you

with depth and realism. They rose superbly to the challenge of rollicking out the full jollity of 'Jupiter' whilst becoming quiet and composed for the mystical delights of 'Neptune' with equal impunity. In fact, the AADs were quite happy to play a wide variety of music and remained essentially neutral and competent throughout.

CONCLUSION

As might well be expected, the AAD Silver 5s have the sort of performance you would expect from a thoughtfully designed loudspeaker made by a company with a well-known designer at the helm.

The Silver 5s have a large, detailed and composed sound that makes the best of a great deal of music. It seems a strange comment to make but very little stands out about them particularly, but I mean this in a good way because they have an essentially neutral character. When listening you gain the impression that you are hearing everything you are supposed to hear, without anything being artificially boosted.

The only exception to this is with the lower bass which, while well extended, can tend to be a little too prominent and slightly loose, drowning out upper bass detail to an extent. This can be controlled through judicious positioning and choice of partnering equipment, but means that an audition is, as always, mandatory.



MEASURED PERFORMANCE

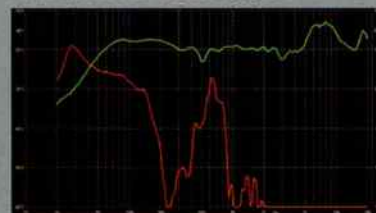
Frequency response of the AADs is generally flat up to 5kHz, when there is a 6dB rise in level up to 8kHz, which then tails off again before peaking once more at around 19kHz. This means that the Silver 5s will have plenty of upper mid and lower treble detail and presence. Only listening will reveal whether it becomes too forward with some material.

Bass output is very good from the two bass drivers, starting rolloff at 70Hz, before handing over to the twin rear-facing ports which work at a low 30Hz. The Silver 5s should therefore have good bass despite their slim profile and small drivers.

The impedance curve is less flat than some but has nothing unpleasant waiting to attack your amplifier. Sensitivity is good at 87dB and average impedance measures 7.3 Ohms dipping to a minimum of 4 Ohms exactly. Once again, a 4 Ohm compatible amplifier

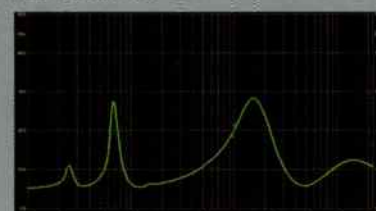
is required, but 30-40 watts should be sufficient for good sound levels. AS

FREQUENCY RESPONSE



Green - driver output
Red - port output

IMPEDANCE



VERDICT

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- FOR**
- svelte, detailed treble
 - fine soundstage
 - dynamic nature

- AGAINST**
- low bass dominant at times

Bella Figura

Ars Aures F1 Monitor loudspeakers are beautifully formed alright, but lovely looks don't make superb sound a certainty. With this in mind, David Price takes a test drive...

No one else but the Italians could invent the concept of 'la bella figura'. More than just a phrase bandied around trendy Tuscan towns, it is ingrained into their very society. It is the idea that one should cut a beautiful figure in everything one does, and it means taking pride in your appearance...

Well, like the Mi we reviewed in November 2006, the F1 monitor is indeed beautifully built - the sparkle silver finish on these speakers is better than anything I've ever seen on a Ferrari. It's a fairly conventional standmounter, although the front baffle is 30cm long, with 25mm rear to break up internal standing waves. It's ported at the rear and there are gold plated, monowire connectors. It feels very solid at 10kg for its modest 400x220x300mm dimensions, although being the £1,999 'entry level' speaker, the F1s are made from MDF. Driver complement is one 1in tweeter and 6.5in paper coned mid/bass, with a 6dB/octave crossover with Litz coils, and Kimber Select wiring is used internally.

SOUND QUALITY

Perhaps it's no surprise that - what with these being Italian - the Ars Aures F1 Monitors are charismatic to say the least. In several respects I found them extremely

able, exceptionally so, but in others less accomplished. Still, their particular blend of talents (and failings) is never less than entertaining - which will sound eerily familiar to anyone who's ever owned a classic Italian car...

First and foremost, the F1s are musical. Despite a relatively sedate tonality (they're smooth and finessed, and certainly won't bite your head off), they are almost hypnotically rhythmic, and managed to throw out subtle rhythmic motifs that other far more expensive designs, such as my reference Quad ESL989s, couldn't. 808 State's 'Ancodia' was a perfect example. From this murky dirge of a recording emerged a very accurate,

"the sparkle silver finish is better than anything I've seen on a Ferrari..."

neutral rendition of the song that sounded far busier than it normally does. With the Quads, I could hear every track of the mix, but the Ars Aures managed all this, and spotlighted the way all the different percussive elements worked together.

Rush's 'Distant Early Warning' was the same - another relatively dense recording, but these speakers cut through the mix with ease, shone light on what the drummer was doing, and showed how those synthesiser stabs weren't





there just for effect – they had real percussive impact too. The midband proved extremely lithe, and the treble was bright but silky and spacious. As their name suggests, they can really stop and start like a race car – Corduroy's 'High Havoc' was a frenetic delight. Tremendously bouncy and impactful, the F1s were able to go loud with consummate ease, stop on a sixpence and deliver large amounts of oomph when needed. I loved these speakers' tremendous rhythmic alacrity.

I also adored their unerring timbral accuracy. They have an almost glass-clear midband that's superb at signposting the tonal colours of different instruments in the mix. With no sense of textural 'sameness', every instrument, voice and recording studio sounds unique, and not a genetically modified facsimile. Indeed the F1s proved truly distinguished in this respect, exceptionally so. People often talk loosely about 'electrostatic levels of clarity', but in this case it is no exaggeration – they made my reference Quads sound ever so slightly papery by comparison.

For my liking though, the ARS Aures F1s are a tad too directional. In my listening room there was a definite sweet spot, and little room to roam before you went off-axis. Furthermore, these speakers aren't naturals when it comes to imaging. Everything was hung relatively closely to the plane of the speakers, with only middling stage depth. Left to right projection was good – they certainly give a wide, room-filling sound (and my room is larger than many), it's just that within this, they were less than great at locating instruments precisely.

Finally, my DG vinyl pressing of Beethoven's 6th Symphony showed up a small lift in the mid-bass region, a slight bump which frankly shouldn't be there at this price. Switch back to the Quads, which are flatter far lower down than the Ars Aures F1s, and suddenly this is all the more obvious. Now to be

fair, I have to say that lumpy low frequencies are a feature of almost every reflex ported speaker I've ever heard, but at this price point it should be slightly less conspicuous. Still, don't let this put you off though, as it doesn't trip them up rhythmically, and gives the perception of a more fulsome sound. As I've said many times, the day they make a perfect box loudspeaker isn't exactly just around the corner.

CONCLUSION

These loudspeakers are quite special to listen to then, thanks to two great strengths – their lovely tonal accuracy lets the flavour flood out of every instrument and voice they reproduce, and they have truly excellent musicality. Whatever they play, they seem to invest it with more 'vim', passion and *joie de vivre* – and this isn't thanks to any artificial edge or harshness, as the ARS Aures F1 Monitors are anything but uncouth. I for one would be more than happy to live with them, even after having been spoiled to death with other far more expensive loudspeakers. Oh, and as we say in English, they're real lookers too.

MUSIC:

Rush, 'Grace Under Pressure' (WEA)
Corduroy 'High Havoc' (Acid Jazz)
808 State, '90' (ZTT)
Beethoven, 6th Symphony, Dresdner Philharmonic, Herbert Kegel (DG)

REFERENCE SYSTEM

Michell GyroDec/TecnoArm/vdH The Frog turntable
Whest Audio PS20/MSU20 phonostage
Marantz CD63 KI DP CD player
MF Audio Passive Magnetic Preamplifier (silver)
World Audio Design K5881 power amp (modified)
Quad 989 loudspeakers
Black Rhodium interconnects/cables

VERDICT

Wonderfully musical and beautifully couth standmounters that should make many friends.

ARS AURES F1

MONITOR £1,999
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FOR

- tonal accuracy
- musicality
- superlative finish

AGAINST

- lumpy bass
- mediocre imaging

MEASURED PERFORMANCE

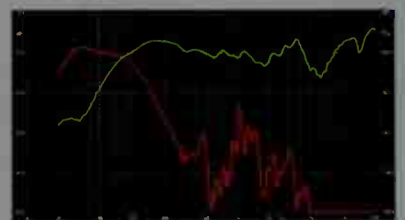
The Ars Aures F1s have a quite noticeable 6dB dip in their response at around 6kHz which changes in frequency as the measuring microphone is moved in the vertical plane. This does tend to suggest a phase issue between the two drive units. Best results are obtained with the microphone directly on the woofer axis and the matching stands do tilt the loudspeaker backwards which will bring the sound axis of the woofer upwards. Other than this there is a small dip in the midrange at 2kHz which will mean that the F1s will not sound harsh. Treble output rises steadily above 3kHz which will add sparkle and detail.

Bass rolls off steadily below 100Hz to be augmented by the port which is tuned to 35Hz. This is a rear-mounted item and so permits bass fine tuning through the position of the speakers and their proximity to walls.

Measured sensitivity is around 86dB and average impedance is a high 11.7 Ohms, thanks to the large reactive peak in the response at 2kHz. This seems to be a feature of Ars Aures loudspeakers as the M1s tested in our

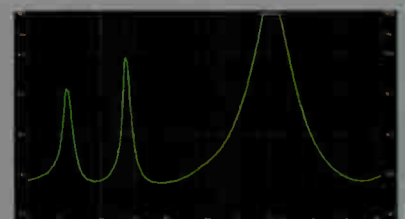
November 2006 issue had the same feature. Minimum impedance is 6.9 Ohms so the F1s will work on an 8 Ohm valve amplifier output. AS

FREQUENCY RESPONSE



Green - driver output
Red - port output

IMPEDANCE



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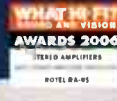
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Majik Touch

After considerable global success with AV and custom-install applications, Linn has cast its corporate gaze back to two channel audio, and the new Majik System is the result. Channa Vithana listens in...

It may not have escaped your notice that Linn products have changed a lot since the company's inception thirty three years ago. They've moved from wilfully oddball, 'hair shirt' devices promising performance to the exclusion of almost everything else, to deliciously styled, highly sophisticated and often intelligent designs that also promise performance.

Although the weirdness of nineteen seventies and eighties Linn designs might conjure up dewy-eyed nostalgia in some of the more hardened audiophiles reading this, there's no doubt in my mind that the new products are vastly better. The only downside is the perception that Linn has recently taken its eye off the two-channel stereo ball, so to speak, by focusing on its burgeoning range of multichannel products. Well, this new Majik system attempts to put paid to all that, but is it good enough to deliver?

The Majik System comprises the £1,750 Majik Kontrol preamplifier, £1,400 Majik 2100 two-channel power amplifier and £1,950 Majik CD player. The Majik Kontrol is a fully featured device with six line inputs as standard and a dealer-configurable seventh input that can be either an MM or MC phono stage, or another line input. It also has Linn multiroom capability and a 3.5mm headphone socket at the front. The display is

co.uk for more on this) It has a claimed power output of 56W/8 Ohms and 100W/4 Ohms, and weighs just 5kg.

The 4.9kg Majik CD features two analogue and coaxial/ optical digital outputs but omits the balanced analogue/ digital outputs of the Ikemi. The excellent HDCD filter and capability for suitably encoded CDs is included. The Majik System casework is available in silver or black/silver with matching 381x351x80mm dimensions and features Linn's now flawless build quality, excellent ergonomics, and functionality. All Majik models feature Linn's proprietary switch mode power supply, claimed to "run much more efficiently and quietly than other power supplies".

SOUND QUALITY

There's no point pretending that the sort of audiophile who runs a vintage Quad II-based set-up is going to love this system. Linn electronics have a 'Linn sound', which has been carefully evolved over many years to 'press certain buttons' in the listener. It is invariably lithe, spry and dynamic, as opposed to fat, warm and rich in nature. As such, it is best evaluated in terms of how it works in relation to previous Linn systems, and/or competition from similarly muscular sounding solid-state rivals. For these purposes, I used an extremely expensive Linn separates system as

by Jacqueline du Pré from the 'Elgar Cello Concerto/Sea Pictures', and it was a delight to follow the wonderful phrasing of du Pré from the dynamic crescendos to the gentlest, near-silent whispers. This revealing timbral and phrasing quality was equally evident with the temperate 'Sea Pictures' section sung by Janet Baker. Here the Majik System expressed the vocals with deft articulation. On this melancholic and moving piece, there was excellent timbre and expression to the playing, and I could follow the harmony and melody parts with ease. Instrumental separation was good and therefore revealing in terms of clarity.

Pantera's 'Cowboys From Hell' came across with a super tight rhythm section, bass and drums brutally driving the groove-led feel of the song. The simplistic but effective lead guitar was similarly enjoyable, with good body to its phrasing and expression. Vocals and instruments together were also cohesive, and the power of the rhythm section meshed with precision to the howling singing of Phil Anselmo.

On the more sophisticated, yet still powerfully rhythmic 'Becoming' from 1994, the Majik System did not disappoint in its ability to reveal the timbral qualities of the instruments, without turning them into harsh or clinical musical artefacts. The Majik system was also able to embody Pantera's hard-hitting music with thrilling stop-start dynamics - there was no overhang in the bass. Rather, it was powerful and solid, while percussion and guitars had more space around them.

The enjoyable and complex beat programming to the opening of 'I Got You Under My Skin' by Neneh Cherry from the 1990 Cole Porter AIDS charity compilation, 'Red, Hot & Blue' was impressively conveyed. Neneh Cherry's voice was beautifully portrayed, and the throbbing bass lines tight and powerful. Indeed, the bass was always musically dextrous, never once lapsing into the 'one note' sound I've heard on lesser systems. The Linn system was able to

"if you like powerful, musically engaging solid-state sound, then you'll love this..."

clear and legible, while the remote control can operate the Majik CD player and other Linn equipment as well. The Majik Kontrol weighs 4.9kg.

The Majik 2100 power amplifier uses Linn's proprietary Chakra topology, which they claim, "offers significantly increased power, reliability and efficiency, whilst at the same time producing less heat, less distortion and using fewer components" (click on www.linn.co.uk

a reference, and had similarly priced fare from Naim close at hand too.

First impressions were extremely positive. For me, the most dramatic aspect of this system is the way the listener can follow where the song is going. The Majik combo gives a real sense of the 'raison d'être' of the music. Suddenly, instead of ambling along, songs acquire a vivid sense of direction.

Starting with the cello playing



reproduce the graceful jazz-vibe of Aaron Neville's vocals with a fluidity that isn't normally revealed on this version, perfectly in time with the music to make the sound effortless. Overall, the system shone with classic, rock and jazz alike.

CONCLUSION

Not everyone's cup of tea, but if you want a supreme combination of styling, ergonomics, (inter)connectivity and sound then this is extremely hard to beat. The immaculate build and wonderful aesthetics go without saying, so everything hangs around its the sound. It won't win any converts over from the thermionic camp, but if you like powerful, punchy and musically engaging solid-stage sound then you'll love this new Linn system.

For an idea of just how good it is, the Majiks compared surprisingly favourably to an ultra high end Linn system I tried, in many ways. It has a musical ability that is comfortably comparable - and in the case of the Majik Kontrol preamplifier, in my opinion, preferable - to their high-end Klimax amplifiers and discontinued CD12 models [see overleaf]. That the Majik System did so within the context of a very revealing, high-end £70,000+ system speaks volumes for its abilities, and vinyl fans should note that the Majik Kontrol also has an excellent configurable MM or MC phono stage which compared very well to the (£995) Linn Linto.

The only cloud on its horizon is the stiff two-channel competition, principally from Naim. The (£1,950) Majik CD sits in-between the (£1,450) Naim CD5X and (£2,900) CDX2, while the (£1,750) Majik Kontrol and (£1,400) 56W/ 8 Ohm Majik 2100 compete against the (£1,500) NAC202 preamplifier and (£1,475) 70W/ 8 Ohm NAP200 power amplifier respectively. Only an audition will reveal which of the two approaches you prefer. Overall though, I can heartily recommend

Linn's new Majik System for its build, design, functionality, ergonomics and most importantly for that superbly musical two-channel sound. Just like that!

REFERENCE SYSTEM

Linn LP12 Lingo/Ekos/Akiva/Linto (£6,945 approximate)
 Linn CD12 (£12,000 when new)
 Linn Komri loudspeakers (£25,000)
 Linn Komponent 110/120 loudspeakers (£1,950)
 Linn Klimax Kontrol Preamplifier (£6,000)
 Linn Klimax 500 Chakra Solo x2 power amplifiers (£12,000)
 Linn Klimax 500 Chakra Twin x2 power amplifiers (£9,000)

RUNNING IN THE FAMILY

An excellent overall performance then, but how does the Majik System rank in the great Linn scheme of things? Having access to the (£1,450) Linn Komponent 110/120 loudspeakers (see HFW, July 2006, p54), I was able to directly compare the Majik CD and Majik Kontrol preamplifier with their high end Linn counterparts to really test out my positive initial hunches.

I started by comparing the phono stage built in to the Majik Kontrol preamplifier with Linn's (£995) standalone Linto. On Ice Satirani's title track to 'Flying In A Blue Dream', the throbbing bass lines and generous spatiality compared very well to the standalone Linto. Indeed I had to do a double take at first: the Linto had more finessed timbre and bass lines, but otherwise the built-in Majik Kontrol phono stage performed surprisingly well in terms of timing and verve.

Comparing the range-topping (£5,000) Linn Klimax Kontrol preamplifier with the (£1,750) Majik Kontrol was very interesting. Listening to 'Flying In A Blue Dream' through the Majik Kontrol, the sound had slightly more background noise and was therefore a little less clean. However, though comparatively noisier, the Majik Kontrol had better spatiality and a more free-flowing feel to the music. I was rather surprised at this, and so in the demanding context of a revealing all-Linn system costing over £70,000 I actually preferred the lower-cost Majik Kontrol to the universally acclaimed Klimax Kontrol!

With the (£1,950) Majik CD, from cold with minimal warm-up, in place of the (£12,000) Linn CD12, there was again a positive comparison between two vastly price-differentiated models. With 'Colice' by A-ha driving the high-end (£27,000) Klimax amplifiers and (£25,000) Komri loudspeakers with their propulsive melodic pop-rock style, the Majik CD was more brightly lit than the CD12 but, in terms of timing, it was equal. There was a strong musical feel with the Majik CD overall, and while the CD12 was more tightly textured, for instance, Morten Harket's vocals were slightly less noisy - the Majik CD nevertheless maintained the structure of the music and was thus excellent.



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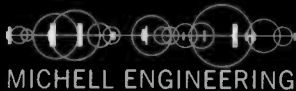
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TECH TALK

Channa Vithana talks to Linn Engineer Ian Wilson...

CV: How is the Majik CD superior to the Ikemi in terms of mechanical and electrical engineering?

IW: A complete redesign of the enclosure has resulted in much improved fit and finish. Thicker metalwork gives a more solid feel and prevents resonance. The product comprises a power supply, front panel display, the disc mechanism and a main Control-Audio board. It is powered from a Linn proprietary switched mode power supply, which also provides a universal power source which has a high tolerance to power-borne disturbances.

The main Control-Audio board is a multi-layer PCB with separate ground, power and signal planes. The PCB layout of the board is carefully designed for signal integrity and audio performance with particular attention focused on the digital to analogue converter and audio output stages. The digital data from the disc is formatted, routed through a signal processing module to the DAC device and output via a precision analogue filter stage. The digital signal

processing is implemented using an FPGA device with a proprietary, single-stage interpolation filter implemented to allow the DAC device to operate in its optimal upsampling mode.

The DAC itself is a high quality 24bit device using multi-bit sigma-delta technology, with noise reduction and error correction techniques used to maximise the device performance. As the DAC master clock has a large impact on the audio quality, a low jitter crystal oscillator is used to provide a stable precision audio clock. This master clock is also used to slave the upstream digital audio processing to maintain signal integrity through the audio path.

The Majik CD uses a much more up to date loader utilising latest optics to optimise disc reading capabilities. The DAC device is a Wolfson, WM8740 24bit Sigma-Delta DAC. Digital filtering is a Linn proprietary interpolation filter implemented on an FPGA platform. The analogue output filters are implemented using high quality, precision components chosen to provide the optimum audio performance.

CV: Does the Majik Kontrol preamplifier share any design with other Linn products?

IW: Firstly, the built-in phonostage is quite different from the Linto. The Linto is a discrete stage, the Majik Kontrol uses very low noise audio op-amps for the front end gain stage. The design is actually quite simple; there is a low noise gain stage, followed by the RIAA equalisation stage and then finally some active filtering to remove the effects of rumble.

As for the line stages, the architecture and design philosophy of the Klimax Kontrol was adopted for the Majik Kontrol. In common with many Linn Products, we develop the 'dream' products first and then work out how to use the hard-learned lessons and technologies and techniques in making the best product throughout our product range. If you were to draw the family tree of the Majik Kontrol, it has a lineage that can be traced first from the Klimax Kontrol to Kisto to Kinos then Exotik and then finally Majik Kontrol. We would consider developing other products in the future that would complement the Majik system. A tuner is one such possibility.

MEASURED PERFORMANCE

The Majik power amplifier delivers 50W into 8 Ohms and 95W into 4 Ohms. It has good regulation and a high damping factor of 60, suggesting tight, dry bass, but good power delivery. Distortion figures were low too, although at high frequencies performance deteriorated somewhat, with levels of around 0.05%, and the crosstalk component was seriously distorted - not encouraging as this indicates poor decoupling on the power supply rails and is easily avoidable.

Frequency response was bandwidth limited to 22.5kHz, so this power amp is not ideal for wideband signals such as DVD-A or SACD.

The Majik Kontrol preamp is a wideband design, with low distortion and plenty of gain at x10 max., giving an input sensitivity of just 80mV in conjunction with the Majik power amplifier. The disc stage is accurately equalised and has a warp filter built in. Input noise was low at 0.44uV, IEC A weighted.

This combo measures well, although power amplifier crosstalk behaviour needs improvement.

CD player frequency response has a slight roll off at high frequencies, but extends to 21.2kHz, so the Majik CD should sound tonally balanced, with neither

warmth nor sharpness.

Distortion levels were low throughout the entire dynamic range, measuring 0.0006% at 0dB through to 0.25% at -60dB. This latter result contributed substantially to a good EIAJ dynamic range figure of 111dB - just 1dB off the best possible. Noise was low and output normal at 2V.

The Majik CD measured well and is without flaw. It will provide a clean, well balanced sound free of unpleasant surprises. NK

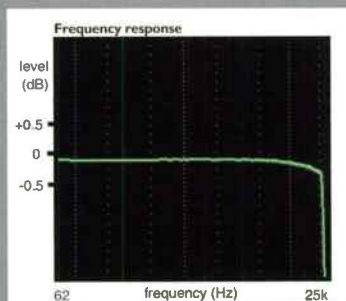
POWER AMP	
Power	50watts
Frequency response	2.5Hz-22.5kHz
Noise	-110dB
Distortion	0.02%
Sensitivity	0.8V

PREAMP	
Frequency response	4Hz-114kHz
Separation	88dB
Noise	-94dB
Distortion	0.001%
Gain	x10
Overload	0.54V in / 5.4V out

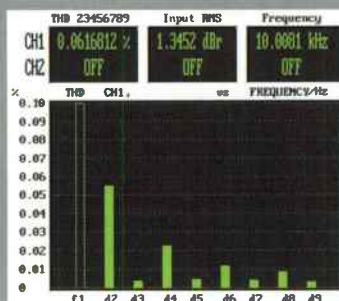
CD PLAYER	
Frequency response (-1dB)	2Hz - 21.2kHz
Distortion 0dB	0.0006%
-6dB	0.0005%

-60dB	0.25%
-80dB	3.1%
Separation (1kHz)	-115dB
Noise (IEC A)	-106dB
Dynamic range	111dB
Output	2.016V

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VERDICT Exquisite combination of design, build and functionality, allied to an extremely convincing musical sound. Two channel without tears.

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FOR
 - sleek design
 - excellent build quality
 - outstanding preamplifier

AGAINST
 - competition from Naim...

Born In The

David Allcock auditions the brand new 'entry level' turntable from American analogue specialist Basis Audio, the 2100 Signature...

Back when the hi-fi world was dominated by one product, namely Linn's Sondek LPI2, one Mr AJ Conti decided he wanted a turntable for his then growing high end audio store. This was just a part time pursuit, as his day job involved him developing components for the aerospace industry (where an error or component failure isn't merely inconvenient, it can be fatal). Eventually, he decided that, the standards currently applied in the turntable industry just weren't good enough for his purposes, so the story goes, and duly decided to design a turntable on a completely clean sheet, using the very finest materials, engineering and manufacturing facilities available to him...

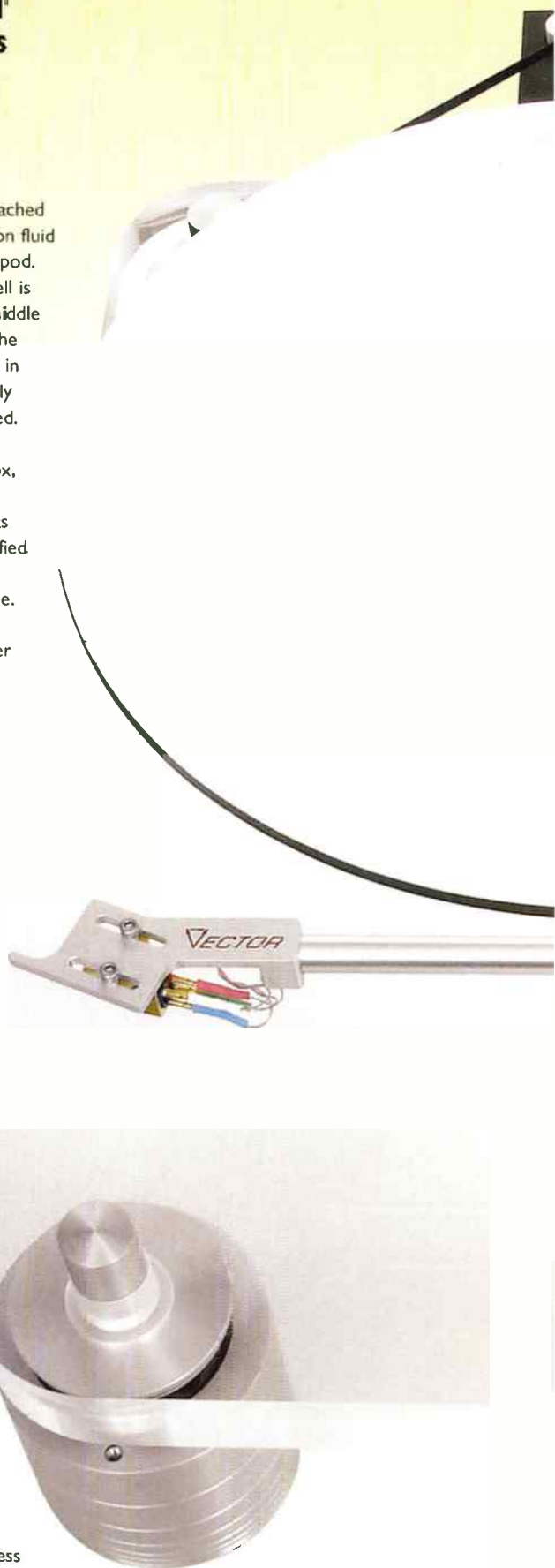
The result was the Basis Gold Debut Standard. It was a redoubtable design - a heavyweight belt drive suspended subchassis turntable using a unique fluid damped suspension system, a power supply manufactured by Krell no less, a 9kg platter and an interchangeable armboard which precisely locates on three pins allowing a number of armboards to be setup with arms and be dropped in, precisely aligned. With all this mass, and the best of everything in the turntable, it was never going to be cheap, and when it finally reached the UK in 1991 it cost £6,500, and the current Gold Debut, the Signature, costs £10,000.

AJ Conti was of course the founder, president and designer of Basis Audio, and has done every one of his company's products since then, including the new 2100 Signature you see here. It's the entry-level model in the Basis range, and is notable for being a suspended turntable, but not a suspended subchassis design, because the whole turntable is supported on four fluid damped suspension pods.

These pods are machined from a solid billet of aluminium, and each pod contains a spring under a shaft

which has a paddle attached which runs in the silicon fluid contained within each pod. An oil-filled bearing well is then bolted into the middle of the acrylic chassis, the four pods are screwed in to the chassis and finally the tonearm is mounted. The motor is held in a heavy, damped steel box, and is a synchronous AC model which has its magnet assembly modified by Basis to minimise cogging and lower noise. A standalone type, it is supported on elastomer feet, affording it a high level of isolation from both the bearing and the critical stylus/vinyl contact point. This motor drives the platter via a precision ground flat belt. Each platter and finely toleranced bearing assembly is carefully matched to one another during assembly. The resulting turntable weighs 11kg and measures a svelte 424x381x140mm, so it fits on the top plate of most equipment racks with ease.

Whilst the 2100 Signature appears to arrive as a kit of parts, assembly is straightforward thanks to both the superb fit and finish of each component, and the excellent instructions. Assembly of the turntable takes less than thirty minutes and is



USA

"the Basis placed musicians far beyond the room boundaries with astonishing delineation in both planes..."

a delight. Installing the arm is equally effortless thanks to an ingenious collet which screws onto Rega mount arms, which then bolts into place using the locking screw in the turntable's chassis. I elected to use a Roksan Nima, as this not only offers outstanding performance for the money, but it's also an excellent cosmetic match in its acrylic/aluminium finish. The actual setup of the arm took longer than the assembly

of the turntable, but I had the combination ready to go from box to playing music in a little over an hour.

SOUND QUALITY

Compared even to the lofty standards of those in our November 06 turntable group test, the 2100 Signature was on an altogether higher level of performance. Indeed, it is an exceptional sounding device, but not a forgiving one - if you're looking for a turntable to flatter poorly pressed or damaged records, look elsewhere. However, given a decent tonearm such as the Nima (or Basis's own stunning Vector Mk. 3, to explore the 2100's capabilities), mated to a fine pickup such as the Benz Glider L2 or Music Maker Mk. III cartridges I used, it's capable of disarming levels of performance.

I started with Sting's 'Englishman in New York', and from the first notes of Branford Marsalis saxophone, a huge three dimensional soundstage opened up where the front of my listening room used to be. Even with the modest Roksan Nima the Basis placed musicians far beyond the room boundaries with astonishing delineation in both lateral and depth planes. The focus of these images was also outstanding - none of the images were smeared in any plane, instead each was portrayed in the correct scale relative to the other, with palpable space and air between each performer

A startling example of this deck's precision came via the Nima and the Benz Glider L2 combination. I was listening to the jazz classic, Dave Brubeck Quartet's 'Strange Meadow Lark', where the first minute or so of the track is a piano solo with Dave Brubeck playing. While a piano started playing in the right corner of my listening room, the left channel was so quiet I thought there was a fault, but as soon as the first brush



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on cymbal was heard from Joe Morello's drum kit, I realised this was just an example of the extraordinary quietness and separation this turntable can achieve.

Whilst the drum solo at the end of 'Englishman in New York' has a substantial dynamic range, it was the formidable synthesiser bass line of 'Aero Dynamik' from Kraftwerk's 'Tour De France' which proved truly startling, whether played through the Hyperion HPS-938 or Martin Logan Vantage, this was bass you could feel. It had incredible control, the transient attack was lightning-

fast, and this turntable could stop just as quickly with apparently zero overhang to bass notes. The precise start and stop points were so clean and well defined, no matter how complex the bass line became, and the 2100 Signature simply refused to be caught out.

Regardless of whether the instrument used was purely electronic or the acoustic bass on 'Englishman in New York', the dynamic range of this deck left me speechless. Recordings I thought I knew well suddenly gained an injection of energy and drive, yet

REFERENCE SYSTEM:

Benz Glider L2 and Music Maker III cartridges
Roksan Nima tonearm
Basis Vector Mk.3 tonearm
Klyne System 7 PX 3.5 phonostage
Krell KRC-3 preamplifier
Bryston 3B-SST and 14B-SST power amplifier
Martin Logan Vantage loudspeakers
Hyperion Sound Design HPS-938 loudspeakers

this was not the kind of exuberance I encountered in the Clearaudio Solution, instead this is simply allowing the full, natural range captured on the vinyl to be heard unrestrained. Vocal performances were rendered with stunning transparency and naturalness, vocals from Sting, Laura Branigan and Basia were all outstanding, the 2100 Signature seemed to eradicate all the mechanics and electronics between the listener and the recording, the sound was so direct and immediate, you could almost feel the energy from the vocals in the listening room. Likewise, acoustic and Spanish guitars had startling speed and definition, but once again the immediate connection between listener and music was there.

High frequencies had both astonishing speed and clarity, yet without a hint of ringing, harshness or aggression. Regardless of whether the recording was resolutely analogue, such as the Dave Brubeck Quartet, completely synthetic like Kraftwerk, or somewhere in between such as with Propaganda's '1234', the high frequencies were never less than superb. The 2100 Signature is truly capable of performance across the board.

CONCLUSION

To my ears, the new 2001 is one of the most accurate 'real world' turntables around. With totally unlimited budgets, film stars and footballers will find better, but back in the realm of the just-about-affordable this is an outstanding machine. Although £3,100 is not an insubstantial price, I feel this deck represents value for money, as there is nothing else at the price that I've heard capable of this level of performance.

VERDICT

Superlative build and sound makes this one of the finest turntables available at a realistic price.

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FOR

- astonishing sound quality
- consistency of performance
- build quality
- ease of setup

AGAINST

- stiff competition

THE BASIS STORY

Despite relative obscurity until recently in the UK, Basis has now been in business for twenty years. The company is the brainchild of one man, A J Conti, ex-aerospace engineer and part-time proprietor of a high end audio dealership. Legend has it that he was unable to work out why the basic practices he was taught in the first year of an engineering degree course were not being applied in the turntables he was selling. Frustrated at the limitations he perceived in products he was offering to his clients at the time, he decided to re-examine all the accepted practices in turntable design to see what improvements could be made, if any. He decided to design and build his own turntable, which would be immune from external vibrations, would be engineered to exacting standards and offer total speed precision. By the end of 1985 he had the very first prototype, and in 1986 he sold one of his turntables to a retail customer.

This turntable, now christened the Basis Gold Debut Standard, offered several radical innovations, including a fluid damped suspension system which damped resonance to 4Hz, a completely sealed oil well bearing which is maintenance free, a heavyweight platter which is dynamically balanced with lead ingots beneath the platter, a high precision motor driven by a Krell designed and manufactured power supply, and a drop-in arm board mounted on three pins. Word about this new turntable spread amongst both dealers and enthusiasts in the USA and Basis started to take off, and the use of a Basis turntable at CES brought about even more orders, so in 1988 he made the decision to leave his job in aerospace to devote himself full time to Basis.

The original Gold Debut has remained in production to this day, currently in its fifth version, and this was joined in 1989 by the Ovation, a smaller variant on the Gold Debut Standard. The Ovation is the only model to have ever been discontinued in Basis twenty year history, but updates are available to this day. The 2000 Series was introduced in 1996, a new series using a somewhat simpler design but still using fluid damped suspension, starting with the 2001, joined the next year by the 2500 and the 2800 (a vacuum hold down variant of the 2500) with the smallest deck in the range, the currently unavailable in the UK 1400 introduced in 1998. In 2001 Basis introduced its first tonearm, the Vector two years later this was redesigned with the new Basis audio cable and was renamed the Vector Mk 3. Later that year all the Basis turntables were redesigned and re-released as the Signature series with improvements to every major component. At the end of 2005 the 2200 Signature was introduced along with the 2100 Signature. This year, Basis introduced its most ambitious turntable yet, the formidable 180kg Work of Art, this is going to cost in excess of £60,000, and has been designed as A J Conti's final statement in vinyl playback.



Glowing Live!

Adam Smith thinks Vincent's brand new SA-T1/SP-T100 preamplifier/ monobloc power amplifier combination is one of the most neutral he's heard, no less...

The character an amplifier imparts onto a system can in many ways make or break its performance. Be it a gutsy transistor design that takes your loudspeakers by the scruff of the neck and gets your toes tapping, or a single-ended valve design that makes the

hairs stand up on the back of your neck with its emotion and detail, the amplifier you choose is a vital part of the reproduction chain. If your source component is the 'engine' of your system, then the amplifier is the transmission - and all petrolheads know how ineffective gearing or a poorly designed drive system can

ruin a car's performance!

Of course, deciding which area you would like your amplifier to excel in is something of a laborious task, and it certainly isn't unreasonable to expect a modern design to do well across the board. An interesting, and actually quite obvious, way of achieving this is to

go down the hybrid route to meld the drive and efficiency of transistors with the delicacy and insight of valves.

Vincent have already proved to us that they know a thing or two about fusing old and new technologies with the highly capable SV-236 integrated amplifier that we featured on its own in the November 2006 issue, and in our December 2006 classic amplifier technologies group test. Once again, both of the new units under review here continue to fly the hybrid flag and we were keen to find out if they can build on the considerable strengths of their younger brother.

Considering the preamplifier first, the £800 SA-T1 is a sleek and stylish unit with six line level inputs, a pair of recording outputs and two sets of preamplifier outputs. At its heart are 12AX7 (ECC83) valves in the main preamplification chain and a 12AU7 (ECC82) to provide low output impedance. A loudness button and defeatable tone controls are provided but, as with the SV236 amplifier, switching them in-circuit introduces both bass and treble lift, even with the controls themselves set at '0' - slapped wrists Vincent!

The SA-T1 has the same front panel window as the SV236, from which one of the valves cheekily peeks. This has four levels of illumination selectable from the remote control, which also handles input selection and volume regulation. Finally I am pleased to report that not only does the volume control respond to the remote nice and promptly, but the handset itself is firmly in the Bang & Olufsen/Cambridge Audio category, in that it is solid, weighty and well designed.

Whilst on the subject of weight, the SP-T100 monobloc power amplifiers give a pleasing feeling of value for money on a purely mass basis, as they tip the scales at a healthy 15kg each. £1,500 buys you a pair of these beauties, which work up to 10 watts in Class A, before switching to Class AB in order to deliver 100 watts into 8 Ohms at full throttle when required.

The SP-T100s use a 6N6 valve for initial preamplification and a 6Z4 for high voltage rectification. This latter item is again on view in a front window, and features the same levels of selectable illumination as that on the preamplifier, but from a rear panel switch this time. Two pairs of loudspeakers can be driven from each pair of SP-T100s

I set the Vincents up into our current reference system of Pioneer PLC-590/ SME M2-10/ Ortofon Rondo Bronze through Eastern

"one of the first amplifiers that's truly happy with any sort of music..."

Electric Minimax phono stage, Cambridge Azur 840C compact disc player and into Spendor S8e loudspeakers. After a suitable run-in period and, more importantly, with all front panel valve illumination levels duly set to pleasing levels, listening was ready to commence...

SOUND QUALITY

As mentioned before, we are very fond of our Spendor S8e loudspeakers resident in the *Hi-Fi World* listening room, but are always aware that their lack of damping will ruthlessly reveal an amplifier that lacks bass control. On more than one occasion we have heard them rumbling out bass boom with alacrity as a poor helpless amp struggles to keep up.

Consequently it was with some concern that I immediately heard thunderous low frequencies emanating from them when connected up to the Vincents. However, when I listened closely I realised that this wasn't boom or wallow - it was deep, capacious, tuneful, real bass! The Vincent combo is nothing short of astonishing in its low frequency performance. With any sort of bass-heavy music (and I have a fair collection) they were unwavering in their detail and pace. Bass lines were rock-solid and underpinned tracks superbly. From the deep, resonant thrum of a double bass to the melodious intonation of a fretless bass guitar, the SA-T1 and SP-T100s remained composed, taut and amazingly deep throughout.

Bass timing was spot on, as shown by Eric Clapton's 'Hey hey' from his 'Unplugged' album - his tapping foot was solid and precisely in time with the guitar strokes - a feat that surprisingly few systems can manage. Moving to some more heavy dance music, the Vincents had the whole room (and probably half of the building) jumping and proved that if you need party capability then they are more than able.

So, the SA-T1/SP-T100 combo is brawny, powerful and bassy, but that is far from the end of the story. Reluctantly dragging myself away from heavy stuff, it was a delight to hear that this iron fist is more than happy

to become the smoothest of velvet gloves when required. The Vincents have beguiling and open midrange with a positively vast soundstage.

Playing a little classical courtesy of Tchaikovsky's Symphony Number 6 revealed that the orchestra could well have been sat in the next room and instruments were exquisitely laid out in front of me. I was almost afraid of receiving a whack round the head from the conductor's baton on a few occasions, so vivid was the aural picture that was painted. Obviously, as expected, crescendos were capable of rearranging furniture but in between them the Vincent combination was as sweet, composed and detailed as you could wish for.



The thermionic influence in their design was obvious, and it imbued the sound with real emotion and subtlety.

To continue exploring this, I brought on a few of my favourite female vocalists. A poster on one of my favourite hi-fi internet forums recently asked what the fuss was about "female vocals" when it comes to testing hi-fi equipment, but it seems I am not alone in finding that the intonation and presentation of many a female voice really can help to sort a good system from a bad one. Thankfully, Diana Krall's album 'Love Scenes' helped to convince my

// the singularly most addicting
piece of gear I have ever heard"

10 AUDIO REVIEW

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"One of the truly special products I've reviewed in the past 18 years" STEREOPHILE

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2005 World Awards



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Ultimate performance

"The best musical results of any turntable I've ever heard, regardless of price."

Since I've been listening to turntables professionally for 32 years and am aware of the pitfalls of ultimate proclamations, I hesitate somewhat to make this statement. Nevertheless, it is true. The level of musical communication available from the Illustrious/Aurora Gold is in a class by itself. It sets a new reference."

STEREOTIMES on the Aurora gold turntable & illustrious tonearm

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whestTWO west-tōō, n musical, detailed; radical



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increasingly unshakable conviction that this system really is one of the good ones. I have long been of the opinion that Miss Krall has something of an exquisite voice at the best of times and that this will even come across through a cheap transistor radio. However, through amplifiers like the Vincents, it takes on a different dimension and reaches a whole new emotional level.

No less superb was the Webb Sisters' new album, 'Daylight Crossing'. Hattie and Charley Webb have a fine pair of voices that harmonise together beautifully and on tracks like their recent single 'I Still Hear It', the Vincents really made the most of this. A good amplifier should not give the impression that it is adding or taking anything away from the music and, without checking with the girls themselves, I feel they would be more than happy with the Vincent's recreation of them.

For any of you now expecting me to say something more negative regarding the Vincents' treble response, I apologise in advance for disappointing you, as this was yet another area in which I need to reach for my superlatives list. High frequencies were clean, sweet and detailed with a positively sparkling nature. The SA-T1 and SP-T100s missed absolutely nothing in any music, delving into the murkiest depths of songs to extract every last nuance and inflection.

Spinning an old favourite of mine, Donald Fagen's 'Kamakiriad', I was surprised to hear what appeared to be new high frequency backing effects coming through. The Vincents were digging deeper into the background of this track than I have heard any other amplifier do. The track 'Trans Island Skyway' seemed to have gained another percussionist over in the right hand background, such was the increased level of detail.

Spinning a few tracks which can

cause some equipment to become a little confused, showed that the Vincents were completely unfazed by any such material. They consistently sorted out any aural messes and pulled the music out with an almost surgical skill. That is not to say that they painted an inaccurate picture, however. Bad recordings were quite clearly still bad, but the Vincents made it easier to work out why.

CONCLUSION

Over a period I spent listening to the Vincent SA-T1 and SP-T100 I was unable to find any area in which they

were less than utterly competent and enjoyable. As mentioned previously, this did make me wonder if they were telling the whole truth but after repeatedly trying to catch them out, I came to the conclusion that they were. If you put on a bad recording, the Vincents play that bad recording but they have the ability to make it quite clear why it is a bad recording - they have an uncanny ability to let you hear right into the mix and pick out where it has all gone wrong.

This is an absolutely superb amplifier combination. It is one of the first amplifiers I have ever encountered that really is truly happy with any sort of music. All too often apologies have to be made for gutsy, dynamic amplifiers when they fail to extract any emotion from a recording; or for subtle, sweet valve units when they fall apart under a rocking onslaught! The Vincents sail through it all.

Most enthusiasts are quite content to pick out an amplifier that suits their main preference in music and to live with its shortcomings in other, less important areas, but if you've had enough of compromise, and want nothing less than an amplifier that does it all well, then it has finally arrived. Vincent - I salute you!

MEASURED PERFORMANCE

If you just look at the figures, this power amplifier doesn't look so good. Around 0.7% distortion at full output is poor, but it is dominantly second harmonic with some third, neither being aurally fearsome. Better still by far is the fact that there is absolutely no crossover to be seen and that the distortion pattern stays rock steady, being the same at all levels and frequencies. Correlation between distortion and stimulus is remarkably stable in this amplifier, far more so than most others. So whilst absolute distortion levels are nothing to write home about, the amplifier's dynamic distortion pattern is almost unique for solid state - and this is not accident, but good design. With 112W into 8 Ohms and 210W into 4 Ohms each monoblock is powerful and well regulated. Damping factor was a good 28; the output stage is solid-state.

The preamplifier has a usefully high gain of x7.6, and enough headroom at 5V maximum output before overload. It is wideband and low distortion. The tone controls apply lift even at zero when switched in, and work nicely in the lift and cut shapes applied. With the power amp., input sensitivity amounts to 158mV

- a high value.
The Vincent combo measures well. I would expect a very enticing sound, plus ease of use.
NK

Power
112watts

POWER AMP
Frequency response 2Hz-90kHz
Noise -117dB
Distortion 0.1%
Sensitivity 1.2V

PREAMP
Frequency response 2Hz-83kHz
Separation 88dB
Noise -94dB
Distortion 0.02%
Gain x7.6
Overload 0.66V in / 5V out

DISTORTION

THD 20456.7099 Input RMS Frequency
CH1 0.0712174% 2.889 V 10.0155 kHz
CH2 OFF OFF OFF

THD CH1 vs FREQUENCY/kHz

VERDICT ●●●●●

A superb pre-power amplifier combination that makes the most of any music. Fine styling and build complete the pretty picture.

VINCENT SA-T1/SP-T100 £2300
Distributed by Ruark Acoustics
☎ +44 (0) 1702 601410
www.vincent-audio.com

FOR

- detailed and deep bass
- vast soundstage
- consistent with all music
- styling and finish

AGAINST

- tone control behaviour



Deadly Sin?

Naim's n-Vi DVD music system has seduced many buyers in its first year, and now with the latest software upgrades is better than ever, says Patrick Cleasby...

Following on from the arrival of the Naim DVD-5 player in 2005, the Salisbury-based company extended their A/V interests a year ago with the launch of their intriguing single box solution, the £3,250 n-Vi (pronounced 'Envy').

The specific reason a company like Naim got into this area was the promise of an elusive fix to the old 'how do I get decent stereo sound out of my A/V?' conundrum, and while the DVD-5 did indeed provide great sound for a DVD-video player, its video performance smacked of a first release video product, lagging slightly behind the high end competition of the time.

The market positioning of the n-Vi is very much like an all-in-one version of the DVD-5 (including legacy DVD-Audio playback), with a price to match. A DVD-5 will still set you back £2,500, and as you might expect, the addition of six channels of integrated amplification and audio routing capabilities adds another £500. The version reviewed here includes the FM/DAB option as well, hence the £3,250 price tag.

The price differential - essentially five hundred to one thousand pounds more than the existing Linn (Classik Movie) and soon-come Arcam (Solo Movie) competition - may be justified. At the time of launch, the n-Vi was perceived to have stolen a march on Naim's competitors in

incorporating digital video output in the form of DVI-D, but in actual fact the DVD-5 could produce a more satisfying picture from its component output. In common with the DVD-5, the n-Vi default option for DVI-D is not to output the almost now de rigeur upscaled 720p/1080i/1080p, but rather unscaled PAL (576) or NTSC (480). There is an anticipated scaling option for the n-Vi, but is currently still in Beta, without a price or a finished specification, but it may offer the addition of HDMI output at least.

The other argument for unscaled digital output is that it does allow high-end installer type setups (i.e. largely Americans) to feed a separate scaler digitally, without wasting a redundant D-A stage. If you don't have a machine that scales an image to the number of pixels on the output device, this task is left to the frequently much poorer scaling inside your (most commonly) flat-screen TV. Still, it has to be said in an age when HDMI-equipped kit like the Telewest TVDrive ships with integrated scaling which easily outstrips TV performance, should scaling in a high-end device be left to high cost option cards or externals?

Finally, the other issues the n-Vi needs to overcome are the many anecdotal reports of various problems resulting in some punters having their boxes swapped multiple times - have the supply issues of the

n-Vi been due to its runaway success or merely due to it taking multiple machines to achieve some level of customer satisfaction?

Speak to a dealer and they will tell you that for every customer immediately satisfied after an installation, there is another one who has been through software updating and exchange. There is a perception that as well as regular software updates being necessary, the hardware architecture has been tweaked over the year since initial release. These issues seem to highlight the classic symptoms of a product released to market before it is really ready, but that notwithstanding it is still felt to be an admirable product.

GETTING GOING

As usual the Naim n-Vi ships in a substantial box and has a very pleasing heft when you take it out. The thick metal casing speaks loudly of quality build, and the industrial Naim matt black finish reinforces the solid appeal of the brand. A DVD player-sized back panel nonetheless allows an exhaustive range of video output options from composite SCART to S-Video, up to Component and RGB Scart and BNC, and finally DVI.

Many flavours of audio inputs are catered for including front panel 3.5mm stereo input for iPod use (sharing 'Analogue 3' input with one of the rear analogue connections),



one Naim-type DIN and two stereo phono inputs on the analogue front, and one optical TOSLINK and two coaxial S/PDIF phono inputs for the digitally inclined.

Regrettably there are no options for either switching other video source inputs or external 5.1 analogue input. The former means that the user is constrained to switching video sources on the TV in parallel with audio switching on the n-Vi, and the latter means that for the high-resolution surround audiophile there is no prospect of remedying the n-Vi's lack of SACD capability.

The plain English manual explains that the 5-pin DIN stereo analogue out can be used to feed a separate Naim pre/power amplification set-up. There is also provision for coaxial digital out to feed a separate surround decoder, although the latter option seems to defeat the point of having all of that processing built into the box. Finally on the output front there is a phono subwoofer out provided.

The processing options are the conventional Dolby and DTS true surround and processed false surround (Pro-Logic II and DTS: Neo6) modes. The inbuilt amplification is restricted to six channels though, so no 7.1 nonsense here! Set-up was simplicity itself, with the usual surround reference Monitor Audio GR loudspeakers connected via biwired Chord Odyssey 4 cable using the convenient banana plug sockets.

The n-Vi's on-screen menus will be familiar to DVD-5 users, and are very pleasing to look at. The speaker size, distance and level settings were easily completed, and there are also a small selection of video calibration screens with a blue testing filter

supplied. Finally the remote is the familiar Narcom DV handset, a slim and pleasingly laid out device. RC-5 remote support is included in the inputs and outputs, and there is an RJ-45 in and out RS232 comms option, for multi-room installations.

SOUND QUALITY

I decided to start with CD performance testing. A quick pass of Danny Wilson's 'Second Summer Of Love' revealed a decent, if not inspiring, rendition of an acoustic band performance. From there it was a short step to the laid back new David Gilmour album, which is where I first noticed the definite warmth in the lower end. The bass guitar sounded enjoyably full, but not quite as natural as it should do, and the overall impression was of slight loss

"despite some quirks, Naim's n-Vi is a hard machine to dislike..."

of detailing in the midband.

This led to some investigation into the treatment of Leonard Cohen's basso profundo with digital keyboards on 'First We Take Manhattan', and this older mastering seemed to have a bit more room to breathe, making for an enjoyable listen. The synthetic music came across well, and another huge artificial bass sound from the Prodigy's 'Spitfire' was conveyed to devastating effect, without sounding too shrill in the high frequencies.

Another dig into old mastering and fluid/busy bass on China Crisis's 'King in a Catholic Style' evinced great musical capability, but again a gentle low end tonal colouration

which didn't sound like the clinically Walter Becker-produced track it should be.

Captain's heavily compressed 'Glorious' was miraculously tamed and restrained from sounding fatiguing, but the gossamer female vocals and high keyboards from the chorus were strangely submerged in the overall murk. I was more than a little surprised by this smearing of detail, but then I made an important discovery - the menu option to disable video processing on audio playback. This selected, things were miraculously restored to the sort of sound I expect from Naim - strong, taut, dynamic, rhythmic and bracingly musical.

All the usual DVD-Audio tests (Porcupine Tree's 'Deadwing' for surround steering, Steely Dan

'Everything Must Go' for 24/192, and Donald Fagen's 'Morph The Cat' for musicality) revealed the n-Vi to be adequate in this area, but not exciting. In fact the CD playback of Fagen's album was almost equivalent to its DVD-A stereo, which means you're not getting the best out of the latter. Put the other way, here's a DVD machine that's been optimised to work with 99% of your digital media collection (i.e. CDs).

Finally DVD-Video performance was evaluated via a quick spin of 'Hitchhiker's Guide To The Galaxy'. The DTS track sounded full and lively, and in truth this kind of thing is what the device is best at. The picture was similar, but a definite step down from



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Let's Dance

Noel Keywood takes to the floor with Ortofon's new Tango budget moving coil cartridge...



Our Editor's description of Denon's budget DL103 moving coil as "an old stinker" caused quite a response. Many readers rate the Denon as number one in a field of one, but you can make that two now, because Ortofon has a rival, the Tango, priced at just £100.

I am as sceptical about cheap MCs as David our Editor, having heard models from Ortofon, Dynavector and Goldring that did nothing for me. The cheapies commonly sound lifeless and bland, even sterile - I'd rather use a Goldring 1012GX MM that has real life in its sound. So will the brand new Ortofon Tango change things?

It comes in an unassuming package with a spec sheet that reveals interesting differences with the slightly more expensive orange Salsa (£200) and yellow Samba (£150). Most unusual is very low body weight of 4.1gms, because anything below 5gms is too light for most arms to balance out. The solution is to add a 2gm headshell weight. Both Samba and Salsa weigh a normal 7gms.

The Tango also has more coil turns for higher output, and a stylus on a rondel to track through fluff and dust, but both reduce high frequency tracking ability. The stylus profile is elliptical.

Recommended tracking force is 2gms but, as tracking is not especially good our tests revealed, 2.2gms - Ortofon's suggested maximum - should be used. The Blue Noryl body has through holes and is fitted easily enough with the screws supplied, I found. I fitted the cartridge to an SME M2-10 and a Michell TecnoArm in turn, both mounted on Pioneer PLC-590 turntables, then a Goldring

GR1, feeding an Eastern Electric Minimax phono stage.

SOUND QUALITY

The Tango is tonally a balanced and largely neutral sounding cartridge, free of character. It has a levity that others do not, but then this is not unknown to Ortofon. Sometimes called 'lack of emotion', I am not sure as an engineer whether this is good or bad. Still, I do use a Kontrapunkt b as a matter of preference.

The Tango did not best suit either our TecnoArm (too bright) or our SME M2-10 (indistinct bass). Best was a Rega RB250 in a Goldring GR1 turntable, with a 2gm lead headshell weight. This gave a largely neutral, easy going sound with good dynamics, a wide, firm soundstage and exceptionally smooth treble.

If you want the strong dynamics and clear midrange of a moving coil, plus real balance and levity in your sound, the Tango is way ahead at £100. I can see what Ortofon were aiming for: real accuracy from a super budget MC, rather than the colourful delivery of others. Don't expect masses of verve, subsonics or filigree detail. You will be intrigued by the unusual smoothness of the treble though, which doesn't zing to do its thing. A great £100 buy then, nicely suited to budget Rega arms for best results.

DIRTY DANCING - TANGO VS. DL103

Crucially, the Tango has modest bass, whereas the Denon is heavy and a little overwhelming. The Tango has an open and clear midband that's nice, if not overly detailed, and unusually smooth treble. The Denon gets a little weird in the mid and very soft at top. On balance, Noel chooses Tango, as does resident vinyl geek Adam.

VERDICT ●●●●● £

Excellent budget moving coil, with a balanced performance in all areas.

Ortofon Tango £100

Henry Designs

+44 (0)1525 850035

www.ortofon.com

FOR

- balanced presentation
- smooth treble
- tidy dynamics

AGAINST

- mediocre tracking

MEASURED PERFORMANCE

Our Tango was a handbuilt early sample, with generator misalignment that resulted in 17dB separation L-to-R, but 30dB R-to-L (23dB average) plus vertical tracking angle too high at 38degrees; 22-28 degrees is common. Ortofon usually get all this right.

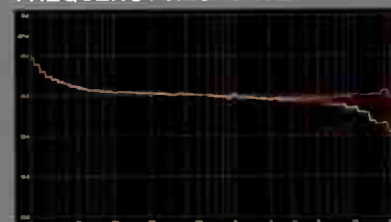
Otherwise, the Tango has a super-flat response characteristic, so expect balanced and smooth treble. Inner groove loss, affected by stylus profile, was fair at -4dB, de-emphasising inner groove distortion.

Tracking wasn't wonderful; more adequate. An unusually low body weight of 4.1gms, with lowish compliance puts arm/cartridge resonance high at 16Hz in an SME M2-10, resulting in strong deep bass emphasis. Our response graph also shows this.

The Tango would benefit from a heavier body, and should be used with additional headshell weight of 2gms or so. It has some particular strengths, but hopefully production samples will be a bit better than ours. NK

Tracking force	2.2gms
Weight	4.1gms
Vert. tracking angle	38 degrees
Frequency resp.	40Hz - 20kHz
Channel separation	23dB
Tracking ability (300Hz)	
lateral	55µm
vertical	45µm
lateral (1kHz)	16cms/sec.
Distortion (45µm)	
lateral	1.4%
vertical	9%
Output (5cms/sec rms)	0.73mV

FREQUENCY RESPONSE



Red - outer grooves
White - inner grooves



Adam Smith listens to JoLida's budget valve amplifier, the JD102B.

Born in the USA

Another name that, in the Hi-Fi World office at least, seems to fit into the 'companies you've never heard of' category is JoLida. Hailing from Maryland in the USA, JoLida started out in 1983 making vacuum tubes and electronic parts. In 1993, after designing a series of industrial transformers, it was apparently suggested to the company that, if reduced in size, these would be ideal for use in a valve amplifier, owing to their chief properties of low noise characteristics over a wide signal range. The

rest, as they say, is history and JoLida introduced their first amplifier at the 1995 CES in Las Vegas.

Today, the JoLida range is much more extensive, incorporating all-valve preamplifiers, power amplifiers and integrated amplifiers. In addition, they offer six hybrid valve/transistor amplifiers and a range of source components, including a CD player, DVD player, tuner and a £400 valve phono stage (watch this space for a forthcoming review). There is also an unusual add-on unit that adds remote control capability to your system without requiring you to change any

of your favourite components - very nifty!

The JD102 is the baby of the eight-strong valve amplifier range and uses two pairs of EL84 valves to achieve an output of 25 Watts per channel. Bias for these valves is 'fixed' and easily adjustable from the top plate to allow the valves to remain on-song and to ensure they are all properly matched when one is replaced.

The JD102B has four line level inputs but our review sample had no tape record outputs, meaning we were sadly unable to record our



"the JD102B has the typically smooth and assured sound quality of a good valve amplifier.

favourite chart hits from the Top 40 on a Sunday evening. However, according to the JoLida website, either a tape output or a preamplifier output can be supplied upon request. Dedicated output transformer taps are provided for matching four and eight ohm loudspeakers.

On the front panel are the input selector plus volume and balance control, and the whole package is immaculately finished and very sturdily made with no sharp edges waiting to catch unwary fingers.

I auditioned the JoLida amplifier with our Pioneer PLC-590/SME M2-10/Ortofon Rondo Bronze turntable via the Eastern Electric Minimax phono stage, as well as a Cambridge Audio Azur 840C compact disc player. Loudspeakers included the Chario Silhouette 100Ts reviewed in this issue, as well as our reference Sendor S8es.

SOUND QUALITY

The JD102B has the typically smooth and assured sound quality of a good valve amplifier. Its midrange is refined and effortless, pulling off the usual thermionic abilities of sublime vocal performances and capacious soundstaging.

Classical orchestras were expertly laid out in front of the loudspeakers and instrument separation was excellent. The JoLida was very capable in its abilities to firmly place the lead and backing instruments and occasionally made me sit up in surprise at the subtle effects that suddenly appeared out of nowhere.

Another major valve amplifier strength that the JoLida exhibited was a wonderful natural representation of acoustic instruments. Johnny Cash and Willie Nelson's superb live version of 'Ghost Riders in the Sky' had fantastic atmosphere and their acoustic guitars were large and perfectly placed in the soundstage. As an added bonus, the atmosphere added by the JD102B has the ability to place you right in the audience.

At the higher end of the scale, treble performance was extremely smooth and fluid. Detail in the region around the upper midrange and

lower treble was superlative. At the very top end, the high frequencies were not as incisive as some and overall balance was on the soft side, but the JoLida never sounded dull and was certainly clean and sweet.

More unusually for a valve amplifier, and especially for a budget one of low power, bass was surprisingly capable. Ultimately it was rather loose and plummy around the very bottom end but upper bass detail was good and the JD102B proved itself capable of carrying a tune. Even a hard-hitting and positively thunderous Jazzanova track that I use to trip up unwary equipment did not unduly faze the JD102B, whereas I have heard other amplifiers, both valve and transistor, make a complete mess of it.

So far, listening had been carried out through our trusty Spondors, but as we know only too well, they do require something of a firm grip to whack their low frequencies into shape. Consequently, I decided to connect up the Chario Silhouette 100Ts reviewed elsewhere in this issue. This was even better, proving to be a very successful combination.

The punchy bass of the 100Ts tightened up the somewhat baggy low end of the JD102B and the loudspeakers' lively nature added treble sparkle without dulling the innate valve nature and insight.

The final aspect that pleased me about the JD102B was that its low power output never made it sound strained, as is often the case. I found that I simply came to a point where the JD102B would not go any louder, without any associated signs of complaint.

CONCLUSION

Budget low-powered valve amplifiers that attempt to provide a first step onto the thermionic ladder for

impecunious audiophiles can be somewhat lacking. All too often, they achieve that 'nice, warm' valve sound but at the expense of other areas of the frequency range. Happily, the JoLida is not one of these.

Whilst the JD102B is indeed a budget valve amplifier with limited power output, it is a well designed and built unit and I felt it was much more capable than a few valve amplifiers I have heard that cost two or three times as much.

The expected valve character to the sound was present and correct, but the JoLida did not accompany it with aural excuses in other areas. Whilst true that, ultimately, the lowest bass and the highest treble are both rather soft, the JD102B never sounded uncomfortable or gave the sense that certain areas of its sound had been compromised by its price.

The JoLida JD102B is a fine and enjoyable unit that represents superb value for money. Its performance is more than enough to ensure a few waves on the previously calm millpond of the £500 amplifier market.

£
A well designed and thoroughly capable valve amplifier at a budget price.

JOLIDA JD102B £475
Distributed by RPM Audio
☎ +44 (0) 7790 907737
www.jolida.com

- FOR**
- Superb midrange
 - No sense of strain despite low power output
 - Detailed performer
 - Price

- AGAINST**
- Loose low bass
 - High frequencies rather soft

MEASURED PERFORMANCE

The small JoLida is a fixed bias design, confusingly meaning you have to adjust it! This method of working gets most power from the low dissipation EL84 output valves, in this design just 14W. The benefits are a very cheap valve, known for its sweet sound. You will need sensitive loudspeakers though, meaning big floorstanders. Although both the full secondary and the 4 Ohm half tap produced equal amounts of power, showing good coupling efficiency, the JoLida was much happier driving high loads from its low tap (4.0hms) than low loads from the full secondary (8 Ohms). This is usually the case with valve amps, but markedly so with this one, so it's best to use the 4 Ohm tap in practice, as we did.

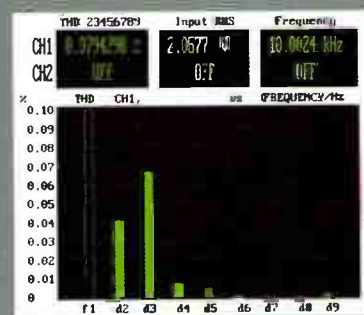
Bandwidth was unusually wide, stretching smoothly to 100kHz. Distortion levels were low too, even at 40Hz, and the harmonic spectrum limited to lower harmonics.

The JoLida produced very little hum, so little it probably has D.C. heaters. Damping factor was a low 8.

This is a neatly engineered little amplifier in all areas. It should give good sound quality. NK

Power	14watts
CD/tuner/aux	
Frequency response	4Hz-104kHz
Separation	42dB
Noise	-94dB
Distortion	0.1%
Sensitivity	210mV

DISTORTION



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WorldRadioHistory



WIN A SUPERB PAIR OF LEEMA XEN LOUDSPEAKERS WORTH £1,000 IN THIS MONTH'S GREAT COMPETITION!

Here's your chance to win a pair of fantastic "twenty first century mini monitors", in the shape of Leema's Xen loudspeakers! This is what Channa Vithana had to say about them in the December issue...

"Leema Acoustics was formed in 1998 by Lee Taylor and Mallory Nichols, who are both past BBC engineers. Mallory Nichols was involved in the manufacturing of MAGTRAX monitors for recording studios from the early nineties and Lee Taylor, the recipient of BAFTA and Palme d'Or awards, is experienced in recording and mixing for television, music and film. The Xen mini monitor was their first product, and the original research focused on new design principles and mathematical models, and as software tools available at the time were simply not good enough, Leema had to write their own, the company says. The Xens measure 220x140x205mm and their front baffle is about the area of a hard-back novel. The cabinet is impressive in construction and build quality - very stiff and nicely damped; not dead, just free of ringing resonations. It is made from 1.6mm steel folded and gently rounded at the angles. The steel part of the cabinet is stiffened by a rod running through its centre which is held in place at both ends by a hex-head

fixing. The Xens feature a 1-inch (25.5mm approx.) Vifa Tymphany fabric dome tweeter that uses high-flux neodymium magnets and ferro-fluid damping. The 101.5mm (approx.) magnetically screened mid-bass driver is a SEAS P11 which utilises a polypropylene cone and magnesium chassis. The crossover uses hand-wound air-cored inductors and (Solen/'Clarity Cap') capacitors and PCBs with thinner multitrack copper than a typical fatter single layer - this says Leema is for faster signal transfer. At the front baffle are two ports, semi-restrictively filled for better control of air flow. On the rear panel are a set of bi-wire/ bi-amping binding posts.

In a word, the sound is superb. Don't be deterred by the fact that the company is a relative unknown, as these are serious bits of kit. 'Maria T' by the Balanescu Quartet had spatiality, depth and presence - cello, violin and violas were reproduced with outstanding tempos where the phrasing and subsequent sequential layering of successive notes and interaction between the instruments was faultless. This led to an engaging yet musically satisfying expressiveness, coupled to surprisingly good

quality of depth and spaciousness. The timbre of the cello, violin and viola was also excellent, and the Xens also had very good instrumental separation - it was easy to concentrate on the intelligibility of each element of the mix. The neo glam thrash of 'The Scorpion Sleeps' from Rob Zombie's 'Educated Horses' was very enjoyable. Again, instrumental separation was excellent. The music was very finely revealed with no discernible coloration - akin to the fresh, clean and vital characteristics of well-designed active mini-monitors. Tempo was outstanding, the beat, rhythm and power reproduced with precision. Despite the low quoted 84dB sensitivity, the Leema Xen mini monitors worked well with medium powered amplifiers, serving up surprising scale and dynamics for their size. Never flustered with dynamic crescendos, they always maintained strength in tempo, rhythm and high resolution. Designed and built in the UK, the Leema Xen is easily one of the best mini-monitors available."

To win a pair, then all you have to do is answer the following questions and send your entries on a postcard by 28th February 2007 to:

March 2007 Competition, Hi-Fi World, Unit G4, Argo House, The Park Business Centre, Kilburn Park Road, London NW6 5LF.



QUESTIONS

[1] The name Leema comes from which two christian names?

- [a] Lee and Mallory
- [b] David and Neal
- [c] Leek and Elma
- [d] Len and Martin

[2] Their front baffle is about the size of what?

- [a] a hard-back novel
- [b] a kitchen sink
- [c] a Porsche 911
- [d] a peanut

[3] What brands of tweeter and mid/bass driver does the Xen use?

- [a] Vifa and Seas
- [b] Vox and Fane
- [c] Celestion and KEF
- [d] Focal and Elac

[4] Channa concluded by saying the Xen is...?

- [a] "easily one of the best mini monitors available"
- [b] "not bad if you like that sort of thing"
- [c] "my bag, baby!"
- [d] "larger than life"

March Competition
Hi-Fi World Magazine
Unit G4 Argo House
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DECEMBER 2006 ACOUSTIC SIGNATURE TANGO PHONO STAGE & GRIP WINNER: Patricia Gregson, of Reading, Berkshire



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The Flat Pack

With NXT's flat panel 'SurfaceSound' loudspeakers becoming increasingly popular, we're going to see ever more audio applications for this technology. Teac's CD-X9 micro system is one such example, offering outstanding sound per pound, largely a result of its speakers, says David Price...



There aren't many micro systems I would consider worthy to grace the pages of this magazine. We all know that they're built very much down to a price, and crude commercial realities usually dictate gimmicks at the expense of serious audio engineering. Rarely do you find a budget system where the manufacturer has actually got rather a lot right, but the Teac CD-X9 is one such example.

What we have here is a surprisingly capable, neatly styled small system with a vertical CD player that can handle CD, CD-R/RW and MP3 discs. It also has a VHF FM radio with RDS and an AM band, but no DAB. Also supplied are surely state-of-the-art, latest generation NXT speakers. All this comes for £150-£180 or so, online. The irony here is that I suspect many marketing folk at Teac went for NXT panels on size grounds, as they're very slim and thin. The fact that they just happen to be an extremely elegant engineering solution to the problem of moving air with consistency and control, and just happen to sound superb in the process, may possibly have escaped some!

Vital statistics are 140x226x86mm for the main

unit, 140x226x61mm for the two speakers and 160x234x330mm for the 4" active subwoofer. Anyone who's ever heard NXT speakers will appreciate the need for this latter bit of kit. NXT panels are, to my ears, exceptionally clean and neutral and open across the midband, but suffer from an almost complete lack of bass (sub 120Hz), and not so much high treble either. Subwoofers, then, are mandatory, but the \$64,000 question is how well they work with the panels? Trying to match a flat panel midrange driver to a moving coil bass cone can be tricky, even for the likes of some high end hi-fi specialists who shall remain nameless, for now at least...

I'm happy to say the Teac CD-X9 sounds very smooth from bottom to top, and by mini system standards it's a revelation. Here is a small system you can really listen to, without fatigue, boredom or toothache. Most designs at this price are just plain terrible, but the Teac is perfectly acceptable background music even to one running Quad ESL-989s as his main loudspeakers. Treble is a little rolled off, but smooth and crisp and open all the same. Midband is neutral compared to almost any box loudspeakers at any price (yes, that's what a good NXT panel sounds like)

and bass is decently tight and taut. The sub rewards careful placement – in one corner of your room, about 20cm from the back and side wall worked best for me. The result is a crisp, enjoyable sound that gives any Denon or Onkyo under about £600 something to worry about.

The downside is simply this – it doesn't go very loud. It does go decently loud, certainly enough to have a bit of fun, but when you ratchet it up to maximum, your teacups will remain safe, as will your window panes and eardrums. This shouldn't really be an issue for what is ostensibly a bedroom, study, or kitchen system – it's perfectly adequate, and those NXT panels really do fill the room with sound like no moving coil loudspeakers.

Other criticisms are hard to find. It's a bit plasticky, but what on earth do you expect for £150? It's far better made than many of its price rivals, and perfectly pleasant to live with. The vertically sliding disc door is fun, and there's a decent AM/FM RDS radio that's better than some allegedly hi-fi tuners I've heard. Even the remote is nice. Overall then, thumbs aloft for those seeking a second system – it really is far better than it has a right to be at this price. I can see it now – the future is flat...

VERDICT ●●●●£

Outstanding value for money microsystem, thanks in no small part to superbly implemented NXT speakers.

TEAC CD X9 £180
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Lucy just could'nt understand Tom's sudden lack of interest in an early night



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Radio Times

David Price tunes in to three generations of classic tuners from the fifties, seventies and noughties...

Since its inception in 1922, the BBC has invested relentlessly in new broadcasting technologies. For audiophiles, surely its finest moment was the beginning of high fidelity VHF radio broadcasts in 1955, and the commencement of stereo transmissions seven years later. This, many would argue, marked the beginning of radio's golden age...

For every action there is a reaction, and in the case of Britain's nascent hi-fi industry, the Leak Troughline epitomised the classic hi-fi tuner that made the most of those fantastic sounding early VHF broadcasts. And, as the technology advanced, successive generations of Troughlines appeared to exploit it, culminating in the Troughline Stereo in the mid sixties.

Aside from the mass adoption of solid-state of course, radio's next great leap forward was FM synthesiser technology. Today this seems utterly run-of-the-mill, but in 1978 it was a really big deal. As every Leak owner knows, early analogue front ends could drift off station, requiring periodic retuning. These days, retro-obsessed twentysomethings might love the idea of twiddling a knob to get their desired station, but back in the mid-seventies this was a pain. Looking like it had been beamed in from outer space, Aiwa's AT-9700 was the very first synthesiser design to reach these shores, and put an end to tuning woes.

In 2007, the hi-fi tuner market is mature. Sadly, recent modern classics like Linn's Kremlin and Naim's NAT-01 are no more, leaving space for the likes of Magnum Dynalab at the high end. In the budget sphere, do-it-all DAB/FM hybrids like Cambridge Audio's 640T are all the rage, and in the middle Arcam's DT91 is a formidable contender. Still, the best value tuner we reviewed in 2006 was Myryad's MXT2000 – a superb sounding £800 design that takes modern technology to another level of convenience. How then do these three generations of radio stack up against one another? Read on...





LEAK TROUGHLINE £800 approx.

The reason why the very first Leak Troughlines were mono is that when launched back in the late fifties, stereo broadcasting had not yet started in the UK. If that isn't a reminder that the Leak came from a very different world, then consider also that early tuners were often only supplied as a chassis, to be fitted inside a radio-gram! Why then is this old curio even being talked about some fifty years after it was designed? Well, I'm afraid *Hi-Fi World* has to put its hands up to this one. Some sixteen years ago, our man Richard Kelly suggested that it was special, and soon after, Noel tried one with a special external stereo decoder from EAR's Tim de Paravicini. Amusingly, Troughlines were virtually skip fodder back then, but this state of affairs didn't remain for long...

Following the original mono version came the Troughline II, which was able to feed an external stereo decoder with a stereo encoded (multiplexed) signal, but had no decoder of its own. Then followed the Troughline III with revised styling. The final Troughline Stereo had a solid-state decoder as standard, along with an ECC88 front-end valve instead of an ECC84, for marginally improved sensitivity. Still, by modern standards, this final incarnation wasn't up to much – it sounds vague, with poor stereo imaging. For this reason, the Troughline used here has a GT Audio decoder, which costs £475 fitted.

Anyone seriously considering a Troughline for modern use should regard this as mandatory. Using the Leak is best described as 'quaint' – although lovely, the EM84 'magic eye' tuning indicator is crude, and the knob feels agricultural compared to the Aiwa.

SOUND QUALITY

Even if you've found a good example and sent it off to Graham Tricker for a rebuild and new decoder, there's one more obstacle to happy Leaking – its sensitivity. This is poor by modern standards, so a decent 4-element aerial is essential. This may seem an awful lot of fuss just to listen to the radio, but you soon realise that it's worth it. Switch on and within minutes you have something that sounds almost supernatural.

Bass is full and thunderous, yet deliciously liquid. A touch of seventies jazz from Radio 3 (yes really) romped along with tremendous aplomb. There's a remarkable sense of natural ease to music that you only otherwise feel at a live concert. Still, the Troughline's tonality isn't quite as neutral as the others in this group – everything sounds sepia-tinged, and the treble in particular is sugary-sweet. Although not strictly accurate, the way music just lilt out of this tuner means you have to forgive it any

foibles. In fact, many people's solid-state systems would benefit positively – a little euphony rarely hurts.

Just because the GT Audio Troughline is so silky, don't think it is vague – there's an awful lot of detail coming out. Male voices on Radio 4's 'PM' programme were a rare treat; voices were expansive, powerful and beautifully nuanced without a trace of nasalness. Female voices were magisterial – wonderfully pure with disarming smoothness throughout their range. For this writer, only Marantz's classic 10B compares in this respect. The only serious downside to the Leak's sound was the background hiss you get even with a decent aerial connected, which although not too intrusive, never leaves your consciousness. Indeed, I suspect that even plugged directly into the transmitter, there would still be a quiet 'sssss'... Overall though, the GT Audio Leak Troughline is still a sublime listening experience in most ways.

MEASURED PERFORMANCE

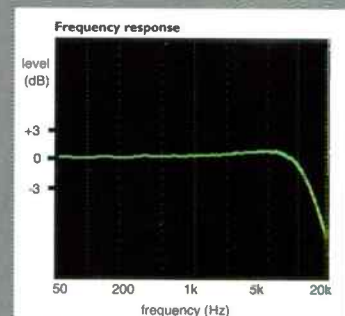
Frequency response was essentially flat, within tight 1dB limits, from 15Hz-10kHz our analysis shows; a slight lift exists in the upper midband only. This puts the Troughline up with good modern tuners – and it remains better than some.

Distortion varies with tune accuracy, even with AFC on. Like most tuners it is worst at full modulation, hovering around 0.8%, but at 50% modulation it measured a remarkably low 0.12% – as good as any modern design. Channel separation was acceptable at 24dB and noise low at -63dB IEC A wtd. if audible as slight hiss at this level. The tuner needs at least 1.5mV from the aerial for this. Sensitivity was poor, 240uV being needed for -50dB hiss level, compared to 40uV or so nowadays.

Leak's Troughline measures very well in most areas, in spite of its age. Results are more tune-dependent than

any modern design, and a good aerial is needed. NK

Frequency response	15Hz-10kHz
Stereo separation	24dB
Distortion (50% mod.)	0.12%
Hiss (IEC A)	-63dB
Signal for minimum hiss	1.5mV
Sensitivity:	
mono	240µV
stereo	240µV



VERDICT

More than just a tuner now, this classic icon is capable of breathtaking sonic performance with a modern stereo decoder.

LEAK TROUGHLINE £800

GT Audio

+44 (0)1895 833099

www.gtaudio.com

LIKES

- silky sound
- wonderfully musical
- retro charm

DISLIKES

- sensitivity
- noise
- tuning action



AIWA AT-9700 £150 approx. (s/h)

Three hundred notes was a princely sum back in 1978 (and in today's money you can more than quadruple that), but the Aiwa sold well around the world all the same. Aside from the 'Space 1999' styling and stunning LED digital display (almost never seen before), inside resided a brand new front end using a quartz crystal referenced PLL synthesiser to provide an absolutely accurate frequency reference, meaning no more station drift. It was a far more sophisticated solution than the 'AFC' (automatic frequency controls) that the Leak used, and in the space of a few years, almost every tuner would be made this way.

Under the hood, the AT-9700 is packed with late seventies componentry. By modern standards, there are surprisingly few integrated circuits – it's mainly discrete transistors. Being a 'Japanese battleship' it also sports the obligatory vast mains transformer. The front end uses a five gang variable capacitor and two MOSFETs for high sensitivity, and star earthing is used for low noise. Its dual system IF stage has a twelve pole LC filter for high sensitivity, plus a linear phase ceramic filter for optimum selectivity. These are normally selected automatically, but users can manually specify the latter in difficult reception conditions by moving the front panel 'Selectivity' control to 'Sharp'. There's also a choice of 'Hi-Blend' settings, in truth built for crowded Japanese airwaves but not so great for sound.

SOUND QUALITY

I can see how some people swapping their ageing Leak for a 'modern' Aiwa back in the decade that fashion forgot would regard this as a huge

upgrade, but I am not one of them. It is remarkably quiet and detailed, while the Troughline is, errm, less so. This leads us to the AT-9700's excellent sense of insight – because the noise is so much lower, the Aiwa seems crisper and more explicit than the Leak. Remembering back to the old days, I suppose this was the Holy Grail being chased at the time the Aiwa was made – we were living in a world of woolly, dull sounding speakers and soft vinyl front ends, after all. So maybe the Aiwa would have surprised and delighted with its clinical incision and 'clean' character, and lack of FM spuriae. Still, in a neutral and revealing 2007 system it could sound tonally grey. Bass is light and tight, but there's less weight than the Leak, and it lacks the oldie's rhythmic flow.

The best test of the midband is surely a bit of Radio 4's 'Any Questions', and here the Aiwa

showed a well resolved studio, with good low level detailing, and a decent lack of coarseness. In fairness, many of the first generation 'digital' tuners that immediately followed the Aiwa were far worse with the spoken voice. Sony's top of the range ST-J75, for example, is just plain grainy and unpleasant, whereas the Aiwa had just the merest hint of chromium plate to it. Treble wasn't spitty, and although lacking the Leak's silkiness, was nicely atmospheric and detailed. Our review sample was faulty and could not deliver stereo, but a previous example I owned possessed strong, well defined imaging.

The Aiwa turned in a stunning tuning performance – it stuck to weak stations like glue, and had a decent sound with only a hint of a greyness. Overall, a fascinating curio that's far more useable than the Troughline in today's world. Worth seeking out.

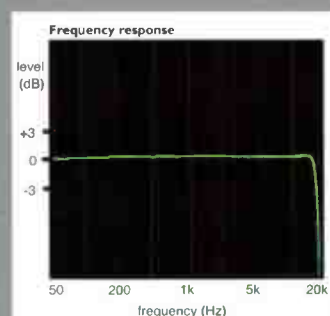
MEASURED PERFORMANCE

Even though the stereo beacon fit, this Aiwa 9700 produced mono only; age has taken its toll. All the same it produced amazing results. Frequency response measured ruler-flat to a high upper limit of 15.4kHz - and our analysis shows this clearly. Distortion was minimal at 0.03% (50% modulation) and noise spectacularly low at -83dB. Tuners like this managed -77dB in stereo. They also had stereo separation figures around 55dB, more than enough. The basic audio performance is as good as it gets from VHF/FM and much better than today's tuners, which are worse in every area, especially noise that rarely betters -71dB!

The 9700 was extremely sensitive, needing just 120uV to reach 'full quieting' and the 83dB signal-to-noise ratio figure measured. In stereo this would be around 500uV or so. Again, this is extreme sensitivity, only approached by the very latest Software Defined Radio front ends from Radioscape and the like.

The Aiwa 9700 turned in a fine set of performance figures, substantially better than modern tuners. NK

Frequency response	10Hz-15.4kHz
Stereo separation	N.A.
Distortion (50% mod.)	0.03%
Hiss (IEC A)	-83dB
Signal for minimum hiss	120uV
Sensitivity	
mono	2µV
stereo	N.A.



VERDICT

Crisp sound allied to brilliant sensitivity and noise figures, plus fantastic styling and a great tuning action too.

LIKES

- stunning sensitivity
- excellent detail
- sci-fi styling
- flywheel tuning knob

DISLIKES

- tonally monochrome

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Domestic World
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X-Factor

Musical Fidelity's NEW X-Series really hits the mark...

"The beauty of this MF system is that the whole really is greater than the sum of the parts, and these parts are pretty damn good to start with. You could spend hundreds more and get less." Alan Sircom
Hi-Fi Choice Dec 06

New styling - beautiful, advanced design and state-of-the-art circuitry give a performance comparable to products costing many times more. Should the competition be worried - definitely!



Stunning Award Winner

Phono stage that beats all others...

EASTERN ELECTRIC MINIMAX PHONO: £1,099 (MM/MC)
"Sonically it is almost beyond criticism at this price. Superbly engineered, it offers beautiful results from LP."

The Minimax Phono has a wonderful textural and an expansive palette of tonal colours, which combined with a seductive rhythmic spirit and wonderful air and space. The result is big, bouncy and beautifully in equal measure. £1,099 is a lot of money for a phono stage but the Eastern Electric is worth every penny." Hi-Fi World
Jan 2007





MYRYAD MXT2000 £800

Warp forward thirty years and we find this top tuner from Myryad, a company whose radio reputation precedes it. Even though far more sophisticated in terms of functionality and features, it's a good deal easier to use than the Aiwa thanks to the simple expedient of presets. These were not common things on seventies tuners of any variety, and frankly, after they arrived few wanted to go back. Thanks to its big tuning knob and analogue dial, the Aiwa is slightly easier to tune manually than the Myryad, but then again you don't have to tune the Myryad manually because it has presets!

Although not quite in the league of the Aiwa, it's a well built machine that shows real attention to detail. I like the fascia's curved tapering, and the blue display looks classy, especially with those backlit red text indicators for stereo, RDS and tuning. Another nice touch (if you pardon the pun) is the silver metal strip at the top of the display which is actually a touch-sensitive on/off button. The fascia buttons and tuning wheel are all flush with its surface, and there's a finger recess in the latter, although it's not as free-wheeling as it could be.

SOUND QUALITY

The MXT2000 is a modern high resolution tuner in the mould of the recently reviewed Magnum Dynalab MD100T. Although not as good outright, it does a good approximation for half the money. The result is a super sound all round. For me, the Leak will always be special – think of it more as an 'experience' rather than a functional piece of equipment; it has a romantic quality than you can't help falling in love with. The Myryad has none of this,

but still matches or betters the Leak in some ways.

The midband is large in scale, with lowish noise and superb dynamics. The Leak is a slightly lazy sounding device, but the Myryad grabs you more with its lightning transients. It's a 'hi res' sound, bristling with clarity and detail, but there's also a fine sense of naturalness, and it doesn't sound analytical like the Aiwa can. It takes you into a recording with all the analysis of a good CD player, throwing out vast amounts of detail, yet never veers into 'incision' – you never get the feeling you're listening to dissected, deconstructed music.

In several respects, the Myryad gave the best sonic performance on Radio 3 of all. Thanks to its combination of low noise and high resolution, classical music sounded extremely realistic. The soundstage was open and well defined, instruments highly detailed,

precise and well separated. Bass was satisfyingly strong – not quite in the Leak league but impactful all the same. This, and the tuner's subtle detailing also benefited rock, pop and middle-of-the-road music stations. This was especially the case when the broadcast audio was top notch with an excellent top end and tight bass on late night Radio 2. Speech also sounded excellent on the Myryad, with delivery of presenters' voices being pin-sharp.

This device's genius is the way it combines most of the Leak's musicality with a more detailed, less hissy sound. Factor in the fine styling, great user interface and nice display, and we have the quintessential modern tuner – it is a jack of all trades and master of some. You'll get better if you pay twice the price, but to all intents and purposes, especially with the poor broadcast quality of many networks now, it will be many people's ultimate tuner.

MEASURED PERFORMANCE

The smooth, extended frequency response of this tuner, flat to 15kHz without filter ripple, means the MXT2000 will have a balanced sound. It will seem a little brighter than those with falling upper treble, but also more detailed and smoother.

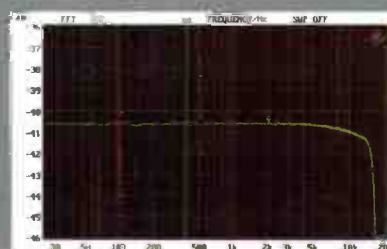
Distortion was low at 50% modulation but rose to an average 0.4% or so close to full output (100% modulation). Channel separation was good and noise would have been low but for a peculiar low level tone at 500Hz. Spurious tones like this are usually a result of complex intermodulations from pilot or outside broadcasts, or overload. However, re-tuning, turning off the stereo pilot and altering signal strength made no difference. Consequently, the IEC A weighted noise figure is high at -65dB; it sank to -70dB once the tone was notched out by our R&S UPL analyser, and that's the underlying noise figure. Sensitivity was good and

output normal at a useful 1V.

The MXT2000 was about the best of the group in measured terms, ignoring the peculiar tone afflicting ours. NK

Frequency response	10Hz-15kHz
Stereo separation	37dB
Distortion (50% mod.)	0.12%
Hiss (IEC A)	-65dB
Signal for minimum hiss	N.A. mV
Sensitivity	
mono	2.7µV
stereo	38µV

FREQUENCY RESPONSE



Outstanding modern high performance tuner, with excellent sonics, styling and ergonomics.

MYRYAD MXT2000 £800

Myryad

+44 (0) 23 9226 5508

www.myryad.co.uk

LIKES

- excellent overall sound
- fine ergonomics
- neat styling

DISLIKES

- manual tuning action

Some decisions are just so simple

WHAT HI-FI?
SOUND AND VISION

AWARDS 2006

PRODUCT OF THE YEAR
STEREO AMPLIFIERS
ROKSAN KANDY L.III



Distributed in the UK by: Henley Designs. 01235 511166 www.henleydesigns.co.uk, info@henleydesigns.co.uk

BRIGHT STAR ISONODES £15/4

One of the most interesting facets of having access to high end esoterica is knowing how bad it can sound if set-up poorly. Likewise, it's fascinating to discover how good affordable stuff can be, providing it is set-up well. The bad news is that whether it's bargain-basement or telephone number price tags, just plonking your kit on the nearest coffee table is not going to get the best out of it. Quite the reverse, in fact... Amazingly though, you don't need a massively expensive equipment support to gain serious leaps in performance – a set of high quality polymer isolation feet such as these IsoNodes from Bright Star will do nicely. There's no hocus-pocus involved – they haven't been rubbed on the thighs of Polynesian virgins (or whatever) – they simply act to reduce the ingress of mechanical noise (i.e. vibrations) into your hi-fi separates.

How so? Well, we know now that electronic components are microphonic (i.e. they pick up sound). It's not much, but enough to increase your noise floor and generally add

muddle and mush to the proceedings. It even damages a product's intrinsic musicality – properly isolated, there is far more rhythmic flow and bass bounce. The IsoNodes simply absorb vibration, just like the rubber bushes in your car suspension - it's not rocket science. What sets them apart from any old bit of rubber is the particular polymer compound used, which is slightly elastic but dead to the touch. Placed under a CD player or preamplifier, the difference can be quite profound, whether it's a £250 Cambridge Audio 640C silver disc spinner or a £2,500 MF Audio passive preamplifier. Bass is stronger, fuller and far more musical, midband cleaner, smoother and more dimensional, and treble sweeter and smoother. Quite a result considering the price,

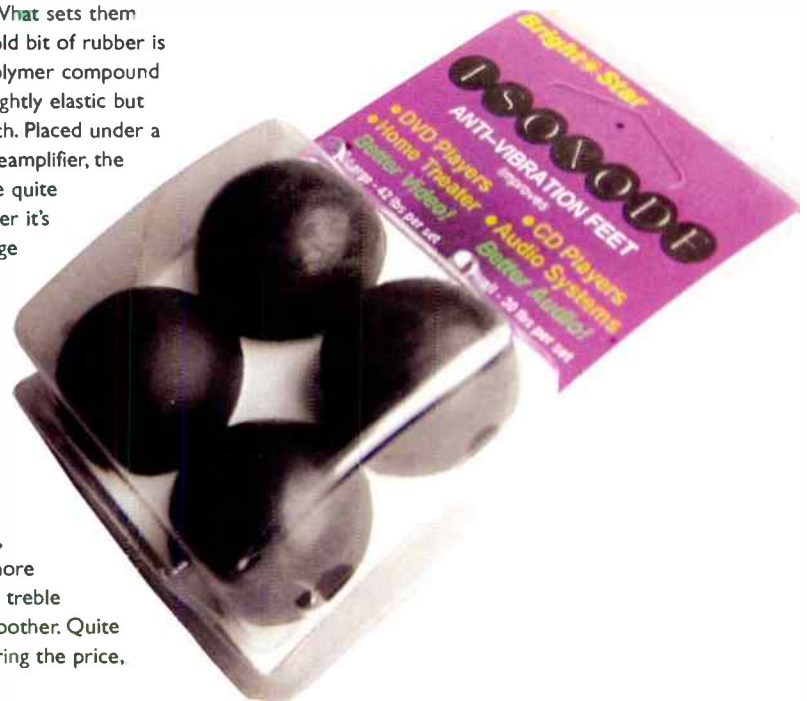
which is £15 inc. P&P for a set of four. Thoroughly recommended, then.

Contact

Absolute Analogue

+44 (0)20 8459 8113

Absolute_Analogue@email.msn.com

**BRILLIANCE EUPHONY £240/M**

It was the entry-level Synergy that first alerted us to this small UK specialist cable manufacturer. While the look and feel of the £50 interconnect was nothing to write home about, the performance spoke volumes, the cable delivering a sound that wouldn't disgrace a cable at

tation – no lurid 'day-glo' shell suit colours here. The braided sleeve is of excellent quality, and the soldering to the WBT-0144 locking RCA plugs is excellent too. These are a pain for reviewers constantly plugging and unplugging cables, but once you've locked them into position, they stay! Euphony uses a twisted pair configuration, but beyond this Brilliance doesn't specify any technical details.

Once again though, the performance speaks volumes, the Euphony proving more than price competitive. In absolute, cost-no-object terms, there's a touch of haze to the midband, and a slightly soft and rose-tinted presentation (hence the name, I presume?), but in sub-£300 terms

and engaging sound. Whilst it never sounds explicitly detailed (in the way that Nordost cables do, for example), it is no less informative and more engaging to listen to than rivals under £300. Bass is full but controlled, midband is mellifluous and beguiling, and treble silky smooth and spacious. Overall, an excellent interconnect that just plays music. It's particularly amenable with ultra spry and analytical sounding CD players (the Audiolab 8000CD benefited immensely!), and many will be reassured that much of the purchase price has been spent on the cable, rather than fancy packaging.

Contact:

Brilliance Hi-Fi

07963 117 341

www.brilliancehifi.co.uk



twice that much. Well, at £240 the Euphony is at a whole new price point, and there's some intense competition from the likes of Chord Company, to name but one big brand. This mid-to-high end interconnect has equally no-nonsense in presen-

this is utterly on the pace with an expansive, detailed

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Robot Wars

Late nineteen seventies Japan saw a fierce 'battle of the brands', as the giant electronics corporations fought it out to make the ultimate turntable. The stunning computer controlled 'Biotracer' PS-B80 was Sony's contender, and very interesting it was too, says Haden Boardman...

Back in 1978, as British audiophiles were falling over themselves to buy Linn Sondeks, Japanese hi-fi nuts were going crazy over a new breed of (then) ultra high technology quartz-locked, direct drives offering amazing technological sophistication.

Denon, Kenwood (Trio), Technics, Pioneer and Sony (to name but five) had tremendously sophisticated flagship products on the market, often selling for five times as much as a Linn. Some companies obsessed on the drive system, others on the tonearm – both with varying degrees of success. But one thing you could be sure was the stunning attention to detail and build quality.

Sony's PS-B80 was launched right at the end of the seventies, replacing the TTS-8000 (Sony's Technics SPI0). Whereas the '8000 was a massively built transcription motor unit, the '80 was a less substantial (but still big and heavy) integrated turntable with built-in 'Biotracer' tonearm. Although it offered automatic start and stop as a matter of course, the arm's ingenious electronics were aimed squarely at improving trackability, and therefore sound quality.

A technical *tour de force*, the Biotracer arm looks big at the back, and there's a reason – it contains two sophisticated linear motors, along with two magnetic velocity sensors, for horizontal and vertical movement, which control all elements of the arm's behaviour. There are no adjustments on the back for tracking weight or anti-skate. Tracking weight is set electronically through a dial on the front, anti-skate is of course automatic.

Across the front of the deck are a series of electronic touch buttons that control every aspect of

operation. It is forbidden to try and move the arm by hand, you must use the "skip" buttons on the front of the deck. Normal operation is totally automatic, a small tower at the side of the arm shines an LED light through to a couple of sensors located beneath the holed platter. Speed is automatically set (with manual override), and the arm slowly makes its way across to the lead-in groove; smooth, silent, and very slick.

This being the late seventies, direct drive ruled and the Sony was no exception. A brushless, slotless, linear direct drive motor was fitted, with no provision for variable pitch and no strobe markings. The Biotracer arm takes centre stage, the only other feature of note is the automatic stylus cleaner – a small brush at the front of the deck will gently polish your stylus for you at the touch of one button!

This turntable is made well enough, its mix of plastics, wood and metal weighing in at 15kg. The arm itself reminds me of an early era of Japanese decks, the 'broadcast' arms of the nineteen sixties – I am sure someone at Sony was on a nostalgia trip when they drew this one up! The

selection of red LEDs at the front clearly looked very high tech at the time, but now seems a little dated. Still, the PS-B80 is undeniably an expensive and highly sophisticated piece of kit...

SOUND QUALITY

Several other decks were to hand for comparison; a late eighties Linn LP12/Ittok, a Pioneer PL 590, and of course Garrard 401/SME 3012 II. Initially the deck was fitted with a period Goldring GL900, but it was clear that this may not suit what must be classed as a high mass arm; Sony quote a cartridge weight of 12 to 22gm, and with an extra weight on the back changing the range from 21 to 31gm, which does seem a little ambitious!

Sonically, this was rather an odd experience. All the other decks had quite clear sonic signatures. For example, the Garrard has the bass weight and slam, the LP 12 that certain boogie factor, but the Sony was a little over polite, and too



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MBL 111 RC



'Dieses ist nicht ein Dalek aus Deutschland?!' Of course not! This is the MBL 111RC loud-speaker. Here at the shop, we have the even more amazing looking full-range model, the MBL 111E Radialstrahler-Hybrid System 1 loud-speakers available for audition. Also available for demo too is MBL's top of the range CD Player, the MBL 1531. 'Wirklich wundervoll, yah...!'

Basis Audio 2500 Signature



We've just taken delivery of the latest Basis Audio 2500 Signature Turntable, as if there are not enough turntables at Walrus already! No doubt some of you might think it looks and sounds just like another brand of fashionable turntable in acrylic these days! Well, you'll be wrong. For an example, what look like 4 ordinary aluminium legs turn out to be very sophisticated, user adjustable, oil-damped suspension towers...



Hørning Agathon Ultimate

Remember when you were taught never to judge a person or an object by its look? The Hørning Agathon Ultimate is a classic example. The technology involved with these loudspeakers is so complex that we decided its best for you to read about them on the web. No doubt you'll also come across the excellent reviews too. Wait till you see the back of the loudspeaker; looks nothing like the back of your fridge...



The Music First Audio Passive Magnetic Preamplifier has been winning awards and accolades for the last year or so. Walrus was one of the first dealers in the UK to demonstrate its virtues.



Brinkmann La Grange Turntable



Emille is a new brand from Korea. As it turns out the Emille KI-240 is one of the best sounding valve-powered integrated amplifiers available in the UK today. We are sure you'll agree with us...



Emille KI-240

Musically satisfying... modern yet romantic is what comes to mind when describing the sound of this new valve driven line stage preamplifier, the Melody Pure Black 101D.



The real Simon Yorke with his S7 Turntable and Tonearm system.



The new Shanling CD Player, CDT-500, is visually so striking that we thought it best for you to come and see it in the flesh. Meanwhile we can show you what the national flag of China looks like!



Walrus' New Mascot

"a classic has qualities that cannot be fully replicated by anything that comes later..."



dominic todd

There's an old adage that goes along the lines of, 'if something is good, then it will be forever so'. This is what makes a classic. For example, the finest Georgian, Victorian and Edwardian houses are even more desirable than anything brand new, even though building techniques are more advanced now than then (the Georgians hardly bothered with foundations, yet their construction still makes them sought after).

Much the same is true with cars. A Mercedes SL Gullwing, Bugatti Royal or even a Rolls Royce Silver Ghost still command a sense of awe today – with prices to match. The same applies with furniture, art and many other works of man. Yet the principle of something forever remaining a classic or, if you like, an icon does not always hold true. Fashions and technology move on.

Whilst the finest products survive, technological progress can be so ruthless so as to obliterate the past from the consciousness of man. Despite its valve/transistor design and 'classic' teak effect wrap, I'm sure there wouldn't be many people out there willing to pay attention to or money for a 1979 Ferguson 3821 black and white TV – yet it's in the Science Museum. Even the very finest black and white TV in existence (the make and model of which I have no idea), would probably struggle to match its value in scrap.

Okay, so perhaps I'm exaggerating, but the point illustrates the difference between classic product design and mere novelty. No matter how good the finest black and white TV ever was, it will never be a classic because

nobody wants one when you can have High Definition colour. The same is the case with old computers and, I fear, MP3/iPod players. I may be wrong, but I doubt we'll ever be featuring an MP3 player as part of our Olde Worlde section. Well, maybe we'll have the original iPod one day, but that's about it. Who will ever want an MP3 player the size of brick, with the memory of a fish and a battery life of five minutes? A few may, but this will again be for novelty, retro cool or nostalgia and nothing more.

With the finest hi-fi components however, a true classic can still bring something quite unique and inimitable to present times. Quad electrostatic speakers of whatever age still impress today. Indeed, they can sound so good that I bet if many of the Bose and Bang & Olufsen fraternity heard them, they'd be gobsmacked. Of course, they are recognised as still sounding excellent and this is why they can rightly claim to be a hi-fi classic – with a price tag to match.

Other such classics which may or may not be as widely recognised include the Leak Troughline tuner, Garrard 301/401 turntable and perhaps even the likes of the best 14bit CD players such as the Meridian MCD Pro. Whether the sonic quality is transparency, solidity of bass or something more indefinable, products such as these have a character that's difficult, if not impossible, to replicate today.

Some of these products are in fact so inimitable that the manufacturers have chosen to re-release them. When Quad recently re-did the Quad II "Classic" monoblock valve amp, what was most amazing was not that the second launch (third if you

count the rather more adulterated 1996 version) was some fifty years later, but that so little had changed! The Quad II Classic didn't just approximate the original's aesthetics with modern electronics, but simply remanufactured it again. The only changes made were where the law required (modern CE approved mains socket, switch and speaker terminals) and where the original parts were no longer in production or at least close to being extinct. Everything else was pretty much carried over.

As for the sound quality, well unsurprisingly there's the same sense of sweetness and texture that made the original so compelling. True, the bass is still rather turgid and these old Quads aren't the most dynamic of amps, but then that's missing the point. The Quad II was never meant to be the most dynamic of amps and, don't forget, came from the generation before rock'n'roll.

Of course, a hi-fi product doesn't have to be fifty years old to merit a relaunch. Acoustic Energy has recently done exactly the same thing with the seminal AE1. Like the Quad II, the AE1 Classic is a near facsimile of the original and has the sound quality to match. Again, like the Quad, the AE1 is far from flawless, yet when it comes to listening they can hook a listener for a whole evening.

A classic must be perceived as being first rate from day one. More than this though, it must continue to charm, bewitch and entertain the user for years to come. Put simply, it must have qualities that cannot be fully replicated by anything that comes later. This is what makes true classic hi-fi, and is why we'll never see the likes of a classic MP3 player ●

More and more firms are introducing top-performing amplifiers as integrations – preamp and power in one box.

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Bel Canto and Gamut both offer remarkable integrated amplifiers but with radically different designs.

While Bel Canto use **ANALOGUE SWITCHING** for their power supplies, Gamut's special feature is their output stage that uses only **ONE PAIR** of very high power transistors per channel.

Comment on Bel Canto's highly technical solid state amps often mentions the "**ANALOGUE**" qualities, understandable with designer Stronczer's SET valve background.

Hi-Fi Choice's view on the Gamut Di 150: "This is clearly a gorgeous amplifier" and made it the Editor's Choice that month.

Bel Canto's own implementation of the ICEPower module technology produces a simple, very compact circuit. A huge bonus is the **AMAZING VALUE**: only £1799 for the S300i stereo. Just don't make the mistake of relating performance to cost! This amp is stunning.

Gamut have merged their highly-regarded D3 preamp with the well-established D200 power amplifier (an earlier Editor's Choice) to produce an impressively **CAPABLE AND TRANSPARENT** component.

"The Gamut delivers a level of insight that can transform a decent recording into a gripping musical journey." Hi-Fi Choice.

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Reference Speaker Cable			3995	4895		450/ft
Set of 4 Bi-wiring Jumpers			299			
Reference Power Cord 1.0 metre minimum					2499	950/m

digital cables

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premium cables

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NEW! SC-3 Speaker wire			1899	2099		100/ft
SC-4 (Bi-Wire)			699	799		50/ft
SC-2 Petite (Single run)			449	499		50/ft
Set of 4 Bi-wiring Jumpers			85			
The Kaptovator AC Power Cord					995	

superconductor cables

JPSlabs Cables Prices shown in £	0.5m pair	1.0m pair	6-ft pair (-1.8m)	8-ft pair (-2.4m)	2m	per metre
The SC fx Interconnect (RCA)	219	259				35
(fully balanced)	299	349				35
SC fx Bi-wire cable			399	439		20/ft
The Analog AC Power Cord					279	
The Digital AC Power Cord					279	
Power AC for amplifiers					379	

entry level cables

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The ultra interconnect (fully balanced)	89	99				30
Ultra Speaker Cable (Bi-Wire set)	n/a	159	139	159		35
The 6PA-2 AC Power Cord			229	259	139	10/ft
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"this was what CD was supposed to sound like."



adam smith

As mentioned in this month's letters page, I have been pleasantly surprised by the amount of communication I have received on a certain topic. This has not come about as a result of my ramblings on the weird and wonderful vinyl players that I like to collect, but thanks to a passing mention of my CD spinner of choice - the Marantz CD94.

Back in 1982 when the world was still largely analogue, a certain eight year old record player obsessive was astounded to hear of this new technology that would revolutionise the world of listening, namely the Compact Disc. In fact I still remember Tomorrow's World devoting an hour long special show to the newcomer, and how I was not allowed to watch it in our one-television-set household because there was a football match on ITV. I have never let my father forget this to this day...

Anyway, CD duly arrived, we were all suitably impressed and a couple of years down the line my father disposed of his turntable and records and purchased a whole new system. Part of this was my shiny new Christmas present of a Yamaha CD-29 CD player which would be connected up to the new gear in the lounge. Things were good until the fateful day about four years later when my uncle announced that he no longer had any use for his Garrard 301/SME 3009/Shure M75ED turntable, that yours truly had lusted after for years. Naturally I offered it a home and was more than a little surprised to hear that it seemed to be doing quite a few things better than my trusty Yamaha.

In a quest to gain that 'perfect sound' I duly began something of a hike on the CD upgrade path that meandered through, amongst others, a Technics SL-P222 (sounded good

but required surgically clean discs, otherwise it hopped, skipped and stuck far more than any turntable I have ever owned!); a Sony of some sort (nice until it stopped working) and finally a NAD 502 which wasn't too bad, until that day about five years ago.

One afternoon, the manager of the Test Department at Goodmans Loudspeakers, where I worked, rang me to say he had some unwanted equipment they were disposing of and, knowing of my fondness for old stuff, did I want to rescue any of it before it hit the skip? Now the GLL Test Department was a fantastic place, where car loudspeaker drive units were baked, frozen, vibrated, sandblasted, sprayed with water and power tested almost to destruction, sometimes one after the other! Consequently, it was something of a challenging atmosphere for anything less than professional gear and top of the clearout pile was no less than a rather sad looking Marantz CD94 which would no longer play discs.

To cut a long story short, after a good clean, four new belts, some new output sockets and a remote control handset, the CD94 sprang into life and straightaway gave me the impression that this was what CD was supposed to sound like. It had soundstage, it had emotion, heck, it even had bass! In the five years we have been together, I have heard a few good players that better the CD94, but all of them carry quite hefty price tags, consequently I'll be sticking with it for as long as it will have me.

To answer a few questions I have had about the unit, I believe that its sound compares very well to a more modern player. Taking its original selling price as a starting point, £800 today would buy you a Cambridge Azur 840C or an Eastern Electric Minimix CD player, for example.

In comparison the Cambridge is definitely more analytical and better detailed, whilst the valves in the Minimix add good emotion, but I rather enjoy the slightly mellow presentation of the CD94, and I still believe it has better bass than both.

Regarding upgrades, I have not tried any so far. The CD94 was top of Marantz's range in its day (with the exception of the limited-run CD12) and so uses good quality components as standard, such as twin TDA1541A DACs and Elna capacitors in the analogue stages. All internal panels are copper plated, as are all the screws. Rumours on the internet abound of improvements to be gained by upgrading op-amps and capacitors, however, as well as the obvious main clock upgrades offered by several companies.

I suppose that I am reluctant to spend too much on what is, essentially, an old player with limited support for spares. It uses the original Philips CDM1 transport, parts for which are no longer available and every time it balks at reading a CD I must confess to holding my breath. It is actually the only Philips-based player I have ever owned that has worked properly and so my confidence in the transport remains hesitant, despite their alleged reliability. Fortunately, so far any hiccups seem to have just been the occasional gremlins that afflict more mature electronics, and it is still working well and sounding superb.

Finally, this article has inspired me to do two things - firstly to get those drawer belts changed again and secondly, to make the original and best upgrade that Marantz designed for the CD94, namely the separate, add-on CDA94 DAC. This was unearthed not long after the CD player but has never worked and is carefully stored in my loft. Time to blow the dust off it, I feel! ●



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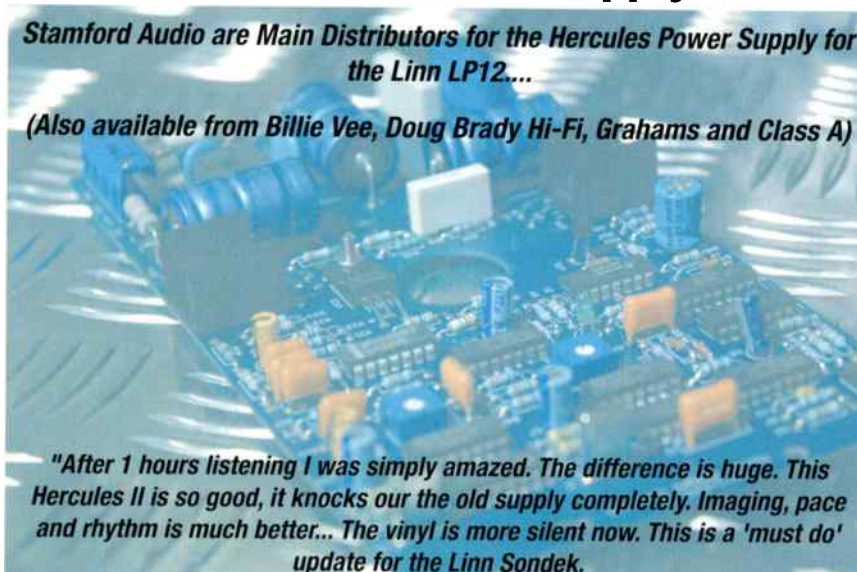
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"convergence has killed the music industry,
as we used to know it..."



paul rigby

You'd be forgiven for feeling that audio has been treading water since the release of Compact Disc. If you're expecting an audio saviour, just don't expect it to come from Blu-Ray and HD-DVD - they are not the answer. The audio files that will lie within these formats are an essential ingredient to the future solution, yes, but it's the container that they will arrive in, Blu-Ray and HD-DVD, that will result in another SACD/DVD-A dead end.

Right now we are experiencing the democratisation of music media, principally encouraged by the lack of dominance of one single format. If you recall, when the CD was introduced, it bestrode the musical firmament like Henry VIII - the ultimate one true king of musical formats, a silver despot! Which meant that all other formats had to die. There would be no room for anything else, no allowance for the fact that we as consumers might want to retain the older formats for convenience and personal reasons. The record labels, the human henchmen of the new king, had to eradicate the competition lest they might bide their time and launch a new challenge to the throne. Well, now the king has grown old and his power has declined, room has subsequently been created to allow competitors in...

To date, none has proven strong enough. This means that, for the first time in commercial history, we have music media democracy of sorts - you can now pick the right format for the right occasion, to suit your life on that particular time of day.

Consumer electronics companies have had a large part in this

revolution. Almost by accident, the likes of Apple, Sony, Philips, Toshiba, Pioneer, Panasonic and, above all Microsoft, plus umpteen computer hardware and software companies, have destroyed the dominance of the large monolithic record companies. The largest reason for format democracy has been the lifestyle technologist's mission of 'convergence'.

Convergence was a mantra forged in the 1990s. The theory was that you had successful yet individual and independent hot spots of technology all over your house and person. Examples include the TV/Video/DVD/Sky hub in the living room, your PC in the office and/or kids' bedroom, your hi-fi also in the living room, your mobile phone in a convenient pocket, your laptop sitting who knows where, and so on. Convergence was the term used to describe how technology companies were going to connect all of these technologies together, and the Internet proved to be the glue...

This means that with the right mobile phone, you can not only phone home but connect to the Internet, find the nearest curry house, watch a live gig and turn on the heating in your home as you come home from work. At home you can view the contents of your PC on HDTV and download a film via your PC as well as access a worldwide database of radio stations. In Starbucks, you can download your email via WiFi and then watch the latest DVD film, then download the latest Madonna album. Get the picture?

Convergence means that technology ceases to become a one-

trick pony. The phone used to be only used for talking to people, the TV for only watching TV programmes and the PC for word processing, but not any more. Technology is expected to be multi-functional and multi-processing - and this is just the beginning. Society, as a result, has become more mobile. We no longer have to wait by the phone at home, expecting that all-important call. We no longer have to stay in and wait for the post to receive that essential letter. We no longer have to queue at a shop to rent a video, nor do we have to go the High Street to buy the latest music.

Audio now fits in to our lifestyle, and does our bidding. We are no longer slaves to music and the record industry. So, if you want to enjoy quality music in your own home with a tactile expansive format you can enjoy audiophile vinyl. If you find vinyl too cumbersome and finicky, buy SACD. If you despair of SACD's restrictive selection and wish to combine decent quality music with, using the same format, portability, buy CD. If you value portability as a priority, buy an MP3 player and hook up to iTunes *et al.* The list of format options is now long. The permutations of how these formats can be adapted towards our lives is almost endless...

Pause then, and consider the above. In this environment, it is almost laughable to expect the once dominant CD format to be supplanted by another, equally dominant, physical format. Convergence has killed the music industry as we used to know it. What it has given us is choice, and I'm all for that. ●

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"with hard drive capacities increasing dramatically, it looks like lossless audio's time has come..."



steven green

Although audiophiles usually view audio compression with utter disdain, there is one form of compression that they can welcome: lossless.

As its name suggests, with lossless audio compression there is absolutely no loss of quality, because any uncompressed audio file that is losslessly compressed then subsequently decompressed will be bit-for-bit identical to the original uncompressed file – which is the definition of 'lossless'.

Anybody familiar with the Zip file format that is used to compress computer data files has already used a form of lossless compression. Unfortunately, the compression algorithm used by Zip only manages to compress digital audio by a measly ten to twenty percent, because the algorithm is optimised to compress files that contain data values which vary randomly from one data value to the next – which is usually the case for computer data files.

Lossless audio compression takes advantage of the fact that the numerical values of consecutive digital audio samples will be similar (the technical term for which is that the samples are 'highly time-correlated'), and lossless audio encoders use 'linear prediction' to predict what the next sample value will be based on the values of previous samples. For example, if sample 1 has a value of 1000 and sample 2 has a value of 1050, then a simple predictor might predict that the next sample value will be 1100, and only the difference – termed the 'residual' – between the predicted and actual values is encoded. The residual is likely to be a small number, so only a small number of bits are required to encode it; this reduction in the number of bits used to encode each sample allows

lossless audio formats to reduce audio files to around sixty percent of their uncompressed size on average – the actual percentage compression can vary significantly from track to track. A full CD will typically be compressed from around 700 to 400MB; and in terms of bit rate levels, lossless compression reduces the 1,411 kbps bit rate of the CD format down to around 850 kbps on average.

The popularity of lossless audio compression has risen sharply over the last couple of years with hard drive capacities reaching the 200-300GB level, which has allowed people to switch away from using lossy audio compression (i.e. MP3, AAC, WMA etc) in order to improve quality. This trend is bound to continue as hard drive capacities grow ever more huge: the largest hard drive in the shops is currently 750GB, which could hold around 1,875 CDs of lossless audio. Furthermore, I read last year that the hard drive industry was predicting that PCs would have 5 terabytes (5,000GB) of storage in just five years' time. With that amount of hard drive space there seems little point in using lossy compression at all for storing audio on PCs or Macs.

It should be said however, that converting from a lossy to a lossless format will not improve the quality, because compression can never improve the quality of the audio being compressed; so it is better to leave existing lossy compressed audio files in their more compact form.

The main issue you face when taking the plunge into using lossless compression is which of the plethora of formats to use; sometimes your hand is forced, however, for example if you want your audio to be compatible with your particular MP3 player. The range is also narrowed if you use an operating system other

than Windows.

Windows Media Audio, Apple and Real have all brought out their own lossless codecs, and MPEG belatedly joined the party last year with its MPEG-4 ALS format. Surprisingly however, possibly the most popular format of all, and certainly the one with the most hardware and software support for it, is FLAC (Free Lossless Audio Codec – <http://flac.sourceforge.net/>), which originated from the open-source software community. If you're not forced to use a certain format for compatibility reasons, then I would recommend using FLAC, but if you'd like to compare all of the main lossless formats over a range of issues and parameters there is a comparison table here: <http://tinyurl.com/8nb9w>.

Another major advantage of lossless audio is that if, for example, you buy a new device that uses a lossy format that you don't usually use, you won't suffer the major loss in quality that results from converting between lossy formats – and by definition, converting between lossless formats incurs no reduction in quality at all.

Lossless audio is also much faster to encode and decode than lossy audio. The better-known formats can also compress high-resolution audio, typically with support for sample sizes up to 32bit, sampling frequencies of 192kHz and above, as well as multi-channel support.

With hard drive capacities and broadband download speeds continuing to increase dramatically, it looks like lossless audio's time has come; and although lossy compression will continue to be the main type of audio compression used for quite a while, especially for some applications such as broadcasting, lossless audio should eventually come to the fore. ●

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"video is a great experience, but isn't going to move you like music will..."



noel keyword

Writing the intro to this year's Manchester Show Guide, I couldn't help but note that Home Cinema (or A/V) once threatened to swamp hi-fi shows to the point where they would cease to exist. I saw this happen in Malaysia and couldn't help but wonder whether it would happen here. Quite the reverse has happened in fact; A/V is sliding out of sight and hi-fi is not doing so badly.

Music affects us emotionally at a level quite different to that of the moving picture; one is interpretive, the other literal. Improving the realism of a musical performance increases its emotional impact and this we value. I watch video too, listen to advanced surround sound systems and am wondering whether to ditch the TV and get a projector. So I am not an anti-A/V Luddite by any means. Yet this is quite different to listening to music. Ever ridden a fast motorbike? Heaven knows why, but being thrown at the horizon atop a two-wheeled missile is - er - a little bit different to driving along inside a car. Video is a great experience, like driving a tin box, but it isn't going to move you like music will.

What happened to A/V? As we all know it is alive and well in truth, but we don't go to Television Shows or read Goggle Monthly; video is a more utilitarian medium than audio. Video and all allied to it does attract an audience, that's for sure, and it is a part of the global 'CE' business (Consumer Electronics), as audio is supposed to be, but whilst audio might fit into this category there is a bit more to it. Let's take Eastern Electric as an example. I was wondering where a company like this could spring from, as its products are very finely balanced in what they offer and perfectly aimed at the real

enthusiast, yet they seemed to appear from nowhere. I e-mailed founder Alex Yeung and here is his (verbatim) reply:

"We are based in Hong Kong with the production in Guangdong province of China. Eastern Electric was found in 2003, not an very old company, but we are a group of music lovers and eager of good sounding audio equipments. The Hong Kong office concentrates on the products development as well as the sales and marketing works. Fortunately, thruout the past few years, we are quite recognized by audiophiles in the USA, Europe, Japan as well as Hong Kong."

What he does not mention is that their products are valve only, as an act of faith that valves are best. Not especially commercial, but this is where audio parts company from CE and why people around the world are enthusiastic enough to start up new companies based more on belief than commercial sense.

Funnily, what doesn't make sense superficially can make sense in more subtle but important ways. Every large scale manufacturer, importer and retailer piled into A/V in the belief that this was the way things would go - and they did, but there was no profit in it because of the amount of competition. Only the really big global manufacturers and largest box shifting retail operations can handle CE on this scale and turn a profit. So A/V has become another global electronic commodity, whereas hi-fi equipment has not.

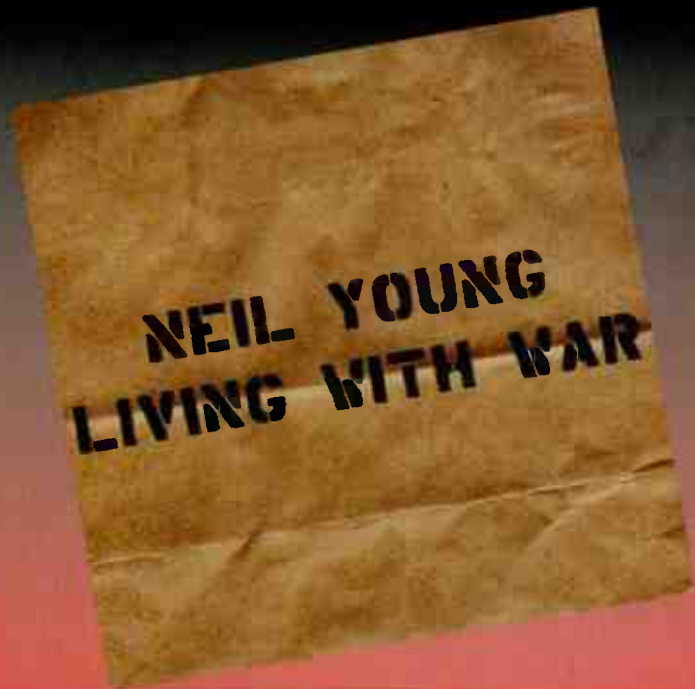
For better or for worse, hi-fi gets steadily more esoteric. Long ago when I was a reviewer, as valves faded away in the 1970s, no one would take them seriously. Tim De Paravicini arrived back in the UK from Lux in Japan and I had to blagg *Hi-Fi News* Editor John Atkinson hard to get him to take Tim's PL509 valve amps seriously and accept a review of them

from me. How things have changed! These days valve amps are becoming an accepted norm in high fidelity, and they are everywhere.

Sadly, it is Brits who kick against these things, more so than Americans, Japanese, Germans and - especially - the Chinese. Such prejudices are slowly evaporating I am glad to say, but a phalanx of old guard journo's in this country still regard valve amps (and direct drive turntables) with suspicion, as do a large swathe of manufacturers, I have to say.

The latter is a little worrying from where I sit, because many of Britain's hi-fi manufacturers saw - and still see - the A/V market as a saviour and rely on it. Because it demands larger quantities of more complex equipment, solely because of the number of channels, it supports higher turnover and allows a company to grow. Britain seems able to support this at present, and perhaps it will continue to do so, in spite of poor DVD sales last Christmas. But their pure hi-fi products are becoming more mundane and less competitive as a result. Innovation is suffering. What we see here is a flood of sophisticated hi-fi products from Europe, the U.S. and China that, nowadays, bear little comparison to anything conceived in the U.K.

Products are appearing I could not have dreamt of back in the 1970s, for example the glorious Melody Pure Black 101d preamp we feature this month. Specified in Melbourne, but beautifully made in China, or the Vincent pre/power hybrid amplifiers, specified in Germany and again built in China. The hi-fi market is becoming ever more creative and adventurous with products like these, and as the volume of such attractive and esoteric products grows it will gain progressively more exposure and interest I believe. I enjoy A/V, but hi-fi is a world apart. ●



NEIL YOUNG
Living With War
Classic/Reprise

Neil Young's latest vinyl release is via Classic Records. Young is a noted audiophile himself and, in the past, has even issued specific instructions regarding the production of the vinyl, right down to the type of paper that should be used (in his last release, it had to be easily biodegradable)!

Reading this album's title tells you everything about the contents. Overtly political, this album is pure emotion – it was recorded in just six days and four of the songs were written on the actual day of recording. So this is an album from the heart which consists of a creative rant against the American president and his administration and his actions during recent world events.

Track titles include: 'Lookin' For A Leader', 'Flags Of Freedom' and, tellingly, 'Let's Impeach The President'. This song ends with Young shouting, "Flip flop," amid contradictory soundbites from President Bush. Still, Young insists the album is non-partisan, "If you impeach Bush, you're doing a huge favour for the Republicans," he argued, speaking to the US media from California. "They can run again with some pride."

The album was initially released as a streamed download. An

immediacy that Young admires and exploits and, in addition, notes is ultimately traditional, "They had these songs that everybody knew the melodies to," Young said. "They'd just write new words and the minstrels would be travelling around spreading the word. Music spreads like wildfire when you do it that way. Now we have the Internet," he said. "It doesn't sound as good, but it's much faster and it gets around the world. That's huge, that's as big as we get." This Classic vinyl version is thus the latest in a long variety of formats and, it goes without saying, is the best you can buy.

DIANA KRALL
Christmas Songs
Classic/Verve

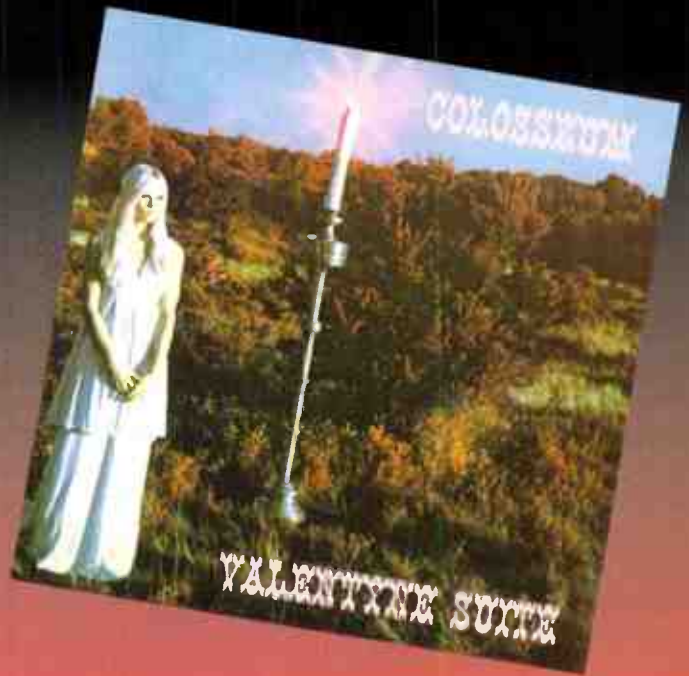
Diana Krall, who judging by the cover has obviously collapsed into a chair after an exhausting festive period, gives us many old festive favourites such as 'Jingle Bells', 'Let It Snow' and 'Winter Wonderland'. Christmas songs are nice but sometimes lull a singer into coasting.

Krall is fully aware of this potential problem, "I'm not exactly working with people who are going to just say, 'Oh it's lovely, Diana.' We never go on an automatic pilot, you know? Sometimes I feel incredibly exposed during the recording

process but fortunately I have the safety net of people whom I can listen to, and agree or disagree with. There's nobody hanging over me and saying you have to do this or that. But that doesn't mean that there aren't surprises and it can be an extraordinarily intense environment. The emotions can run high since people care so passionately about the music and what we are doing."

All well and good, but the album was recorded in the middle of summer, "When we recorded it, the assistant engineer's mom generously loaned us her decorations," said Krall. "We had a tree, lights, garlands and a snowball hanging above the piano. If you stared at it long enough, you could travel to the North Pole and actually see Santa."

Classic's mastering offers the recording plenty of space, which is accentuated by the deathly quiet playback between notes that gives the music time to breathe. With excellent jazz arrangements, some appropriate scatting and the odd modification of the melodies to add interest and keep you on the hop, this album also benefits from Krall's sultry, hot chocolate voice, this is an ideal late-evening album and will send shivers down any male spine - and I don't mean cold wintry shivers, either...



MICHELE
Saturn Rings
Fallout

If your tastes transcend genre and you want something truly interesting then check out Michele's psychedelic folk rock masterpiece, 'Saturn'. Michele was Michele O'Malley, a lady of sublime vocal talents and ex-member of the 1960s outfit, The Ballroom. On this album she is joined by some hefty backing band talent including the Mothers of Invention band member, Elliot Ingber and Little Feat genius, Lowell George.

She was also heavily involved with the American sunshine pop genius, Curt Boettcher: singer, songwriter, musician and record producer who had previously worked with The Association, Gary Usher, The Millennium, Sagittarius and The Beach Boys. In fact, he had influenced Brian Wilson before Wilson created 'Pet Sounds'. His influence is all over this album too. Boettcher was himself involved in seven of this album's eleven tracks.

The album contains three songs that had appeared on the previous 'Sagittarius' LP: 'Present Tense', pre-Michele versions of 'Musty Dusty' (which features the flute, supplied by Lowell George, who also contributes some harmonica work throughout the album), 'Song To The Magic Frog' and

another version of 'Would You Like to Go', which is treated very close to the original. The harmonies and similar instrumentation are there of course, the main difference being the Michele vocal lead. Apart from the fragile songs and the vocal group track, she also belts it out on Curt's eight minute track 'Lament to the Astro Cowboy'.

This is a perfect hindsight album because, upon its release, it died a death and yet, if it was newly released today, but composed and sung by someone like Belle And Sebastian, then it would undoubtedly be a cult hit. An idiosyncratic, ethereal success. There's only a thousand copies of the album available, so get it while you can.

COLOSSEUM
Valentyne Suite
Earmark

Finally, an album for prog rock fans. Released in 1969 and thus on the cusp of the prog rock boom, Colosseum's 'Valentyne Suite' can only be described as 'epic'. The title track is one of prog's greatest moments – if a moment can last for seventeen minutes – and threw the keyboard player Dave Greenslade into stardom. This release still produced problems for fans however, due to the confusion generated between this, the band's second UK release, and the band's

second album release in the USA.

The problem was that 'Valentyne Suite' was the second UK release, but their second US album was not only given a different title, 'The Grass Is Greener', but featured a substantially different track listing, with only four of the eight tracks overlapping with 'Valentyne Suite' (although the version of 'The Grass Is Greener' on the US release has a guitar overdub by Clem Clempson, the original part by James Litherland getting lost in the process). The variance can partially be traced back to the US version of their debut 'Those Who Are About to Die Salute You', which included three tracks yet to be issued in the UK, including the first two (but not the third) of the sections comprising 'The Valentyne Suite'. Confused? It's enough of a mess to instigate a booming headache among those trying to assemble Colosseum's complete early output...

After the prog of the title track, the rest of the album is more blues-rock in nature, but you could see which way the prog wind was blowing with this release - a direction they would pursue for their next album, 'Daughter Of Time'. Colosseum didn't last very long, just three years, although they produced five albums during that period. The album is well mastered and arrives in excellent packaging.

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Time Machines

David Price examines the rise of so-called 'classic' hi-fi, and asks assorted members of the British audio industry what constitutes a classic?

There once was a time when those who could afford it bought new, and those who could not settled for secondhand - or inherited 'hand me downs'. In post-war Great Britain, to be seen in old clothes was a tell-tale sign of deprivation. As the urban slums were cleared in the fifties people aspired to new houses in new towns. By the nineteen sixties, having a new car was a sign of affluence and well being, whether it was a Ford or a Ferrari...



1974 Linn LP12 - the quintessential classic for many people...

Then, suddenly something strange happened. By the early eighties, secondhand suits from charity shops were all the rage with pop stars. Kids were buying 'granddad shirts' and wrinkle pickers. David Bowie appeared in a Zoot suit, and U2 sported old army surplus gear. By the late eighties, rusty old E-types had soared in value from £2,000 to ten times that, Bergerac drove a Triumph Roadster and Inspector Morse a Jaguar Mk II. The



SME 3009 tonearm - set new standards in its day

Japanese began launching 'retro'-styled motorbikes, and suddenly classic was cool.

Hi-fi has always been a few years behind the 'zeitgeist', and so even in the early nineties, most audiophiles would intently read reviews of new CD players with the assumption that they were automatically better

than the ones they replaced. Secondhand hi-fi was stuff you sold to

make room for the new kit you'd bought, because it was better because it was new. Hi-fi magazine classified ads were where you went if you couldn't afford to buy new, and that was all. As late as the early-nineties, the concept

of 'classic hi-fi' didn't exist in most peoples' minds...

The inexorable march of progress was a deep-seated notion, but suddenly there was something in the air. In hi-fi and in life, things started changing in a way that would have seemed alien just a decade ago. Suddenly new products - cars, motorbikes, yachts, watches, houses - started harking back to earlier days, taking names, styling cues, concepts or entire identities from earlier models. At the same time, objects that were far too young to be labelled 'antique' or 'vintage' suddenly acquired a new name and a new desirability. The 'classic' was here. The past began to be celebrated in music. In championing nineteen sixties and seventies rock, 'Mojo' magazine was the first conspicuously 'non-new' UK music title.

IT'S OFFICIAL

In this country, *Hi-Fi World* - dare I say it - was the first magazine to regularly include classic hi-fi, with the 'olde worlde' section becoming an overnight sensation. Articles on the Leak Troughline and Garrard 301, to name but two, sold out the issues they were printed in. It was a slow process, but the industry as a whole began collectively re-examining its past. Maybe the mid-nineties vinyl revival was a sure sign that the old rules didn't apply anymore. As early as 1991, EMI Japan had started reissuing Beatles albums on vinyl (which was a pretty brave act in such a CD-obsessed nation), and by 1994 we had a raft of reissues in Japan, the US and UK. EMI's Hayes vinyl pressing plant was running flat out again, and its manager Bob Bailey said he'd never seen anything like it. Right amidst the heyday of CD, 12in single sales soared, and the device to play them on was a certain 1973 Technics turntable...

The next landmark was the explosion of internet. By the early noughties, a wealth of weird and wonderful old things - things which ten years earlier would have ended up in junk shops or bring-and-buy sales and sold for pennies - suddenly

got their own tribute 'fansites'.

Although some showed misplaced enthusiasm, many proved a brilliant resource. Hitherto, the only way to buy into the classic market intelligently had been a lifetime's subscription to one or more hi-fi magazines and a long memory, but this had all changed. Should an interesting looking curio come up on eBay, all the prospective punter had to do was type its name into Google.

This has been a wonderfully liberating thing. We are no longer passive subjects, forced to buy what's new and best (allegedly). Instead we can be intelligent consumers, mixing and matching modern with classics for the sound we want. But it's not all good news. Classic hi-fi prices are now becoming vastly over-inflated. Where once buying secondhand was a cheap way of getting 'sound per pound', now it's often less effective than buying new, and you have none of the security. Thanks to purple prose from both hi-fi hacks and opportunistic eBay sellers, prices for many old favourites have gone through the roof.

With this is the sad fact that a great deal of classic hi-fi, particularly Japanese stuff, is not supported for spares. Many classic buyers seem to leave their brains at the door when bidding for high end stuff, much of which becomes junk when key, no-longer-available parts fail. The good news is that much of the British gear from the fifties and sixties use less esoteric technology and/or componentry and are relatively easy to restore. Nowadays, there's thriving market for servicing such products, and many have built successful businesses around it.

THE DEFINITION

Never has there been such an overused, indeed 'abused', word as 'classic'. There is no official *Guinness Book of Classic Hi-Fi*. It is utterly subjective, and because of this lends itself to misuse by (yes, you've guessed it) people trying to make a bob or two. Nowhere is this phenomenon more apparent than eBay, where some sellers really let



Rega RB300 - stroke of genius from 1983...

loose with the purple prose when selling what is essentially cheap tat [see CARELESS TALK].

So where does one go for the correct definition of classic? Well, a good place to start is surely the British Federation of Audio (BFA), a UK hi-fi industry body which counts a great many respected manufacturers as its members, and also happens to be running a poll on classics on its website (www.british-audio.org.uk/classic.htm). Chairman Steven N. Harris told *Hi-Fi World*, "For me a classic hi-fi design has to encompass both the design and

worth" respectively. But another popular definition is that a classic must have unique design or technological innovation – something that others try to emulate. One such example is the Decca Gold, which another of Johnnie's nominations. "It's a fantastic first generation moving magnet cartridge with the unique design vertical tempered steel armature passing through the magnet and coils assembly. It has a high output sound with a live band sort of feel. Its sound changes with temperature, so you never really know what it has in store. Still

However, Revolver's designer Michael Jewitt warns against fixating on technology.

"In my view a classic loudspeaker should be timeless both in visual style and acoustic performance. This is quite difficult to achieve as style and acoustic tastes change with the passing of time, and new young generations have different expectations. Also, there are technical advances in

materials which when applied can change both the sound and style. However some so-called technical

advancements hailed as the new 'Nirvana' are merely just different and not necessarily better. For good examples of this, think of CD verses vinyl, or valves verses transistors..."

Moving to the world of marketing, and Sony UK's top man Eric Kingdon thinks that what makes a classic is more of a subjective, sentimental thing, "I think it depends on your personal viewpoint to a large extent. I know of people that consider some products classic that others would not. It's also down to what element is 'classic'. For example, when people say classic 'design' do they mean circuit, electrical architecture etc. or overall product design, or functionality, etc.? There are good cases for both to be considered as classic sometimes. I think we are lucky that so many products have appeared that I would call classics, it's a mark of the passion and enthusiasm that fuels our industry. For me then, a classic piece of hi-fi is something that you can identify with, it may not always be a world first, or the most expensive, or received the best endorsement. Sometimes it may be classic, as it simply made an impression at a point in time and continued to do so. After all, isn't that what great music (whatever the genre) does and hi-fi is after all for the pleasure of music."

One the UK's foremost importers of high end hi-fi, Branko Bozic of Audiofreaks, talks in terms of a product's fitness for purpose. Instead of defining 'classicness' in

"a classic could be a timeless design, or a technological tour de force..."

manufacture. It has to be consistent over time, as anyone can make a good prototype. It has to have longevity and it has to deliver music. It can't be one of those products that may be technically perfect but the designer forgets that its purpose is to allow the listener to enjoy music and not hi-fi."

This first point is an interesting one. Forget grandiose designs and remember reliability. There have been many great hi-fi concepts, but sadly a good number – especially from the nineteen seventies – weren't built as well as they should have been. A number of Brit designs from that era had a reputation for going 'up in smoke' faster than Cheech and Chong. Steve lists the Linn LP12 as something that has truly stood the test of time. "I'm still using an LP12 after twenty five years. My first one cost me £72, a new one would cost me considerably more. It might not be the best at any one parameter but I'm still buying and playing records and I've not yet heard a turntable that makes me think I might want to change."

Audio Origami's Johnnie Seven agrees. "Launched over thirty years ago, Linn's first ever product defied, challenged and eventually revolutionised accepted hi-fi wisdom. It still has factory support and even now new mods are available. The bearing build quality is fantastic and I've never seen a better unit. Even a basic thirty year old model with little servicing will sound great and start first time. The most important thing is that it will be reliable and still working even after thirty years of service."

Both men don't rate the LP12 as a classic because of any particular leading-edge design, but rather because it "has stood the test of time", or "has lasting significance or

available today with much better styli, it is truly not for the faint hearted audiophile!"

Indeed, this notion of inspired technical design making something a classic seems very popular with audio engineers. So maybe it's no surprise that Whest Audio's James Henriot defines it in terms of, "a product that pushes the boundaries of what is capable in terms of audio at the price. The NAD 3020 was clean, musical, pretty detailed, able to drive realistic loads, forgiving and cost next-to-nothing. The design criteria is still used today and in fact many audio manufacturers are still trying to make that next NAD 3020. The electronics were simple and well thought out. A good discrete preamp was followed by a well thought out and stable power amp section. The power amplifier's stability across the band and its well calculated Zobel network really helped. This product has true longevity as reflected in today's designs".

In short then, it's the appliance of science that bestows classic status upon a product - the intelligent, forward thinking use of engineering. James continues, "an example is the Nakamichi transport and head technology used in the 581 cassette decks, right up to the 1000. This combination proved just how far the cassette format could be pushed. The technology is now twenty years old but these machines can still outperform any of the machines currently available today. This understanding of the relationship between mechanics and electronics has found its way into several other audio products and is something that a true classic inherits, the marriage of mechanical and electronic design through research and development".



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WHAT HI-FI?
SOUND AND VISION

World Radio History



Quad ESL57 - technological marvel at the time...

terms of longevity, innovation or emotion, he simply regards a classic as being the most effective all round performer. "For me, any achievement in any area that offers an overall balance of superlative properties deserves to be called a 'classic', and should be remembered for a long time because of this. Sometimes luck may have had something to do with this process, but I could not care less! With audio specifically, then sound, aesthetics, ergonomics and an overall feeling of solidity and longevity would be my personal criteria".

CARELESS TALK

Aside from being a brilliant classic tuner resource, the 'Tuner Information Center' (www.fmtunerinfo.com/index.html#intro) has a hilarious section about eBayers trying to hype up their run-of-the-mill radios into classic audiophile tuners. Here's but one example: "An eBay seller's listing for a Luxman T-115 was so filled with blatant nonsense that we wouldn't trust anything he says... he said it, "has won some industry sound quality awards" (we'd like to see him name just one of these supposed awards), has sold on eBay for \$200-350 "depending on the exact model number and condition" (excuse us, sir, but the T-117, T-110 and other Luxman tuners that may sell in that price range are totally different tuners from the T-115, which always sells for much less), and - best of all - "it's a bargain here on eBay compared to ordering one brand new" (and how exactly would someone order a 1981-model tuner brand new in 2004?)"

Rega designer Terry Bateman expands on this, arguing that you can't reduce 'classicness' to one simple criterion. "In the case of newer classics like the RB300, or Sugden A21, it has to be something which has the right balance between listening and technical parameters and a creative synergistic approach to its design. In the case of older classics like the Leak Stereo 20 and Quad II, these came from a period where there was very little listening done, and it just electronically worked (with a bit of luck). These things often sounded good due to technical shortcomings in the early equipment which helped the sonic properties of the unit. A designer has to go with his feelings - sometimes ideas which are not totally technically perfect may yield good sonic results. His success is down to the ability to combine and

use ideas, solutions and innovations available to, or created by, him. There are sixty years of hi-fi development, so people shouldn't ignore them. They should draw on them, as there are some good ideas amongst them which can be used alongside new technology." Terry concludes by saying that a classic, "must have that creative ingredient X, so the sum is far greater than the individual parts".

X APPEAL

So, a classic could be something that's proven to be a timeless design like the Linn Sondek, or an amazing

technological *tour de force* like Quad's first ESL57 electrostatic loudspeaker. It could be a no-holds-barred performer in its day like the original SME 3009 tonearm, or something intangibly special like Marantz's Model 16 power amplifier. These are all fairly easy to agree upon, but go beyond these and it gets more contentious. For example, NAD's humble 3020 amplifier is none of the above, but surely a classic. Maybe this is where the 'X factor' comes in - some special quality, perhaps that brings a number of very humble qualities together in an inspired way.

We're living in a whole different world even to fifteen years ago. Across all facets of our culture, in 2007 we're celebrating our past and even obsessing over it. Car manufacturers have launched pastiches of iconic models of yore (Mini, Beetle,

CLASSIC HALL OF FAME

ERIC KINGDON, SONY UK

- [1] Quad ESL57 loudspeakers
- [2] Sony Esprit pre-power amplifier
- [3] Marantz Model 16 power amplifier

JAMES HENRIOT, WHEST AUDIO

- [1] NAD 3020 integrated
- [2] Rega RB300 tonearm
- [3] Acoustic Energy AE1 loudspeakers

MICHAEL JEWITT, REVOLVER LOUDSPEAKERS

- [1] Quad ESL 57 loudspeakers
- [2] Tannoy Dual Concentric 15" loudspeakers
- [3] KEF Concerto loudspeakers

JOHNNIE SEVEN, AUDIO ORIGAMI

- [1] Linn Sondek LP12 turntable
- [2] Syrinx PU3 tonearm
- [3] Decca Gold cartridge

BRANKO BOZIC, AUDIOFREAKS

- [1] Dynaco PAS-3X preamplifier
- [2] SME 3009 tonearm
- [3] Conrad-Johnson Premier 7 preamplifier/Premier 8 pre-power

STEVE HARRIS, BRITISH FEDERATION OF AUDIO

- [1] Linn LP12 turntable
- [2] Naim NAP250 power amplifier
- [3] Marantz ST7 tuner

HADEN BOARDMAN, HI-FI WORLD

- [1] Quad ESL57 loudspeaker
- [2] Ortofon SPU cartridge
- [3] SME 3009 tonearm

TERRY BATEMAN, REGA RESEARCH

- [1] Quad II power amplifier
- [2] Leak ST20 power amplifier
- [3] Sugden A21 integrated

Jaguar S-Type) and record companies are repackaging our musical past with more enthusiasm than they show for new artists, it seems. In hi-fi, used values of old (often decrepit) equipment are sky-rocketing while new product sales are in decline. In the midst of all this chaos, only one thing's for sure - that the humble word 'classic' has enormous power, and has opened the door for decades of argument about what it is, and isn't...

MY WAY

Speaking personally, I think a classic has to either move the game forward in terms of performance, packaging, styling or design, or have something in its design and/or engineering that makes it iconic of its particular time. For this reason, I'd nominate Quad's ESL57 loudspeaker for all of the above reasons, Yamaha's TC800GL for bringing serious industrial design to hi-fi separates and Michell's GyroDec for being the first modern exo-skeletal turntable. As with all this feature's correspondents though, I could go on and on and on... DP



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ADVANCE ELECTRONICS ASR250UK. £400

Mains treatments are a whole area of audio that can engender strong reactions and comments. Some people view the importance of the mains supply as a vital part of the reproduction chain whilst some others virtually ignore it, and if the subject crops up on an internet audio forum, fireworks are guaranteed!

To me, the provision of a good, clean and stable mains supply would seem to be a sensible step on the road towards good sound, but until the arrival of this rather unassuming and heavy box into the office, I had never really spent any time experimenting with mains treatments or checking out the improvements that they made. In fact, my first impressions of the unit were that it did not really seem to do much to the sound of our system in the Hi-Fi World listening room, but more of that later...

Supplied by Advance Electronics in the UK, the ASR or Advance Sinewave Regenerator is a constant voltage transformer that, first of all, acts as an isolator so that there is no direct connection to the mains supply. However, its main raison d'être is to internally generate a pure sine wave with 'output voltage correction and stabilisation'. This ensures that no matter how much noise or level variation occurs on your mains supply, or if you are prone to mains spikes (which can potentially damage equipment), the ASR should soak them all up and provide your equipment with a good, clean and steady supply.

Currently, two versions are available, the 100UK and 250UK, rated at 100 and 250 Watts respectively. The smaller item retails for

£240 + VAT and the larger for £340 + VAT. They can be ordered directly from Advance Electronics and delivery is £10 for either item.

As mentioned above, installing the ASR250UK into our reference system here at World Towers, I found myself struggling to detect any really noticeable differences in the sound. However, talking to publisher Noef, he mentioned that the mains supply in the area of London in which our offices are located is very healthy - it runs high a good deal of the time and is quite stable. We are located only 2-3 miles from the power station and there is no large industry nearby with huge motors or generators to steal our precious volts!

Consequently, it seemed more sensible to test the ASR under more demanding conditions and immediately a suitable location suggested itself. You see, I happen to live in a small village that is definitely 'out in the sticks!' Not only do we have no piped gas supply, or mains drainage, but power is delivered to our house via a droopy overhead wire that is thinner than some loudspeaker cables I have seen. Power cuts are a regular occurrence all year round, but especially in the winter. Consequently, my fellow commuters were treated to the sight of me lugging home a big and heavy box containing the ASR and it was duly connected up to the reference system at Smith towers.

A brief voltage measurement before connecting the ASR showed that the mains supply was running at 235V RMS, which is not too bad, and I was quite happy that my system was running nicely 'on song' thanks to a few recent tweaks and new power supply capacitors in the amplifier. With a sense of curiosity as to whether the difference would be as minimal

as experienced in the office, I duly plugged in the ASR and listened again.

I need not have worried. This time the differences were noticeable and quite surprising. Firstly, the whole sound seemed to have 'cleaned up' and everything, from the lowest bass to the highest treble seemed to be more clear and detailed. Vocalists had better definition and were more easily placeable in the soundstage, whilst instruments filled out and became basically more lifelike.

When playing more complex music, or tracks that are less well recorded, it was easier to distinguish instruments and pick out individual rhythm patterns. Bass lines and drum beats were clearer and had better pace and the whole system seemed less dynamically constrained.

Another interesting facet of the sound that I noticed were the silences in between tracks became...well... more silent! There was much less evidence of any strange background noises and, as a result, very soft classical pieces such as the beginning of Ravel's 'Bolero' took on better definition. This meant that, as is so often the case with this track, I did not find myself needing to wind the volume up initially, and then back off later as it reaches its crescendo.

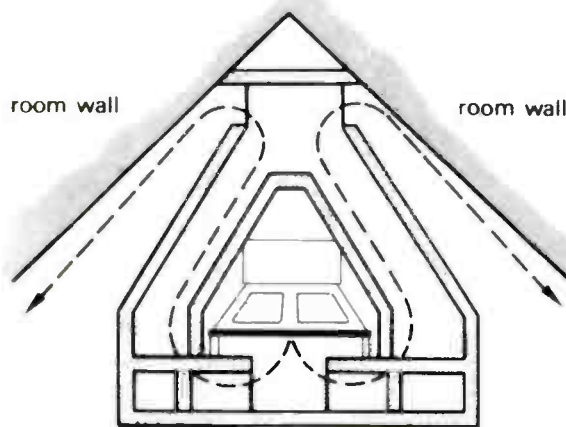
Ultimately, then, I was impressed by the Advance ASR250UK. Whilst it is not a universal panacea to an unsorted system, I would say it is verging on being essential if you live in an area with a fluctuating mains supply, or suffer from mains-borne interference. In this situation, as a fit-and-forget addition to your listening room, there is very little as simple as this that has such a noticeable effect.

Contact: [Advance Electronics](http://www.aelgroup.co.uk)
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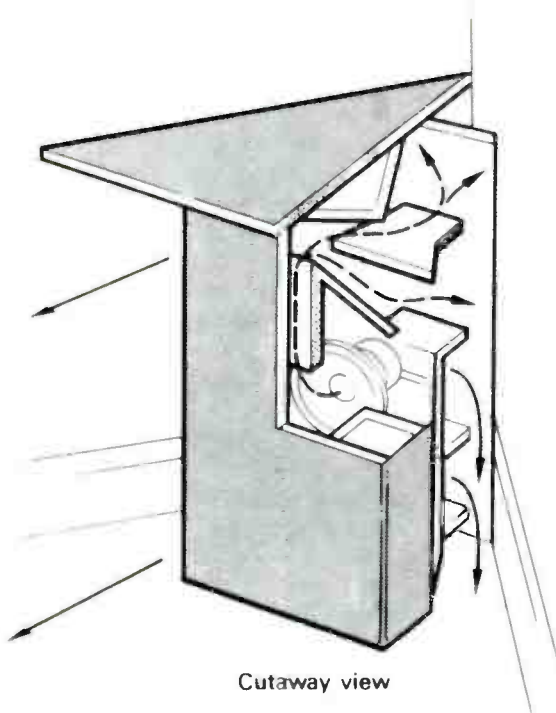
Designing speakers

Part 5 Horns and Efficiency

Horn loudspeakers – love them or hate them - have one thing on their side: efficiency. Peter Comeau explains...



Top view



Cutaway view

I suspect most hi-fi users have a love or hate relationship with horn loudspeakers, usually because of what they first heard when encountering a horn speaker for the first time.

I was lucky. My first exposure to horns was through hearing a pair of Klipsch corner horns driven by a 2W SE valve amplifier. Frankly I couldn't believe what I was hearing. The sound was effortless, filling the room in a dynamically expansive way that was totally different to anything I had ever heard. And all that from a 2W amplifier? Unbelievable.

On the other hand I have heard more than a handful of horn designs which have made me leave the room quicker than I entered it. You see a horn speaker is a tough design assignment and, when it goes even slightly wrong, the negatives add up to outweigh the positives.

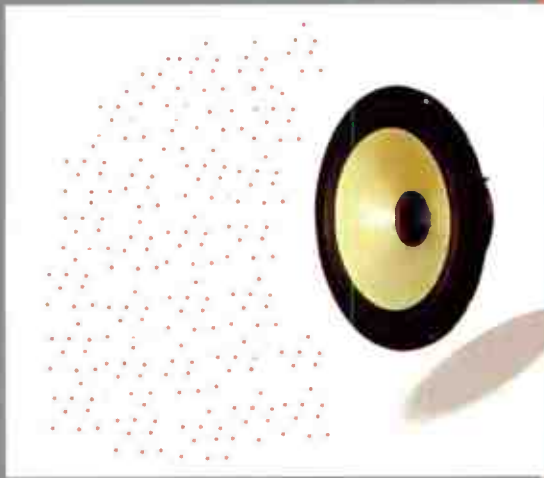
But I'm getting ahead of myself. Let's look first of all at why we would want to use a horn at all.

EFFICIENCY

We are so used to looking at loudspeaker Sensitivity (Acoustic Output for a reference Electrical Input) that true efficiency gets overlooked. A loudspeaker's efficiency is best expressed as a percentage. How much power you put in versus how much acoustic power you get out. In those terms a typical moving coil loudspeaker has an efficiency of around 1%.

Why so low? The problem arises because the acoustic impedance of a moving coil loudspeaker drive unit is much higher than that of the air it is trying to drive. You might know that in electronics driving a low impedance from a high impedance source results in poor transfer of energy and limited bandwidth. It is just the same when we are trying to convert

To look at speaker efficiency in 'common sense' terms imagine this. Sound propagates through the air by air molecules pushing and pulling one another, rather like people surging backwards and forwards in a crowd of football supporters. In order to hear the sound every air molecule in the



room needs to be energised by your loudspeaker. Now if your loudspeaker drive unit is 18cm (6 inches) in diameter how many of those air molecules is it going to push and pull when it moves forwards and backwards? Not many.

What is worse is that we are moving a high mass object – the speaker driver cone – into a low mass gas. Try pushing air with your hands. Can you do it? Waving your hand backwards and forwards doesn't create much of a breeze considering the amount of effort you are putting in.

The upshot of this is that we need a lot of electrical power just to push the speaker diaphragm forwards, stop it, and pull it backwards again. Yet the amount of energy imparted to the air is minimal. So the efficiency is very low. In fact most of the energy is used up in heating the voice coil and in starting and stopping the cone!

electrical power to acoustic power through a drive unit.

There are ways that we can improve efficiency. We can make the drive unit diaphragm lighter. This is often done in Full Range drive units such as the Lowther range. It is just a shame that, as we make the moving mass lighter, the bass system resonance increases in frequency. So we lose out on bass extension and power.

We can make the drive unit diaphragm bigger. Think panel speakers, like electrostatics. The problem here is that we tend to have poor electrical to mechanical efficiency – in an electrostatic the charged diaphragm is spaced away from the drive voltage elements, so the required charge field is very large for only a small diaphragm movement.

Whatever we do it seems increasingly difficult to move large quantities of low mass air with relatively high mass pistons. But what if we look at the whole question another way? What if we increase the mass of the air?

What? How can we do that? The answer is surprisingly simple. If we contain the air in a small enclosure in front of the diaphragm then, as soon as the cone starts to move, the air will be compressed and its density, and therefore the mass of air controlled by the diaphragm, will increase. We often call this type of

speaker drive unit a 'compression' driver.

So now we have better efficiency of transfer of energy from the diaphragm to our high mass packet of pressurised air, but we still haven't communicated this energy to the air

in the room. This is where the horn comes in. By gradually expanding a tube leading from the enclosure in which our air is compressed we can gradually reduce the air density until it matches the density of the air in the room. If you like, the horn is an impedance transformer – high impedance at the drive unit and low impedance at the mouth of the horn – just what we need.

So the horn is now raising the efficiency considerably. Optimised horn design can hit efficiencies of around 50%, though for a typical hi-fi design an efficiency of 20% is considered good. The reason for the difference is in accommodating the considerable size necessary to realise a working, wide bandwidth, horn design.

To start with we need to consider the size of the mouth of the horn as it is this that is energising the air in the room. Ideally the mouth should be large enough that the radiation impedance is largely resistive for the speaker bandwidth. We can easily derive the equation for this as $Circumference/Wavelength > 1$. For a bandwidth down to 50Hz the Circumference of the horn mouth should be 2.2m. Now you can see why full range horns are so big.

We also need to look at the rate of expansion of the horn. The shorter the horn the worse the linearity of the transformer and short horns produce big ripples in the response

We can see horns working most easily in musical instruments, like the French Horn. If you press your lips lightly together and blow you can make a buzzing sound, but it's not very loud is it? But if we contain all the air molecules that are in contact with



your lips in a small enclosure so that you can energise all of them quite easily, then let those air molecules energise more air molecules, still enclosed in tube but expanding so that each air molecule gets the chance to bounce off an increasing number of air molecules. Then, at the wide mouth of the French Horn you've converted a small number of air molecules energised by your lips into thousands upon thousands energising the air in the room.

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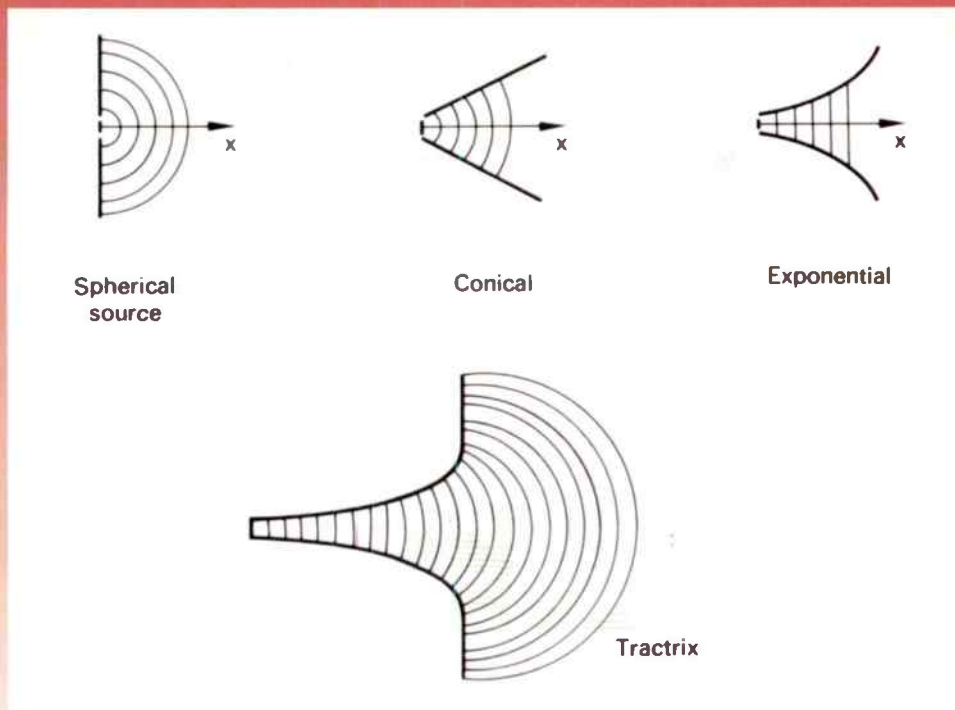


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as the frequency decreases. Ideally we want a very long, and very large, horn, both of which take up space in the living room. But there are ways round this.

An exponential rate of expansion, or flare, in the horn, for example, will extend low frequency performance by about 3 octaves compared to a conical horn of the same dimensions. A hyperbolic flare does even better but its rate of flare at the mouth is large, has a fast roll-off rate below cut-off and a corresponding higher level of distortion. A Tractrix flare, following Paul Voight's 1927 British Patent, has similar properties to the exponential but is shorter, more difficult to calculate, and ideally requires an expanded 'baffle' round the horn mouth to eliminate the last traces of diffraction reflection.

But, remember, we are not designing our hi-fi speaker for open air use. It will be in a room and, as with other enclosure designs, the room acoustics and room gain can come to our rescue. Chief among these are using the room boundaries to extend the mouth of the horn. The floor is the obvious contender but if we put the horn in a corner then we can easily use the floor and walls to extend the mouth of the horn.

A long, flared horn will not easily fit into any room, of course, unless, as R. N. Baldock once did, you build the horn in a cellar with the mouth

exiting in your listening room! As a result most horn designs are folded, and this is where the problems start.

Another way of looking at horns is to view them as waveguides. In a typical closed box or reflex speaker the drive unit radiates a spherical wavefront into the room. It is this rapidly expanding sphere that dissipates the energy quickly in the room. A horn, however, tightly restricts the radiation and therefore funnels all the energy to the mouth of the horn where, in an exponential horn, it emerges with close to a plane wave front.

Long wave guides like this suffer from resonances due to reflected sound. Unless the horn is infinitely long with an infinite mouth, there will be a reflection back down the horn from the radiation impedance change at the mouth. And if the horn is folded there will also be reflections from each boundary corner. It is not uncommon to see response ripples with huge peaks and troughs from horn designs.

These resonances are easily heard as colorations and have given horns, in general, a bad name in hi-fi loudspeakers. Other problems concern the naturally limited bandwidth of horns. The reflected acoustic impedance and mass reactance of the horn increase with frequency and are in parallel with the radiation impedance of the mouth. So high frequency output is limited

according to the dimensions of the horn – we need a big horn for bass but a small one for treble! It is not surprising that many horn speakers are three way designs.

Taking all this into account it is still perfectly possible to make a horn speaker with a relatively wide bandwidth, smooth response and high efficiency. The Paul Klipsch Tractrix corner horn was just one example of a successful commercial design from the past that has continued unchanged for 60 years, but you would be hard put to find many corner horns in production today. One reason may be that there are not many homes which have two suitable corners free, and this makes such a design not particularly commercially viable. But it is not going to stop us!

Finally don't forget that a loudspeaker is only as good as the quality of the signal it is fed. This is especially true of horns. With ultra-high sensitivity, often over 100dB for 1 Watt input, horn speakers expose the listener to all the low level distortion, hum and noise that many amplifiers produce but which are usually 'hidden' by insensitive speakers. As Paul Klipsch once said "What this country needs is a good 5 watt amplifier"!

**Next month:
Crossover design**

WD Series 3 Mod

Part 3



This month Peter Comeau shows how the latest in the World Designs modular preamplifier range, WDPRE3, is arranged internally. He also looks at the power supply.

For this series of modular components we have chosen to use aluminium casework in order to minimise any problems from stray eddy currents. With so many transformers scattered amongst the modules this makes a lot of sense, especially when you want to treat small signal voltages with the utmost delicacy.

All the cases feature our new bi-colour LED that shows when the valves have warmed up to the operating point by changing from red to yellow. Another nice touch is that the legends are engraved into the front panel and so won't ever rub off. And of course each module is fitted with our heavy chromed brass control knobs. Although these

modules are available as kits they don't need to look home made!

OUTPUT TRANSFORMERS

Inside the WDPRE3 most of the room is taken up by the output transformers. To do their job properly output transformers need to have a wide bandwidth and dynamic range. In this particular design, with its interwound screens and high turns ratio, the latter giving a substantial primary inductance, we maximised the performance and worried about the physical size later.

We also wanted to fit the relay input switching module we designed for the WD88VA Integrated amplifier as it avoids shunting the input signal up and down the length of the preamp in a multiplicity of cabling.

This also takes up space at the rear of the amplifier, though it does fit neatly over the ends of the professional grade phono sockets.

But, don't worry; there was still plenty of room for the PCB at the front, located so that the volume control feeds the input valves with a short linking cable. The PCB follows a natural progression with input at the front and output at the rear so that the latter links straight to the output transformers.

Thanks to the elegance of Andy Grove's circuit design there is only one capacitor directly in the signal path and we have created space on the board to use either a WIMA Polyester or Soniqs Polypropylene in this position, the latter as an upgrade choice.

ular Preamplifier

POWER SUPPLY

This modular system of Preamp and Phono amplifier consists of three units, the third being the Power Supply which feeds either the WDPPre3, WDPPhono3 or both. One of the neat aspects of the modular system is that if you want to manage a simple upgrade to the system you just build a second power supply. That way each unit has its own, individual, PSU.

This isn't a necessity. The WDPSU3 is more than capable of driving the WDPPre3 and WDPPhono3. And we suspect most users will use the three unit system as standard – one PSU driving both preamplifier units.

WDPSU3 is relatively unchanged from the PSU2, which is good news for those wanting to upgrade their system as they can make the change to their old PSU to suit the new WDPPre3 quite easily. In the

earlier unit a zener diode was used as part of a voltage drop circuit to produce 100v output for the PRE2. This isn't necessary for WDPPre3 which requires a 250v HT supply. This is simply effected by removing the zener diode and changing the feed resistor.

In the new case we have bolted the heater voltage regulator to the base of the aluminium chassis, via an insulating pad, to act as a heatsink. This just helps to keep the temperature of the voltage regulator down and increases reliability as a result.

One of the components in the Power Supply that we did want to improve was the power linking plug and socket between the PSU and the WDPPre3 and WDPPhono3 modules. The Cliffcons used on the original modular system were over-large and unsightly, we felt, so some diligent research (not many plugs are rated

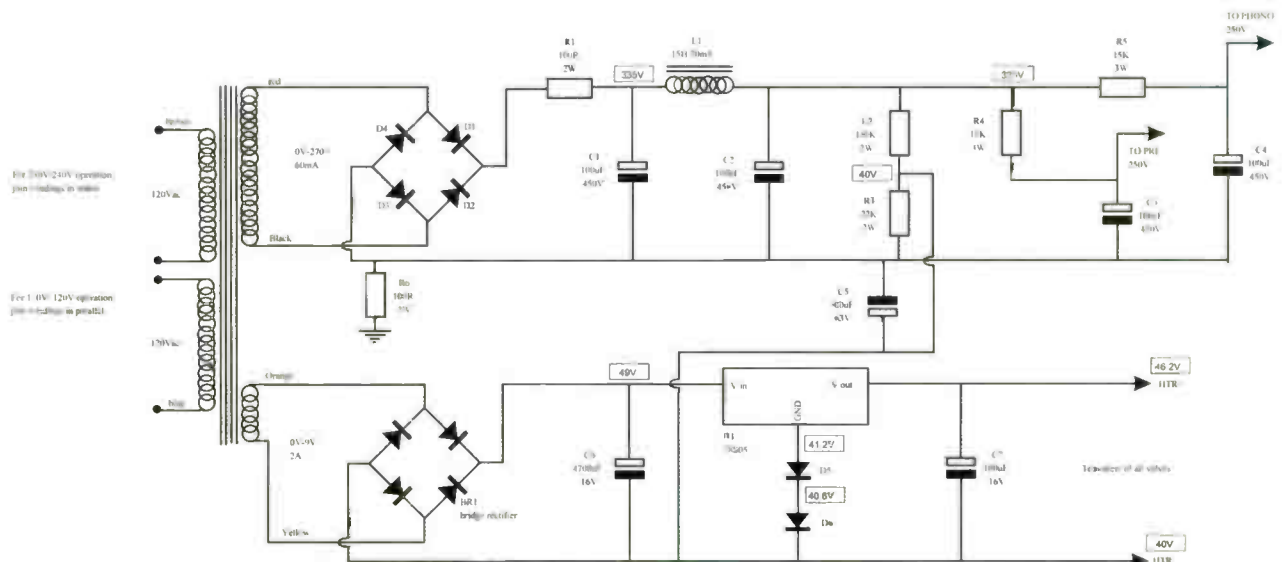


for 250V DC) turned up some neat multi-pin connectors that are easy to assemble, lock the business and, importantly, don't break the bank to purchase.

Next month: The Phono stage

WDPSU3 POWER SUPPLY UNIT MODULE CIRCUIT DIAGRAM (SUPPLY COMMON TO BOTH CHANNELS)

PSU3 circuit diagram. Voltage regulator U1 is bolted to the chassis for a heatsink.





Bristol

Adam Smith previews the delights that can be seen at the annual Sound and Vision Bristol Hi-Fi Show, to be found at the Marriott City Centre Hotel from Friday 23rd to Sunday 25th February.

1987 show will gain free entry, so start rummaging in your lofts!

Naturally, the first room you will undoubtedly be wanting to visit is the World Designs room, where your eyes and ears will be treated to the delights of the WD amplifier range, including the WD88VA power amplifier and the full range of WD Pre3 preamps and phono stages. These will be

working both with and alongside a few choice components that we at Hi-Fi World rather like, giving you all the opportunity to check out one or two of the special pieces of kit that we have auditioned recently.

As if this weren't enough, members of the Hi-Fi World team will be on hand all weekend to answer your questions, ponder anything audio-related that you care to discuss and, of course, debate whether the rain is heavier than last year or not. However, if you can manage to tear yourselves away from us, there is a huge long list of interesting new equipment that busy manufacturers will be unveiling for the first time.

Of top interest to fellow vinylphiles out there will undoubtedly be the new version of the Linn Sondek, no less. Linn will be unveiling the LPI 2SE, featuring the Ekos SE arm, KEEL subchassis and armboard, and a new, metal TRAMPOLIN base. Speaking personally, I will be heading to the Executive Lounge for a close look.

On the electronics front, Denon will be showing their new CX-3

component system. This marks an interesting return to two channel products for the company, and at a cost of £2,700, should make some competitors sit up and take note.

Continuing with two channel, Naim will be demonstrating the SUPERNAIT amplifier through their SL2 loudspeakers. As a next step up from the eminently capable Nait5i, this unit promises excellent performance for those who prefer their box count as low as possible.

As far as multi-channels go, Arcam will be showing off their new Solo Movie 5.1, a surround sound version of the successful Solo all-in-one system. With all the facilities expected of a top quality home cinema system, as well as Arcam's legendary build and sound quality, this is sure to be a success.

Yamaha have a new A/V receiver and DVD player combo to tickle your fancy. Going under the catchy monikers of RX-V2700 and DVD-S2700, Yamaha also teasingly promise a surprise or two in their room (Soavo loudspeaker?). Knowing the quality of their A/V demos, this will be well worth checking out.

As mentioned in our loudspeaker scoop in this very issue, 'speaker designers seem to be pretty busy at the moment and this is shown by the number of new designs that will be unveiled at Bristol. KEF will be exhibiting a second generation of their rather lovely Reference Series. The whole range contains various new technologies and starts at the £3,300 Model 201/2, culminating with the fabulous £12,000 Model 207/2.

The clever bods at Monitor Audio may not quite have mastered the Midas touch of turning things into gold, but they have come close as their new high-end loudspeaker range debuting at the show - the Platinum series. Details are being kept

Rain is wonderful stuff. It helps our plants grow, replenishes our half-filled reservoirs and, if the old saying is true, makes ducks happy. This may ostensibly be a strange way to start an article on a Hi-Fi show, but as someone who has attended the Bristol Show since the late 1980s, I can attest that rain always seems to play a large part - it appears that the last weekend in February is guaranteed to give Bristol a good washing!

Of course this is not necessarily a bad thing. After all, what can be more satisfying than wandering around a rather swish hotel, listening to the cream of products that the hi-fi industry has to offer, whilst well insulated from the strenuous efforts of the Hurricane Herbert that is lashing down outside. We can assure you that, as is the case pretty much every year, the trip will be more than worth the effort. Not only that, but the Bristol Sound and Vision show is celebrating its 20th anniversary this year, so we wish it a very happy birthday. As an interesting footnote to this, anyone coming up with an original brochure from the

Fashion

SOUND & VISION THE BRISTOL SHOW

very quiet at the moment but we do know that they make use of ribbon tweeters and aluminium honeycomb lower frequency drivers, all wrapped up in high gloss finish enclosures with mineral-loaded polymer baffles.

PMC have developed a new model, the EBI, from their highly capable IBI model. Designed to be as worthy a performer as the IBI but in a more domestically-friendly package, PMC have achieved this through the use of a newly developed Advanced Transmission Line (ATL) system. Those who like their low frequencies to be solid and deep should put this room on their tour list.

Quadral will be showing their Signo series of loudspeakers for the first time in the UK. The range consists of the 1.1m high 400s plus the 45cm high 200s, both of which have glass bases and changeable side bars, available in a variety of colours and finishes. They are very slim and stylish, being only 6.5cm deep, and a matching centre channel and subwoofer fill out the range for surround sound.

ProAc will be unveiling the latest addition to their Hexa home cinema system. These are reported to be tall and slim loudspeakers that make ideal front speakers in the Hexa system, but are also perfectly capable on their own for stereo use.

For when all these loudspeakers become too much, you can take a break courtesy of Sennheiser, who will be showing their new high end noise-cancelling headphones, the PXC 450 NoiseGard 2.0s. Retailing for £299, these have some very interesting features, including a 'talk-through' facility, allowing you to hear conversations. They are also unique in that they will still function as normal, quality headphones without the battery for the noise-cancelling circuitry.

Finally, as if all this weren't enough, new cables will be on show from The Chord Company, who will be demonstrating their new Anthem

Brands exhibiting at the Show include...

Absolute Sound Magazine	Fujitsu	MJ Acoustics	Sennheiser
Acoustic Energy	Futureglass	Monitor Audio	Sharp
Aesthetix	GamuT	Musonicon	Shure
Allsop	GoldringZA	Myryad	SIM2
Apart	Heed Audio	NAD	Slim Devices
Apollo	Hi-Fi Critic Magazine	Nagoaka	SME
Arcam	Hi-Fi World Magazine	Naim Audio	Spectral
Art Vinyl	Hi-Fi Plus Magazine	Naim Label	Spendor
Atacama	Hi-Fi Tuning	Neat Acoustics	Soundstyle
Audica	Icon Stands & Mounts	Nordost	Sonos
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Audionet	Illuminaire	Optoma	Stands Unique
Audyssey	Isotek	Onkyo	Stillpoints
AV Forums	Ixos	Onzow	Stuff Magazine
AV International	Jamo	Origin Live	Sunfire
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Bandridge	KAB	Panovision	T.C.I.
Black Rhodium	KEF	Pioneer	Tannoy
Bryston	Knosti	Plinius Audio	TerraTec
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Canton	Kondo	Polar Cables	ThemeScene
Caseologic	Kontak	PURE	Tivoli
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Clearaudio	Last Cleaning Products	ProAc	Uvum
Clearlight Audio	Leema	ProfiGold	van den Hul
Cyrus	Linn	Projection Design	Vienna Acoustics
Craig Laboratories	Living Voice	PSB	Vincent
Da-Lite	Loewe	Q Acoustics	Vinyls Best
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Dynaudio	Lyngdorf	Quadraspire	Walker Audio
EBTB	Lyra	Qunap	Wattgate
Eclipse	Marantz	Rega	WBT
Eichmann	Marigo Labs	REL	What Hi-Fi? Sound and Vision
Einstein	Meridian	Ringmat Developments	Wilson Benesch
Exposure	Merlin Cables	Roksan	Wireworld
Faroudja	Michell Engineering	Rotel	World Design
Fatman	Miller and Kreisel	Roth	Yamaha
Flying Mole	Milty	Rothwell	
Focal	MIT Cables	Ruark	

2.As featured on this month's news page, this retails from £325 to £525 per metre, depending on termination, and incorporates a new complex multi-layer shielding system.

As a final incentive to visit (as if you needed yet another!), the show is operating a park and ride scheme from the University of the West of England, which will make access much easier, especially as two of the nearby car parks have recently been demolished as part of Bristol's redevelopment works. Full details can be found on www.bristolshow.co.uk.

Well, hopefully this has all been enough to whet your appetite sufficiently to ensure that your attendance is guaranteed. Do remember to pop along and say a cheery hello to us, and don't forget your umbrella!



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Letter of the Month

BURNING ISSUE

It was very good of you to reply to my e-mail regarding DVD-A disc burning problems (see below). Thank you very much for taking the time and making the effort to help. Since my original e-mail I have made some progress towards - hopefully - solving the matter and this may be of interest to you and readers. Firstly, I have received a response from Minnetonka Discwelder technical staff as follows:

'Unfortunately, the last data I saw, even the best DVD R/RW disks are only 85-90% compatible with all players. R/RW disks use a whole different technology (dye) and can't be directly compared to manufactured disks (use a "stamped" metal foil substrate). Use only the highest quality brand name media from the manufacturers that make the media (not "rebranded"). Companies like Verbatim or Taiyo Yuden, etc are original manufacturers. Cheap media will have poor yields, even from disk to disk.

The issue you are having sounds like the classic symptom of incompatibility between media and the burner/player. I would suggest testing with a software DVD-A player (like WinDVD/Power DVD, etc.), and playing the disk on both DVD drives. If it plays just fine on at least one of the drives, then you can pretty much determine it is a hardware/media compatibility issue.

Using the best media should help eliminate most of that, and always check for drive firmware updates as they adjust the drives to burn to the new media speed formulation dyes that come on the market. Also try both + and - to determine which type your player likes best.'

I have also received from Discwelder a software download update link which they believe will help. Time I suppose will tell if this helps.

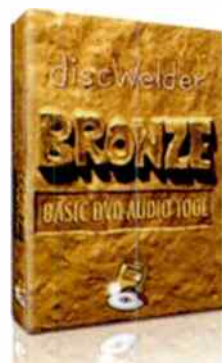
Whilst waiting for a response from Discwelder, further searching on the internet revealed a website that provides information about blank disc quality (www.digitalFAQ.com) and this



discwelder CHROME II



discwelder STEEL



discwelder BRONZE

DVD Audio authoring software from Minnetonka - you'll need it to record LP to DVD-A.

has proved really helpful in informing about blank media that the Discwelder response refers to. It provides a graded list of disc manufacturers according to quality of discs produced. Furthermore, this site provides a link to a software download that will actually read a blank (or burnt) disc and identify its manufacturer and the dye used, thereby enabling its quality to be 'recognised'.

Whilst this helps in knowing the quality of blank media purchased, it doesn't prevent the purchase of supposedly good quality branded media that turn out to be much less than expected. This is a bit like the process of purchasing what you hope will be good quality recordings only to find out when you get home that they are poorly produced. An ongoing problem for all consumers?

Finally, out of a sense of frustration at not being able to solve this problem (i.e. before I had heard from Discwelder, or discovered the digitalFAQ website), I purchased a new external DVD writer (LG GSA E10L) and so far this is providing much more consistent results than the Sony or Optiarc. I know it sounds an expensive way round the problem, but to me the end result of well produced DVD-A discs is worth the effort. The ability to experiment with recordings, especially sampling rates, and produce DVD-A discs from good quality vinyl originals is very enjoyable, especially when I can record vinyl at 24/192 sampling rate and, if I want, produce discs at both 24/96 and 24/192 sample rates. Then setting my Marantz DV8300 player to 24/92 digital output and feeding this into a Chord DAC64 (which accepts digital input up to 24/96). The resultant output sounds so good it makes the effort worthwhile.

Well having made some progress with help from a number of sources - yourself included - I am a little more optimistic about continuing with this venture and obviously very grateful to you (and others) for your response. Why don't you send one of your staff round for a listen?

Now if someone can tell me how to upgrade my record deck without paying a fortune, I could become a really happy chappy!

Thanks again for your interest.

Hugh Duff

For those who missed Hugh's letter last month here's the problem he had:

"the problem that seems to be increasing in frequency, is that more and more of the discs I burn play perfectly well through my Marantz DV8300 Universal player for about 95% of their playing time, but there is increasingly a tendency for what I can only call dropout, i.e. for no discernible reason during playback there are periods of total silence lasting from anywhere between 4-5 and 10-12 seconds. Playback resumes more or less at the point at which it ceased. On very rare occasions some discs suffer more of this problem and don't play well at all and I have put this down to faulty media (the disk used). I have tried a variety of disks from numerous manufacturers and always burn at the slowest possible speed with as few other programmes running at the same time, but cannot believe that the problem lies totally with the blank discs used.

As well as trying to clarify what the problem is I have tried to isolate where the problem might be the basic Wave file recordings made via the sound card play back without fault through the sound system linked to the computer (both before and after editing) and when I down sample these to 16/44 and play via a wireless Squeezebox unit into my hi-fi system. Both my DVD writers produce perfect CD copies when I produce them, whether via down sampled 24/192 Wave files or via original 16/44 files. I currently use a 6 month old Dell Dimension 9150 computer (2Gb RAM & 300GB hard drive) with an M Audio 24/192 sound card installed. Editing is via Adobe Audition 2 and the DVD-Audio authoring programme is Discwelder Bronze. Discs are burnt, either via the Dells NEC/Optiarc DVD writer, or via a 2 year old Sony DRU700A DVD Writer that I had in my previous computer and have also had installed into the Dell. The faulty playback problem occurs whichever DVD writer is used. All connections in the hi-fi playback system are OK. My suspicion is that the problem might lie with the Discwelder DVD-Audio authoring programme, or within the Marantz player, or lastly but least likely the new Chord 64 DAC I have recently purchased and installed in order to improve CD playback. I use the down-sampled digital out from the Marantz into the Chord DAC. Whilst I have my suspicions I cannot find a way to verify them. Minnetonka support have not responded to my e-mails and the people at Marantz don't seem to know what the capabilities or limitations of the DV8300 are with regard to appropriate media to use in their machine. Chord are prepared to check the DAC and modify software in order to interface with the Marantz if necessary, but I have no way of knowing if the DAC

might be the problem. Commercially produced SACDs and DVD-Audio discs play perfectly well through the Marantz and via the DAC.

**yours gratefully,
Hugh Duff**

You are peculiarly coy about your vinyl front-end Hugh, not telling us what it is in your March 2005 or Feb 2006 issue letters! Reminds me of a long conversation with an ardent vinyl collector at the local a few nights ago where his encyclopedic knowledge of obscure Sixties bands and the vinyl they could be found on was awesome, but he did not know what cartridge he was using! No matter, get a Michell, Project or Rega turntable, fitted with a Goldring 1012GX if you have something so bad it is unmentionable. For a top moving magnet cartridge a Goldring 1042 is as good as it gets, at a very reasonable price.

We compared SME and Michell arms in our February issue and found interesting differences, both in their measured vibrational behaviour and sound quality, the two correlating well. As you will see elsewhere in this month's letters Adam Smith, our Assistant Editor, is convinced the SME is tops, but I am not so sure. If you want to spend more on this important component, then Origin Live and SME have solutions. A good outboard phono stage is recommended too, like the Lehmann Black Cube. Hope this helps.

Being a bit of a technophile I

am wondering what to expect from BluRay, or perhaps HD-DVD. BluRay is spec'd at 6 channels of 24/192 PCM audio maximum, so recording two channels of 24/192 should be a doddle, if currently a little expensive. Both Sony and LG have Blu Ray drives, priced around £500, and Cyberlink make PowerDVD software that can also burn to BluRay (see www.cyberlink.com and Power Producer 4 software). This is the future we are told. If anyone has experience of burning to BluRay disc, please let us know. **NK**

TANNOY CORRECTION

Alan Vincent's Tannoy speaker on page 106 of the February issue are in fact corner versions of the very popular Lancaster cabinets. These were more popular earlier on than the 'rectangular' version that dominates, and acoustically I feel they were a bit better...

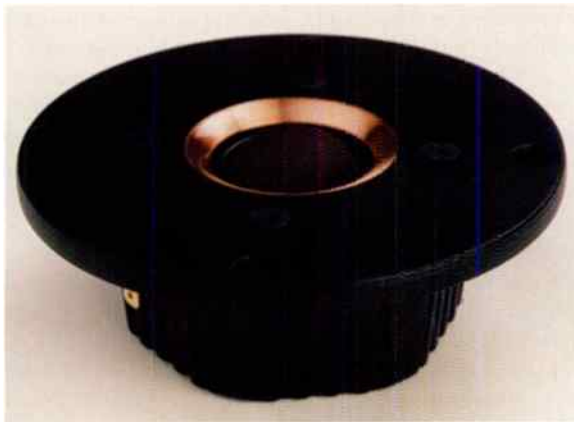
A fabulous, if rather ugly speaker introduced in 1965, it cost £57 10s (£7 10s more than the regular version). Fitted with either the Red or Gold unit (the Red being more desirable) depending on age. The speaker was replaced by the HPD range around 1975.

**Just for your information!
Hoden Boordman**

Our grateful thanks to Haden and also to reader Paul Stewart, who made the same observation. We hope Alan is happy with the final assessment. **AS**



It's a Tannoy Lancaster, corner version, from 1965.



SEAS Millenium tweeter is a suitable replacement for the KLS10/KLS11 Audax gold dome, sadly no longer produced.

OLD GOLD

I bought and built a pair of your excellent KLS11 speakers a few years ago - the big three-ways with Audax drivers including a 10in bass unit and sexy gold tweeter. They sound great, but there is a slight problem. The diaphragms on the tweeters go 'wrinkly' on some days. It is as if it depends on atmospheric conditions.

I can't say that I have detected any change in sound quality but it is unnerving nonetheless. Have you heard of this problem before?

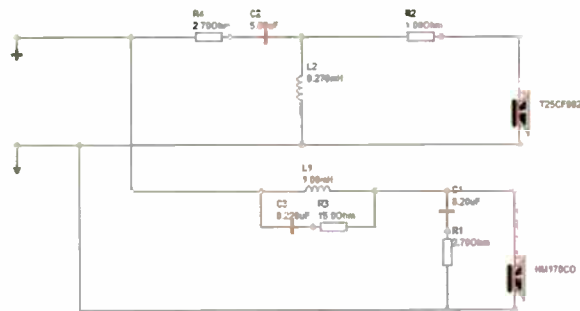
My research on the internet leads me to believe that Audax are no longer an independent company and that this specialised driver is no longer available, let alone replacement diaphragms. Whilst I accept you can no longer support this product, could you recommend a replacement tweeter for this application should they eventually give up?

Tim Rowden

Peter Comeau of World Design replies:

Funnily enough we have also been contacted by another Gold Dome user with the same problem in this case, though, with KLS10 speakers. He was able to return his speakers to us for test and upgrading.

The problem with the Audax Gold Dome arises because the thin



KLS10 crossover circuit diagram to suit new tweeter.

dome film is pressurised and, on early production models, the pressure seal fails after time causing partial leakage. Depending on atmospheric pressure the diaphragm will wrinkle as the pressure drops. Unfortunately Audax ceased manufacturing hi-fi speaker drivers in 2004. We were therefore charged with finding a suitable replacement.

The Gold Dome is a treble unit of excellent performance and required a replacement of equivalent smoothness, clarity and detailing. We

found an ideal replacement in the SEAS Millenium treble unit, product no: T25CF002 E0011, available from www.seas.co.uk. Replacing the unit in the KLS10, which is a two-way, required a rethink of the crossover, but we eventually found it, as in the circuit and graph of final performance shown here. The reduction in crossover frequency to 3.5kHz allows the Millenium treble unit to handle more of the upper midrange - a decided bonus in our view.

A similar treble circuit should work well in the KLS11, though you will need to adjust some of the values to ensure perfect integration with the midrange unit.

PC

Ah yes, the wonderful - if flawed - Audax Gold Dome tweeter. This is one of the best tweeters I have ever measured and heard. Pity that it was a pig to manufacture (we have learnt) and all but impossible to integrate seamlessly, because of its high operating frequency and unfortunately large diameter surround, which spaced it more than a half wavelength away from any partnering unit. Oh, and it was very expensive too at £100 a pop! A great hi-fi folly all the same.

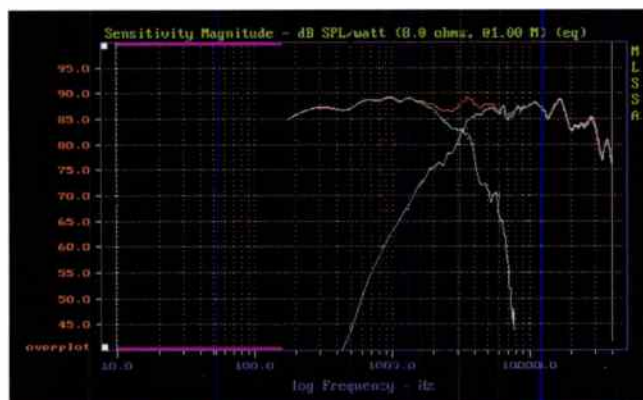
NK

ONE STEP FORWARD, TWO STEPS BACK?

There have been a lot of arguments recently as to how far forward hi-fi has come over the last fifteen years or so. Some publications would have us believe that things have dramatically improved. However, I feel that in some sectors of the market, things have become somewhat grim.

For example, take the Arcam Alpha 7 CD player which cost £700 until it was discontinued in 2000. We are led to believe that its modern counterpart, the CD73T has improved on it; indeed it has a better specification and costs a whopping £260 less - all good then? Well, maybe not so when you compare the two together, as the CD73T seems to sound £260 cheaper. It does not compare sonically with the Alpha 7 - all that has been achieved is that what was once a mid-price player has now become a budget item.

When it comes to budget amplifiers there are more watts available for your money and more facilities. However, the basic principles of amplifiers have not changed, but the less external facilities the better was a principle that was always preached to us. Years ago, Marantz launched a cracking budget amplifier, the PM66SE. It sounded great and was minimalist; no tone controls, loudness buttons or other fripperies



KLS10 - frequency response trace with new tweeter.



KEF Q5 - a very different balance to the good old Celestion Ditton 15XRs.

- basically it had a source switch and a volume control. Its contemporary counterpart now has tone controls, a loudness button and lots of other features but gone are the lovely clean look and the copper screws, and it doesn't sound any better.

My system is a Musical Fidelity Synthesis amplifier and Micromega Stage 3 CD player which, until recently, had been hooked up to a pair of KEF Q5s. Recently, though, I found a pair of mint condition Celestion Ditton 15XRs in a second-hand shop which I snapped up for £20. When I hooked them up to my system I could not believe how good they sounded, so much that I don't use my KEFs any more. So how, as a true hi-fi magazine, do you think things have moved on?

G. Venn

In a constantly changing world, one thing you can be sure about is that hi-fi manufacturers will say their new products are better than their old ones! Then again, maybe they're not completely to blame, as "the inexorable myth of technological progress", as I believe it is called, is all-pervasive in modern society. When we need a new TV for the spare bedroom, we naturally assume the £200 Sony in Dixons is bound to be better than the last £200 Sony we

bought ten years ago, so why should Joe Public think this doesn't apply to hi-fi too?

The heart of the problem, I think, comes down to integrated circuits. Semiconductor manufacturers are stuffing ever-more functionality onto single ICs, and cutting prices year in, year out. If they don't do this, they'll go out of business, because the likes of Arcam (to use your example) will buy their chips somewhere else. It is here that absolute audio quality can be threatened before hi-fi manufacturers get a chance to intervene. One example of this was the change from BIMOS to CMOS. Marantz's Ken Ishiwata once told me, "in the semiconductor industry, moving to smaller, lower power consumption chips has been the trend – and everything went in that direction, including D-A convertors. This is a shame, and it's one I couldn't do anything about, as with these you need current – which BIMOS delivers. With CMOS however, which all CD players were using by the mid nineties, it's only 3v or so – and that very tiny current isn't ideal for a D-A convertor. Each new development has been a new challenge – and not always for the better".

Given that the electronics industry is rushing towards ultra-large scale integration and infinitesimally low power consumption, it's no surprise that sonics can take a back seat.

The other important point is that the hi-fi industry is a very small subset of the consumer electronics industry (and indeed, even the audio industry), so its needs aren't exactly over catered for. That's why you can buy hundreds of DVD-ROM drives, but bespoke hi-fi CD mechanisms are as rare as hens' teeth now. In turn, that's why some even very high end CD players use them - because they're cheap...

The final frontier is surely Class D amplification. In a way, these show how progress can be a good thing, as the early designs were so blooming awful! There are some good hi-fi ones now, and they do have some merit (certainly the transistomy mush of Class AB is gone), but they're also a little bland sounding too, and - with

their low power consumption, low weight and low cost - most at home on budget products and portables. Overall, all these technological developments mean hi-fi is getting better value, but I am less convinced that it is actually getting better... **DP**

Taking each of your cases separately, I must admit that I can see where you are coming from with regards to the amplifier. We spent many a year with minimalism being touted as a necessity and yet, as you say, the front panels of modern amplifiers are gradually becoming more crowded again. It would be nice to think that the reason they are reappearing is because all those clever designers have finally found ways to make them work in a more subtle manner and without causing the aural assault that they often used to, but perhaps it really is down to simple popular demand.

Regarding the Arcam CD player, whilst I take your point, I am not sure that you are comparing like with like. Although the CD73T may ostensibly be a replacement for the Alpha 7, if it is £260 cheaper then I don't think it really is. It makes more sense to compare the Alpha 7 to the CD192, which is much closer to the former's previous selling price.

Celestion Ditton 15XRs eh? They are one of the many pair of loudspeakers that have passed through my hands as well, but I am not so sure I would be ditching a modern pair of KEFs in favour of them. However, as we always say, if your ears prefer them, then that's the main thing! **AS**

Er, yes. If you think Ditton 15XRs are an advance on KEF Q5s then this is more a matter of taste I feel. I suspect you like their warm, full balance and rather soft sound. KEF Q5s are pretty strong sonically, but they are floorstanding, close to a rear wall in a small-ish room. If you don't do this their bass will seem light, the sound a little dry and their treble rather 'obvious' (which it is in any case). I would suggest you consider listening to a loudspeaker with a warmer basic balance and more "body" in its sound. The B&W

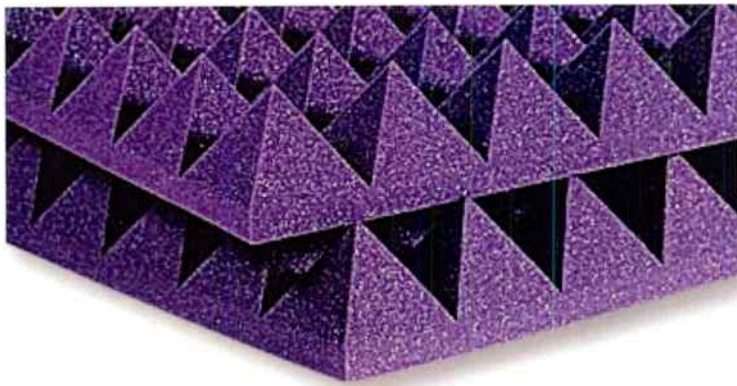


Arcam CD73T - Spiritual successor to the Arcam Alpha 7 CD player?

DM602 S3 may well appeal to you, or a larger floorstanding model from B&W. One point I will concede here, and it may be what you are referring to, is that modern loudspeakers are now all balanced for a bright sound. Our measurements clearly show this and, I'm told by a senior design engineer, that it is the sales force who make the final decision on what will sell, what won't and why. This tells us much. And it also militates for DIY to avoid this unfortunate phenomenon. I always designed World Audio Design loudspeakers to have gently falling upper treble and I think I am right in saying Peter Comeau is not too keen on artificiality of any sort. With DIY it is you who decides on final balance, rather than a sales force. **NK**

STICKING POINT

A couple of small points which I have not yet seen covered in your excellent magazine. Firstly, which glue do you



Auralex Pyramids will help to tame reflections in your listening room.

recommend for sticking back together the outer covers of old LP sleeves? Also, where might I obtain some of the sections of pyramids which I often see in the pictures of high-end hi-fi rooms? Many thanks for much reading pleasure.
Alan Robson

Well, I have found that nothing more exotic than good old Pritt Stick does the job of re-sticking album covers admirably, and is far more visually acceptable than a strip of sticky tape.

I think the pyramids you are referring to are the Auralex Studiofoam Pyramids and these can be obtained from Studio Spares, along with a good range of other isolation and acoustic control items. Studio Spares can be contacted on 08456 441020 or at www.studiospares.com
AS

MAINTAINING CONTACT

I discovered Hi-Fi-World by chance in a small town in North Wales and was immediately attracted by its relative freedom from commercialism and its

near-ideal mix of features. My only regret is the marginal place of classical music in your choice of listening material for equipment reviews. By the way, I regard a good solo harp recording as the most revealing test: if the equipment reproduces the harp in a natural and convincing way, it will reproduce anything well, including jazz and pop. Since you, rightly, give Guy Lamotte credit in the Aro review of December 2006 for some of Naim's best achievements, I recall, that he fully agreed on the merits of the harp as an unforgiving test tool.

Being a recent reader, I don't know if you have covered the various aspects of maintenance. Without regular maintenance, a system - however good and well installed - will operate below its best, sometimes by a large margin. The following two points, based on my non-technical but long experience, may contribute to some readers' happiness.

Contacts should be kept tight and clean, not only in the signal path (from

interference and the number of contacts. Those that remain in, fuses, plugs, sockets etc., should be cleaned and tightened regularly as screws loosen over time. If you are really good at soldering, this is an alternative but a good, clean screw contact obviously sounds better than a poorly soldered one! The above steps require next to no technical skill and will bring back air and bounce to your music at a small fraction of the cost of exotic cables and filters, whilst avoiding their frequent side effects.

Another area which requires maintenance if your equipment is more than ten years old is the power supply capacitors. After about 10/12 years their performance deteriorates rapidly producing a less dynamic and more harsh sound. Their replacement, which is best left to a trustworthy technician, will bring a new lease of life to your amplification, thus sheltering your bank balance and preserving the environment! Incidentally, the contacts on these capacitors should also be critically clean.
W.B.

Welcome to Hi-Fi World, W.B. Your obvious taste and distinction goes without saying! Yes, we've done contacts to death - in fact, I am sure there is some conspiratorial thread on some hi-fi bulletin board accusing me of having shares in Kontak, so enamoured am I by it. At the risk of boring long term readers off their barstools, I'll say again it's the best £15 you could ever spend on your hi-fi, especially if you use classic gear with badly oxidised socketry. If you want to go as far as T-Cutting your mains fuses and plug pins, I suggest you do it in secret, when your other half is out shopping and with the curtains closed to prying neighbourly eyes!
DP

cartridge or lens through to 'speakers) but also in the mains supply - an often neglected area. Having both a direct and devoted feed to your hi-fi installed by a competent electrician will reduce both



Kontak Cleaner - Editor David loves it!

We do use classical music; I personally insist on including a selection of orchestral pieces, mostly for massed violins. They suffer badly at the hands of many loudspeakers, due to 3kHz crossover blemishes, and through transistor amplifiers where a hard, gritty quality can be imposed, and timbre stripped away. Harp can indeed be testing in its own way, with vivid transients and extended harmonics. However, steel string guitar produces similar stresses, which is why we are not averse to a little Steve Earle and B.B. King. **NK**

JB HELL

I have a pair of JBL 150A loudspeakers about 20 years old. The 300mm units need replacing as the foam surrounds have perished. Are these worth the cost of replacement considering they



JBL L150A - a big loudspeaker that will keep you busy with re-foaming.

are unused and will be for sale? Given their size, is there a market for them? It seems a shame to scrap them, especially as the internal wiring was 'upgraded' by Russ Andrews (not good value!).

Just one thing more, the pre-power amplifiers I am using are XTC and were reviewed in your November 1996 issue by Dominic Baker. They are still working and still sound good to my ears. Sadly, Orelle have gone the same way as the foam surrounds.

Robin Lake

Is there still demand for big loudspeakers? Well, contrary to popular opinion there are still quite a few of us out here who will use nothing else! If you were planning on keeping the JBLs then I would have said that they are probably worth re-foaming, but if you are intending to sell them afterwards, then I am not entirely sure you would recoup the cost of the repair, unless you buy the surrounds and do it yourself. To be honest, if you want rid of them, they

would probably sell just fine as they are to an enthusiast who will have them repaired - just don't expect to retire early on the proceeds.

If you do wish to go ahead and have them repaired, the names you need are DK Loudspeaker Services (+44 (0)1708 447344) or Recone Labs (+44 (0)1484 533038) and if you fancy having a bash at it yourself, surrounds and comprehensive instructions can be obtained from NewFoam (www.new-foam.com). The latter should cost you around \$80 including shipping from the US, but having them repaired could run to over £200 plus shipping. **AS**

IN POSITION

Hi, I've been reading your May 2006 edition again as I'm looking at buying a pair of JAS super-tweeters. All is well with the review (p.16 - p.19 inclusive),

Basically I found that the JAS Audio Supertweeters sounded much better placed within the inside edge of the opening or space (aperture) between the Jas Orsa loudspeakers rather than to the outside edges of their cabinets (towards the side walls). Additionally, I preferred them located behind the Orsas instead of parallel to, or on top of, their cabinets. However, I do recommend experimenting with the location of the Super Tweeters for the best sound quality.

Incidentally, the website contact details for the Jas Audio products have changed since the review, and it is now www.shadowaudio.co.uk, while the phone number +44 (0)1592 744 779 remains the same.

CV

POWER DRAIN

More and more of your correspondents seem to be concerned about the effect on the environment of amplifiers, receivers etc. when left on standby or left powered up for hours to improve sound quality and/or prolong the life of electronic components.

I would suggest that the power consumption of the 'serious' hi-fi enthusiast who looks after his/her equipment in this way is far outweighed by the power consumption of all the 12v transformers that are used to power the fashionable low voltage lighting systems fitted in homes all over Britain. If they are plugged in and live, these devices are powered up 24 hours a day, even when all the lights are switched off. And how many garden lighting systems with transformers are using electricity all through the winter months without a bulb being illuminated?

Perhaps the government department concerned should remind all householders that this is a waste of electricity. My hi-fi goes on at least thirty minutes before it is used because it

until I hit Page 18, column 3 at the beginning where it says "within the aperture of the speaker..." regarding placement of these tweeters. What exactly does this mean?

Thanks,
Alex Thomson



JAS Audio Supertweeters will benefit from experimentation to find their optimum location.



McIntosh MC275 - could help to cut your central heating bills!

sounds edgy until it is warmed up, then stays switched on all day.

Richard Bond

Valid points indeed. I suppose it is inevitable that the higher that high-tech becomes, the higher the power consumption as well, but only certain areas seem to be 'picked on' - the home entertainment area seems to have become something of a scapegoat. Certainly I have yet to see any articles deriding lighting transformers or quick-boil kettles. Dominic Todd already covered the DAB versus FM tuner power consumption issue in his November column, and further research has led me to the conclusion that the same concern afflicts plasma televisions when compared to their older CRT counterparts. It is intriguing that the push towards digital radio and television seems to be going against the simultaneous tide of environmental and power consumption awareness. One for the conspiracy theorists perhaps? **AS**

This subject raises some wonderful issues. Wireless Routers and Digital TV set-top boxes both use CPUs that consume many (ten or so) watts all day and night. That's why they run warm to the touch, and when troublesome can be cleared (i.e. rebooted) by pulling the rear power plug out and putting it back! Also, watch out for gadgets, like an old Canon fax machine I once ran at home. For years I wondered why my bills showed constantly high background consumption. Then I found this thing ran very hot and was chewing amps all day long. So if a gadget runs warm or hot, be suspicious!

Are valve amps hideous watt guzzlers? I saw an interesting observation the other day that in

centrally heated homes the heat produced by such an amp will be sensed by a thermostat and accounted for automatically by switching the boiler off for longer periods. Interesting - and not untrue. Valve amps are not left on usually, because it wears the valves out, so there is no standby drain. Of course, when summer comes all this goes out of the window - literally.

If consuming 100-200W or so when the hi-fi is in use really worries you, then get a digital amplifier as they are 95% efficient. Large loudspeakers are also desperately efficient. This means the height of ecological correctness comes from using Tannoy Westminster Royals driven by a Flying Mole amplifier. Together they will draw just a few watts maximum to deliver ear shattering volume. **NK**

Ho hum. Pardon me for my cynicism, but I'm not convinced that 'government departments' give two hoots about environmental issues that they can't extract cash from. As for the BBC's championing of DAB radio one minute (which as DT pointed out, uses masses of power) and then running 'we're all doomed' - type global warming scare stories the next, well that does attract a wry smile. **DP**

ARMED AND READY

With reference to your article in the Feb 06 issue of Hi-Fi World, I believe that the Rega RB250 is the greatest tonearm ever made; not necessarily the best sounding but definitely the greatest. Why do I say this? Because the RB250 can be put onto any superdeck and perform very well - and all for just £124. Brilliant!

Referring back to the August 2003 edition of Hi-Fi Choice, they carried out a comparison test of six tonearms. These were the Linn Akito, Michell TecnoArm,

Origin Live Silver, Rega RB1000, Roksan Tabriz Zi and SME 309. I disagreed with their findings and so wrote to J.A. Michell Engineering with some ideas. The result of this was the TecnoArm A which was designed between John Michell and me; I was very proud that he responded and honoured to have some of his time just before he passed away.

We must not forget that the TecnoArm is based on the £124 RB250 and as you have stated in many of the tests you have carried out, it is a 'five globe plus pound sign' product. This is a top award and so to see that in your Feb. edition that you find fault with the TecnoArm and rate it as four globe plus a pound sign seems unusual, especially after the initial ratings you've given it, even putting it up against the SME V!

I have the greatest respect for all the audio manufacturers and magazines, but as we know, none of us are perfect and always correct. One thing I feel is for sure though is that the humble RB250, TecnoArm A etc. have much more to come; there are great ways to improve its sonic performance even further, both cheaply and simply. The arm tube can be further strengthened and the headshell damped with a simple type of cartridge isolator.

The reason why the RB250 and TecnoArm have the midband sharpness is because of the arm tube casting. Almost all castings have a grain structure that is variable. The size of the grains are not uniform and there can be a degree of variation of the grain structure along the length of the arm tube, much of which can be improved by various heat or metal treatments. It is interesting to note how much the new Origin Live Silver has improved over the older one - most of this was achieved with improved arm tube material!

With EMI and other labels making more great quality vinyl, it is time to get vinyl back to where it should be. We want to see it prominently displayed in shops, not tucked away in a back corner. We want to see it advertised on TV, in newspapers and magazines etc. Let's have a concerted effort and see if we can get back 10% of the music market!

Two of my main passions in life are a nice pint of real ale and listening to music on my Michell record deck, particularly the variety from the lovely Kate Bush. Consequently, with a pint in hand, I would like to thank both Kate and the late great John Michell of Michell Engineering in helping me to enjoy life - here's to them.

Jeremy Simm Ridsdill

I should probably lay my cards on the table at this point and confess that I am not a huge fan of the RB250, I'm afraid. It is unquestionably a superbly engineered item at a bargain price



Michell TecnoArm - a different sonic experience to an SME M2-10

and is more than fine for budget to medium price decks. However, I have personally never subscribed to the theory that it could take on the SME V, no matter how much it is fiddled, as my ears find it has a rather lifeless midband that robs music of a degree of emotional involvement - normally one of the big advantages of vinyl! The Michell and Origin Live modified versions go a long way to addressing this (as does the RB300) but its underlying character never totally vanishes and, for me, the SME M2-10 was much more preferable to the TecnoArm when Noel and I tested them last month. Still, as we often say, if we all liked the same things, the world would be a dull place.

I totally agree with your assessment of record sales placement. Despite a resurgence in vinyl interest, my local HMV has recently cut its display area for vinyl in half and moved it to a location where you have to do battle with people in the queue for the tills in order to rummage - not so good. Still, at least they have also removed the brace of Technics SL1200s for budding DJs to test out their prospective purchases. All this did for me was mean I had to search hard for a copy of any twelve inch single I wanted in order to find

one that wasn't covered in fingerprints.

As for the pint of real ale, that sounds like a mighty fine idea...make mine a Summer Lightning, please! **AS**

For me the midband qualities of the RB250/300 do not erase its strengths elsewhere and I remain impressed by it, especially at the price. However, the SME M2-10 does have a great midband, as Adam says, and perfect treble, so it's a fine arm.

I am interested in your view that it is arm tube material, rather than resonant behaviour, that determines the Rega's midband qualities. I feel sure that, likely with both improved - and it would take Rega to do this - the basic cast tube could deliver even better results than it does today. **NK**

Hi Jeremy. I remember John telling me about the forthcoming TecnoArm in the summer of 2003. This was when he was in semi-retirement, and had stopped running the company, but he suddenly sounded very excited and animated again. You must have some special memories from that time.

As for our globe ratings, well Hi-Fi World doesn't operate a 'Stalinist'

style corporate face with no room for debate. We're a collection of individual writers with individual tastes, and sometimes these come into conflict - the SME vs. Michell arm piece is a case in point. Adam preferred the SME, Noel the Michell. As for me, I personally think the Michell beats the stuffing out of the SME M2-10. I love the pricier SMEs, but on the turntables I tried it, the M2 was vague in the bass, veiled up top and fluffy in the mid, although nicely 'liquid'. I agree that the Rega is a seminal design - love it or loathe it, it's made a big impression on the hi-fi world. **DP**

CD94 AGAIN

Like Assistant Editor Adam, I also own a Marantz CD94 on which I have previously changed the drive belts, owing to the fact that they do stretch in time. As you probably know, replacements can be obtained from Charles Hyde and Son (Partspeed) and the relevant part numbers are 594695, 594696 and 594697. It is often only necessary to buy three of the four belts as the longest belt on the left hand side (when viewed from the front) can be used to replace the longest one on the right hand side.

I bought my CD94 from the son of a friend who needed the money when he divorced his wife and unfortunately she kept the remote control. However, shortly after this I picked up a Marantz RC48 remote at a car boot sale and this controls everything except the volume - can you suggest a reason for this?

I have wondered about possible upgrades to the CD94 such as oak cone feet, replacement power supply capacitors and copper foil around sensitive electronics, but I am reluctant to spend a fair sum of money on re-clocking if the laser has a limited life with no replacements available. Have you tried any upgrades on your CD94? Perhaps this would make the basis for

Billy Vee
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Linn LP12/Ekos/Arkiv T/Table S/H (1Yr G/tee)	(4310.00) £1295.00
Linn Chakra 2200 Power amp E/D (2Yr G/tee)	(2530.00) £1800.00
Naim CDS3/XPS2 CD Player-P/S S/H (1Yr G/tee)	(7875.00) £4295.00
Naim NAC82 Preamplifier S/H (1Yr G/tee)	(2500.00) £1095.00
ProAc Studio 130 Speakers E/D (2Yr G/tee)	(1099.00) £769.00
ProAc Studio 140 Speakers E/D (2Yr G/tee)	(1399.00) £975.00
Spendor S6e Speakers - Maple E/D (2Yr G/tee)	(1495.00) £995.00



Marantz CD94 - attracting lots of interest!

an article, as we previously had one on professional upgrades of CD players costing in the region of £700, but nothing for DIY people.

It would also be nice to have your opinion on how these old machines compare with some of the modern ones and, for example, how much we would have to pay today to obtain similar sound quality.

Bob Angus

To briefly answer your volume question, Bob, the RC48 remote control will not alter the volume as the CD94 does not have remote volume control. Certainly the RC94IICD remote that I have has no volume adjustment controls on it. Incidentally these handsets can still be purchased from Charles Hyde and Son (0870 990 9474) for £29.99 + VAT if you fancy obtaining the correct one for your unit.

Finally, I never imagined a casual comment in my first column would attract so much attention, so please see my column this month on Page 75 for more CD94 ramblings!

AS

BERMUDA TRIANGLE

To improve my hi-fi system, do I need to change my amplifier, which is a Musical Fidelity X-A1, now eight years old? The CD player I use is a Naim CD5i and the floorstanding loudspeakers are Triangle Zephyr XS, with 91dB sensitivity and a 4 Ohm load. I am very pleased with the sound as it is lively and dynamic, especially after buying a Nordost Shiva mains lead for the Naim.

The amplifiers I had thought of are Musical Fidelity's new X Series, the Naim Nait5i (which is a bit too big for my top shelf equipment rack), the Unison Research S6, the Pathos Classic One and the Cyrus 8vs2.

Alternatively, would I be better off changing the speakers to something like the Triangle Antal ESW, Monitor Audio S8, PMC GB1 or Proac Studio 130?

Julian Bedford

Aha, another one of those 'how long is a piece of string' type questions,

without an awful lot of info on your music tastes or room size! Given that you like 'lively and dynamic' sound, I'd plump for the Nait 5i. The Unison and Pathos are lively, lucid sounding products but not terribly dynamic, and the Cyrus is a warmer, smoother sounding device than the Naim. The Nait is a great partner for your CD spinner, and should go really loud with your Triangles.

DP



Musical Fidelity X-A1 - upgrade time?

SUSPENDED ANIMATION

It was a pleasure to read Dominic Todd's perceptive comments on ear-canal phones. I find the Etymotic model a remarkable advance. As Dominic says, the bass goes impressively deep and the top end is precise without being incisive. The response to transients is perhaps only available from a diaphragm this small under the most intimate and rigorous control. Obviously most external noise is eliminated (the 'phones will not be heard!) and not everyone will like the isolation, though one is virtually transported to the recording venue. The 'window' is very open but, sadly it does give into the control room - recordings are a construct but we'd sometimes rather not know the details!

I was reminded of a prognostication by Peter Walker of Quad, who suggested

that the 'closest approach to the original sound' would come from recording through mic capsules well within one's ears and played back through phones in the same position. I would guess that, as so often, he was right but might we not like the original sound? The best seat in the hall would be very much 'in the hall' and would yield something lacking immediacy. Go nearer for presence and the front players would dominate disproportionately. Perhaps the old 'Mercury' recipe was right: a microphone fifteen feet above the conductor's podium.

When the Royal Festival hall reopens could you persuade them to let Dominic be suspended in that position? I foresee only one problem: he couldn't tell us about the total accuracy of reproduction of what he would be unable to hear, thanks to his ears full of microphones!

Ronald Swains

Hi Ronald. You've struck upon the ultimate music lovers' dilemma. Whilst we may strive for perfection

in recordings and playback, it's often the most technically flawed concerts and recordings that stick in our mind. Much the same is true with hi-fi systems. I've listened to many a system that measures well and - by admittedly subjective standards - should sound great: yet the results leave me cold. A colleague of mine once told me that we should strive for a technically perfect system then, once achieved, replace one separate with an item of 'character'. Only in this way will we have a system that we want to keep coming back to, whether using 'speakers or headphones.

Regarding being suspended fifteen feet above the conductor, I'm afraid I'd have to decline any such invitation. Whilst there are probably



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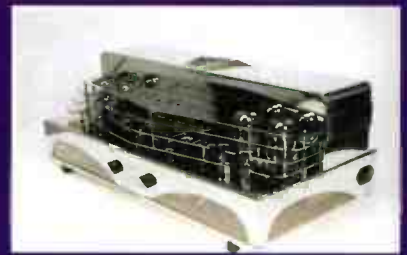
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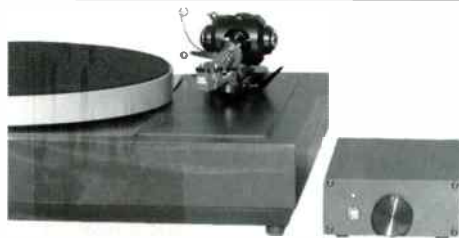
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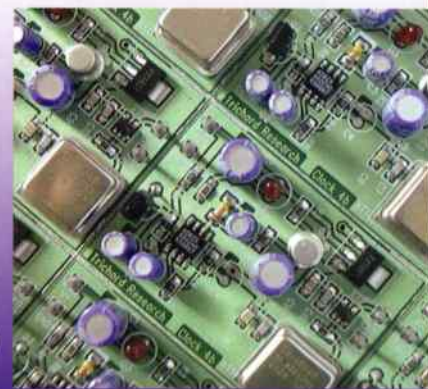
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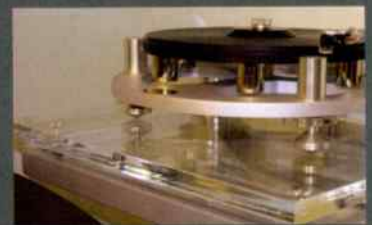


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Theta Pro Basic II DAC with Oscom/Balanced S/H	2990	695	Cables and Accessories		
Wadia 302 Black x-demo	4000	2999	BCD Engineering 1000 Table 4 tier S/H	1650	899
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Analogue			Madrigal MDC2 1m RCA/RCA 75ohm Digital Cable new boxed	420	249
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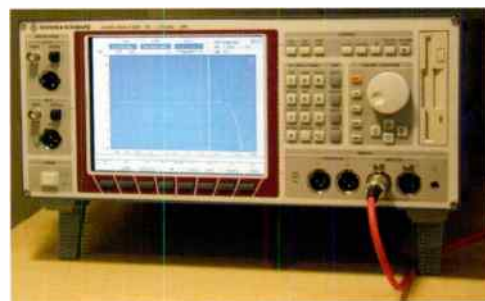
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3. Accept no verbal guarantees.
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AQUALUNG

JETHRO TULL

1971

The band's all-time classic album, 'Aqualung' was Jethro Tull's biggest release and, according to their management, still out-sells everything else in their back catalogue. The album has always been viewed as a concept album with lead singer, band leader and principle songwriter, Ian Anderson's forthright views on organised religion populating a large proportion of the album.

Anderson rejected, often quite angrily and sarcastically, that the album had any sort of 'concept' about it, "I disagreed, although there were three or four songs that kind of hung together. So I said, 'okay, let's give them the mother of all concept albums.'"

This is where the next album, 'Thick As a Brick' came from, the concept album skit, "Some of the songs that I wrote on 'Aqualung' weren't even the thoughts and expressions of a twenty-three year-old; they were the songs of a fourteen or fifteen year-old. The sentiments I was pursuing in some of the more lyrically aggressive songs like 'Wind Up' or 'My God' were about my experiences and confusion about religion when I was a schoolboy. But it seemed relevant to take those emotions and put them into songs as a young twentysomething."

However, 'Aqualung' does address other themes that are just as important as religion. The title-track, 'Cross-Eyed Mary' and 'Up to Me' look at those who have found it hard to cope in society or are down on their luck whilst 'Wind Up' and 'Mother Goose' looks at the difficulties young people have when growing up. "Writing was always my forte," said Anderson. "The musical

"Aqualung still out-sells everything else in Tull's back catalogue..."

side of me matured at a much slower rate than my song writing ability. At the time, there was snobbery among the religious set here that acted like a giant wall between people. I wanted to capture these attitudes."

One of the tragedies experienced by Tull fans was when 'Aqualung' was reissued onto CD in the early 1980s. These people discarded their original vinyl and bought a piece of tosh. Anyone finding an early 'Aqualung' CD album (too much treble, no bass) owes it to humanity as a whole to jump up and down on it immediately. Fortunately, there were improved later CD releases. The 1998 re-release improves the bass and lowers the treble. However, it is arguable that the treble is too low and there was a school of thought that the original masters were not even used during its production. The best CD version was released via DCC, using the original masters and mastered by Steve Hoffman. The volume was increased during mastering which helped the dynamic range somewhat.

For vinyl, the original release was average – not bad but not great. Mobile Fidelity's competing effort used the American EQ'd version which adds too much unnatural bottom end. DCC's vinyl version was the best out there. Finding a copy may be a problem, however.

That's all changed now because Classic Records, from the USA, has just released a new vinyl version, with the full cooperation of Ian Anderson who supplied his own master tapes, I hear, for the occasion. The master

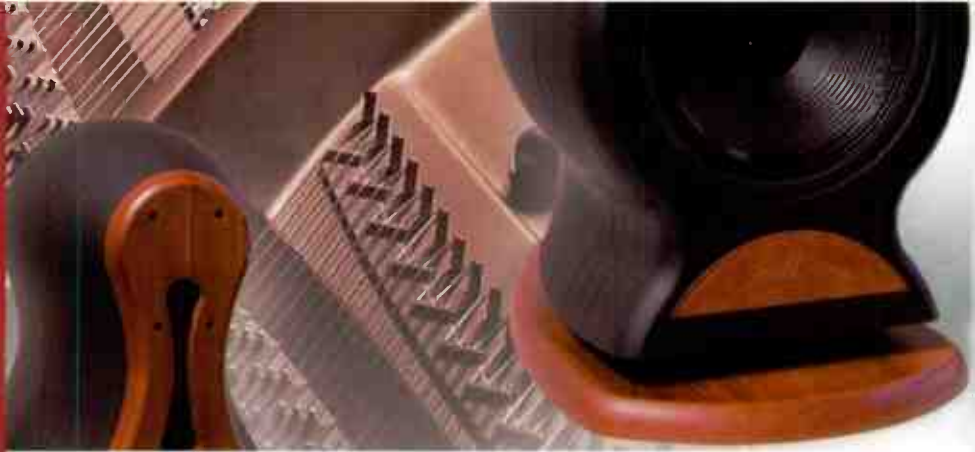
signal has been pushed through Classic Records' preferred mastering set-up, a famously all tube-based system owned by Bernie Grundman Mastering.

Grundman utilises a highly modified Studer A80 transport with a modified head which gives the disk mastering system advance warning of upcoming audio information. The first and second stereo heads are connected to a second pair of preamps, faders, limiters and EQs. The first head sees the music first, then the second head. This allows the electronics in the disk cutting computer to know in advance when a louder or softer section comes up before it happens - so it can instruct the disk cutter to widen the spread and deepen the groove for loud passages and narrow the spread and shallow the groove for quiet ones. This increases the possible playing time and the dynamic range.

The special impedance program playback head on the Studer transport is connected to a set of three Ampex 350 Tube Electronics (preamps) totally rebuilt by Grundman techie, Beno May. Also, the cutter-head has extra wires connected to it for feedback coils that are fed back to the amplifier stages to reduce distortion. Finally, the cutting stylus is also wrapped with a small coil of wire with current going through it - the 'hot stylus' makes a quieter, cleaner groove. The resultant album is open, airy, dynamic, well balanced and a joy to the ears.

PR.

Zingali



Zingali Loudspeakers has been my passion. A crusade since I first heard a pair of Overture Twos almost nine years ago.

Jack Lawson



Closer to the Client Name than to any loudspeaker you have ever heard...

Zingali Loudspeakers has been my passion. A crusade since I first heard a pair of Overture Twos almost nine years ago. Today the brand's signature model finally has arrived. It is a loudspeaker as beautiful as it is unconventional. It only bears the name of its creator and its owner. It is the first loudspeaker model to have no name, perhaps reflecting its neutrality.

It is the result of 20 years development to achieve the perfect loudspeaker; a transducer which adds no colouration and thickness, and subtracts no dynamics or harmonics. Coming from the land of Gucci and Ferrari, you need not ask if it is musical. It glues you to your seat; wherever you are in the room as there is no stereo sweet spot.



Happily, at 124cms height it is neither the size nor the shape of a wardrobe. At £15,995 per pair it offers very good value against much more expensive and inferior flagship rivals.

The entire range, however, may be neglected for similar reasons of compact size and prices. Don't allow your expectations to limit your hopes. At £1,995 you may not believe it is

an upgrade from £5,000 loudspeakers, but the Overture Ones have also been refined over the years and employ exactly the same technology; wave guiding which avoids the limitations of internal volume and external chamber (room acoustics).



The secret is Zingali's patented Omniray Horn. The result is a lifelike presence and energy. Inner detail is reproduced.

Avoiding the need for a conventional crossover, the efficiency and load suit 8 – 400 watt amplifiers without compression. In all rooms, small or large.

Limited Introductory Offer
Anticipating a price increase in January 31, 2007, we have four pairs Overture Ones to sell at £1790 while stocks last. That's two speakers, two pedestals, including VAT and UK shipping. Home approval throughout the UK by arrangement as our prices are direct from the factory.

To hear what you've been missing, take advantage of this limited introductory offer.

Jack Lawson
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