EC-STATIC!
QUAD'S JOYOUS ESL 57 REBORN

HEAVY METAL
storming new Audio Research VSi-55 valve amplifier

SPEAKER SPECIAL
Seven serious mini-monitors
Loudspeakers uncovered
Six all-time greats
Top tweaking tips

MUSICAL FIDELITY X-LPSv3 * DENON DVD-2900 *
ORELLE SA100evo * ARCAM DT-81 DAB TUNER

COMPUTER AUDIO
NERO BURNING ROM v6 * XITEL IN-port

COMPETITION - WIN A GREAT PURE DRX-702ES DIGITAL RADIO TUNER!
Digital has truly come of age

Our old first generation friend, CD, is already looking decidedly like Old Hat. Super Audio CD and DVD Audio are with us, assuming you can find the titles you want (rather than the titles they want you to have) at a record shop near you, or indeed in a record shop anywhere.

Music (and gadget) lovers can revel in the multitude of ways to store and play their (compressed) music, from home or portable hard disk players, hand-held memory card players, or the humble home computer itself.

So why do we fill our adverts (and our shop) with obsolete mechanical machines from a bygone age to spin huge discs at 33.3 and 45rpm with a sharp diamond on the end of a moving arm to read tiny squiggles in the vinyl? How quaint!

We have the largest selection of vinyl players anywhere in the UK (and possibly further afield too) - just a small selection on this page.

More importantly, nobody assembles and tunes turntables like we do - to perfection!

Warning!

We have a huge selection of accessories for the vinyl enthusiast which can be purchased either by personal callers to our shop, or by mail order world-wide. Please consult our website for product details, and how to order.

For info on these, and much more, including our numerous second-hand items, please visit our popular website: www.walrus.co.uk

* interest free credit available on most items, subject to status *

latest!

* The amazing state of the art JBL K2 speakers on demo now
* Shanling CDT-100 CD player on demo
* Naim Aro tonearm and Armageddon PSU on demo
* Rose and Korato preamps on demo
* At last - the new Michell Engineering Tecnodec - on demo
Welcome!

CONTACTS: Mon-Fri 9am-5pm

EDITOR
David Price
tel/fax +44 (0) 0117 966 8264
e-mail: editorial@hi-fiworld.co.uk

DESIGN EDITOR
Faiza Chunara
tel: +44 (020) 7625 3129
fax: +44 (020) 7328 1844
e-mail: adproduction@hi-fiworld.co.uk

PRODUCTION EDITOR
David Noble
tel: +44 (020) 7625 3134
fax: +44 (020) 7328 1844
e-mail: classifieds@hi-fiworld.co.uk

WRITERS
Dominic Todd
LJK Seright
Haden Boardman
Albert Lee
Chris Parker

ADVERTISING
Amanda Sweeney
tel/fax +44 (020) 8864 4760
e-mail: advertising@hi-fiworld.co.uk

ACCOUNTS
Sharon Melbourn
tel: +44 (0) 20 8841 9144
fax: +44 (0) 20 8841 8892
e-mail: accounts@hi-fiworld.co.uk

WORLD AUDIO DESIGN
Technical Manager - Nick Lucas
www.worldaudiodesign.co.uk
tel/fax: +44 (0) 1908 218 836
e-mail: nick@worldaudiodesign.co.uk

PUBLISHER
Noel Keywood
e-mail: publisher@hi-fiworld.co.uk

PRIVATE & TRADE CLASSIFIEDS
+44 (020) 7625 3134
fax: +44 (020) 7328 1844
e-mail: classifieds@hi-fiworld.co.uk

SUBSCRIPTIONS
+44 (0) 20 8841 8892
fax: +44 (0) 20 8841 9144
e-mail: subscriptions@hi-fiworld.co.uk

BACK ISSUES
David Noble
tel: +44 (020) 7625 3134
fax: +44 (020) 7328 1844
e-mail: backissues@hi-fiworld.co.uk


 Outsanding - Simply the best.
 Excellent - Extremely capable.
 Good - Worth auditioning.
 Mediocre - Unremarkable.
 Poor - Seriously flawed.
 Value - Keenly priced.

WORLD VERDICTS: Because we only review products we find interesting, don’t expect too many low scores. Likewise, five globe awards will be few and far between because there’s only one superlative product of its type. The £ sign remains, as we often come across flawed gems that are great value for money.

Hi-Fi World has its own advanced test laboratory and acoustically treated listening room.
Hi-Fi World has a dedicated in-house team of experienced listeners. We review thoroughly by extensive auditioning, rather than by quick-fire group listening tests.
Hi-Fi World’s engineering team designs a wide range of products in-house. No other hi-fi magazine is so expert and dedicated.

Way back when yours truly was wearing flares and riding skateboard (that’s the nineteen seventies and not - as some readers have suggested - last year), every self-respecting hi-fi magazine was preaching the gospel of loudspeakers. Without serious ‘speakers, they said, what chance does the rest of an audio system have...?

Then, by the early eighties, a new wave of audiophiles was championing the source above all else. Using that old computer adage, “garbage in, garbage out”, they insisted that without a serious front end, the rest of the system just couldn’t do its stuff.

Well, I’m ticking the box marked ‘none of the above’. Loudspeakers are profoundly important to a system’s sound, but are also but one part of it. As such, you should find a well-engineered design that fits in with you and your requirements. They’re personal things, and while hi-fi hacks can rant ‘til their run-out grooves, what matters is what works for you.

As such, this month’s Hi-Fi World is devoted to living with loudspeakers. Our supertest of seven bookshelf boxes shows that less can often be more. Noel Keywood, who has been known to design the odd loudspeaker himself (although they weren’t all that bad...), explains how they work and how to get them working for you. Then, we test one of the most stunning designs of all time - the Quad ESL-57 rebuild from Classique Sounds - and six members of our team wax lyrical on their own personal ‘ultimate loudspeaker’, which is proof positive that hi-fi is a subjective pursuit!

One of the few amplifiers I’ve ever heard that can properly drive the Quads is Audio Research’s Vs155. All the way from America, it’s one of the most barrel-chested tube amps I’ve heard, yet has real subtlety to match its stomp – see p5.

Digi-philes have a treat this month too, as we take an in-depth look at Denon’s new DV-2900 on p39. Then there’s Arcam’s DT-8I, Musical Fidelity’s new X-LPS v3 phono stage, Oreille’s new SA100 amplifier and Ahead’s new Nero 6.0 software – not to mention 12 pages of DIY and much, much more - all for your pleasure!

David Price
reviews

digital players
DENON DVD-2900 39
Dominic Todd tries Denon's first universal DVD spinner, and enjoys sumptuous sound and vision for under £1,000.

amplifiers
MUSICAL FIDELITY X-LPSV3 34
Mr Michaelson's latest and greatest phonostage — allegedly? Yes really, says vinyl junkie David Price.

AUDIO RESEARCH VSI55 51
This is one of the best valve integrateds we've ever heard — David Price is bowled over!

ORELLE SA100EVO 57
Here's an unusual — but accomplished — 'super integrated' from a highly respected British specialist manufacturer. Albert Lee listens in.

loudbspeakers
GROUP TEST 11
Noel Keywood finds that several designs from this wide range of bookshelf loudspeakers are 'unputdownable', as he lines up seven baby boxes from Epos, KEF, Mordaunt Short, Mission, Ruark and Tannoy.

CLASSIQUE SOUNDS QUAD ESL 57 REBUILD 35
Electrifying — there's no other word for this heavily modded pair of Quad Electrostatics! David Price plugs in...

tuners
ARCAM DT-81 60
"The best Digital Radio tuner under £2,000", claims Arcam modestly. Noel Keywood thinks so too, but protests that with 128kbps bitrates — it doesn't mean a lot!

systems
ONKYO CS-210 63
Haden Boardman investigates the Onkyo CS-210 micro system.
computer audio

SOUNDBYTES 71
The latest tantalising tidbits from the world of computer audio.

NERO BURNING ROM V6 72
The best DVD/CD authoring software in the world has just got better, finds David Price - but he still reckons it can be a pig to use...

XITEL IN-port 74
David Price tries out this analogue-to-digital convertor in a box, all the way from Down Under.

GO FOR IT! 75
Remember the eighties? A lot of people in cyberspace do, finds David Price as he goes surfing for top indie music sites...

supplement No. 75

DIY CONTENTS 95

DIY NEWS 97
All the latest from the weird and wonderful world of Do-it-Yourself hi-fi.

PANEL POWER 98
Ed Swift unwraps an Electrostatic speaker kit from Australia.

CAN YOU HEAR IT 101
Clive Meakins puts the Stevens & Billington TX-102 transformer attenuators through their paces

UPGRADING THE UPGRADE 106
Neville Roberts installs Origin Live's revised DC motor kit

competition

Win Pure's superb DRX 702ES Digital Radio tuner in this month's great competition!

regulars

WORLD NEWS 7

NEXT ISSUE 9

READERS LETTERS 42
Hi-Fi World's wise men will reply to your letters and e-mails and put you back on the right course. And don't forget, every letter or e-mail we print wins a superb price.

HI-FI WORLD KITS 64
Solder in one hand, glue in the other, satisfy your creative urges with a World kit.

HI-FI WORLD LIBRARY 68
A comprehensive selection of titles covering audio, valve amplifiers, loudspeakers, solid state electronics and more.

SUBSCRIPTIONS 70
Spare yourself the frenzied riot as you struggle with the hordes to claim the last copy of Hi-Fi World in the newsagent - Subscribe today!

COLUMNS 77,79,81
The World team get to grips with issues facing both the industry and hi-fi alike.

DIAL-A-DEALER 82
Look before you leap, or alternatively listen before you buy. These are the people to talk to.

MEET YOUR MAKER 84
Not a call to the spiritual, but a list of manufacturers detailing who makes what, and how to get in touch.

SPECIALIST HI-FI DEALERS 85
The perfect mix - excellent coffee, a comfortable sofa, and someone who really knows how to guide you through the world of hi-fi.

WORLD CLASSICS 87
Our list of products that have stood the test of time.

WORLD STANDARDS 92
Thinking of an upgrade or even a new system? Here's where to find our recommendations from the mass of hi-fi we've reviewed.

MARKETPLACE 107
READERS CLASSIFIEDS 123
The definitive place to find classic audio components.

ADVERTISERS INDEX 129

OLDE WORLDE 130
Sony's magnificient WM-6DC 'Walkman Professional' as seen by LJG Sotright.
Put Music First

Pro-ject
Superb record playing systems from £120.00

All products distributed by:
Henley Designs Ltd, www.henleydesigns.co.uk, 01235 511166

Simple
Stylish
Elegant
Functional
Exceptional

ROKSAN

Distributed by:
Henley Designs
01235 511166
E-mail info@henleydesigns.co.uk
www.henleydesigns.co.uk
www.roksan.co.uk
B HERE NOW
A few months ago we were greatly impressed by Monitor Audio's B4 baby floorstander—well now, we bring news of its new big brother, the B6. The new 2.5-way floor-standing flagship of the five-model Bronze range is said to have still wider bandwidth, high power handling, greater efficiency and more effortlessly realised dynamics. Built from 18mm thick MDF, its twin reflex-ported cabinet employs multiple bracing positioned at critical resonance nodes, while the drive unit compliment comprises three 6.5-inch MMP units (the two lower ones handling bass only, the other provides upper bass and mid-band), and a 25mm Gold Dome C-CAM tweeter from 2.6kHz upwards. The Bronze B6 is available Black Ash, Beech and Rosemah vinyl finishes and magnetically shielded for AV use. Price is £499. Click on www.monitor-audio.co.uk for more details.

NEW EGGS HATCH!
KEF's new £499 KHT1005 surround sound loudspeaker system boasts exquisite die-cast aluminium enclosures housing the company's UNI-Q drivers. It comprising four 65x110x78mm satellites, a 107x181x78mm centre channel speaker and a powered 360x320x320mm sub-woofer with 100W amplifier, cinema/music switch, variable frequency, phase and level adjustments. For more details, click on www.kef.com or call: 01622 672261.

SUPER SONIC!
A new audio industry initiative has seen companies throughout Europe come together to exchange information and develop new initiatives aimed at extending the establishment of Super Audio CD. The Super Audio Forum saw more than 70 representatives from consumer and professional equipment manufacturers, record companies, recording studios, producers and engineers come together to discuss new ways of working to promote and establish Super Audio CD. Delegates included senior representatives from Universal Music, Sony Music Entertainment and many of the leading independent record companies. Major studio participation included London-based Metropolis, Strongroom and Galaxy Studios from Belgium. The opinions of professional equipment manufacturers were represented by companies such as Merging Technologies, Sadie and DCS. The forum heard that SACD now has over 900 software titles available in Europe, with disc replication capacity currently standing at 150,000 units per day. There are more than 65 players available from 25 manufacturers with more product launches planned this summer.

TAG TAKE A PIT STOP
TAG McLaren Audio Limited has announced that it is to cease development of new products and commence a full strategic review of its participation in the audio market. The company's MD, Dr Udo Zucker, says that, "the present world economy has had a significant impact on the market for high quality audio and audio visual products and this has made it increasingly difficult to operate on commercially acceptable margins consistent with the levels of development investment required." As such, existing products will "remain available for the time being" and warranty repair and Helpdesk services will "continue to be available".
C PLUS
From the champions of ‘less is more’ hi-fi, comes this brand new £349 integrated amplifier. The C352 integrated amplifier brings a fresh look to the marque, with a restyled front panel and new all metal chassis. As you’d expect from the company, there’s little in the way of frills – it’s all about sound engineering at a keen price. To wit, you get a meaty 2x80W RMS power amplifier with larger custom-wound toroidal transformer and smoothing capacitors plus Soft Clipping, and upgraded preamp circuitry with revised PCB layouts and better tone controls. An all new System Remote is supplied. If its C350 predecessor is anything to go by, this should be a hoot. Click on www.nad.co.uk for more information.

THE NEW BLACK
NHT’s handsome new Super Audio SB2 loudspeaker features a low distortion/high power 1” aluminium dome tweeter and high-exursion polypropylene woofer, in a new cabinet sporting rounded edges and eight layers of piano black lacquer for a deep, high-gloss finish. Also available in white, it retails for £399 a pair. More information is available by calling 01327 706560 or clicking on www.nhthi.com.

DIVA DYNAMICS
Arcam’s new DiVA A80 Stereo Amp and DiVA P80 power amp offer the chance to go ‘back to basics’. No-nonsense stereo hi-fi components, they’re all about offering high value for money to audiophiles on a budget. Priced at £599 and £419 respectively, this dynamic duo can be augmented by the addition of additional P80 power amps to double system power, bi-amp the speakers and raise the performance. Careful circuit design, novel current feedback power amp topology, liberal use of surface mount components and sorbothane damping are all used, plus a beefy toroidal power transformer with separate power supplies to give the A80 a claimed 65W per side. The A80’s six inputs include a high-quality phono input for moving magnet cartridges and a tape/CDR loop for recording.

The new Arcam DiVA CD93 CD player, priced at £949.90, offers 24 bit, 192 kHz upsampling technology, developed for the excellent FMJ CD33 CD player reviewed last month. With four Wolfson WM8740 DACS per channel and 24/192 upsampling, the company says its new CD93 provides a significant leap forward in CD performance at this price point. It boasts a host of designer discrete componentry, including Analog Devices AD797 and Burr Brown OP2134 op-amps, audiophile grade decoupling capacitors from Stargate and Oscon and low dissipation factor polypropylene capacitors from Wima. Arcam says that all previous DiVA series CD spinners (except the CD62) can be upgraded to the new CD93 specification. As per the A80 and P80, it’s comes in any colour you like as long as it’s black – or silver! Call 01223 203203 or click on www.arcam.co.uk for more information.

IT’S GOOD TO TALK...
AV:Talk is a new online forum dedicated to home cinema, intended to provide an ideal arena for enthusiasts, industry experts and manufacturers to come together and discuss all aspects of their hobby. It features power-buys, exclusive competitions and charity auctions to foster a friendly and "happy to help" environment. Registration is simple and free, with all members having unlimited access to all areas of the forum. Click on www.avtalk.co.uk.
BOWIE ON SACD!
On September 29th, EMI is releasing three classic David Bowie albums on SACD, with 5.1 DSD multi-channel mixes together with PCM and DSD stereo remasters. The titles are 'The Rise and Fall of Ziggy Stardust and The Spiders from Mars', 'Scary Monsters (and Super Creeps)' and 'Let's Dance'.

SIGHT AND SOUND
Denon’s AVR-1803 is an AV receiver with a formidable variety of facilities in a handsome package, for just £399. All the latest 6.1 channel Dolby and DTS formats come as standard – hitherto the province of far more expensive designs – and the Pro Logic II mode will synthesise multichannel surround from stereo sources like vinyl or VHS tape. It boasts 6x80W RMS, 24 bit DSP digital decoding, DTS-ES Discrete, DTS Neo:6, Dolby Digital and Dolby Digital EX, Dolby ProLogic II, Multi Zone Output, AM/FM tuner with RDS EON, and there’s a choice of understated black or lavish gold brushed aluminium finishes. Click on www.denon.co.uk for details.

KRAFTWERK: I WAS A ROBOT
Wolfgang Flur
ISBN 1-86074-417-6
Given that electronic dance music is now almost ubiquitous, Kraftwerk could be justifiably argued to be more influential to the great scheme of pop music than even The Beatles – as they invented the genre. This 416 page tome traces the development of the German techno pioneers from the eyes of drummer Wolfgang Flur, His tale of four teetotal, ice-cream eating, car-obsessed classically trained musicians is hardly your average rock’n’roll story – making it all the more compelling. Unusual, but unputdownable...

PM DAWN
PM Components is proud to announce the release of a new range of cables purely designed for tube amplification. Believing that traditional cables detract from the performance of valve amplifiers, the company commissioned a small UK cable manufacturer to design and produce cables to complement the unique attributes of valve equipment. The result is the ‘Dragons Tails’ range. Red Dragon Tails is the entry level cable retailing for £49.95 per one metre pair, Black Dragon Tails retails at £174.95 for the same length, and Silver Dragon Tails sells for a lofty £599.95 per metre. Call 0870 9220404 or click on www.pmcomponents.co.uk for more information.

OBITUARY
Jason Bloom, co-founder of Apogee Acoustics, died in a fall at his New York home on June 15th, 2003. Famous for his no-compromise attitude, he was best known as the driving force behind the technically advanced and radically different planar-magnetic loudspeaker designs. Even as Apogee grew, he was the man who would give technical support and advice to clients. As flamboyant as his loudspeakers, Jason worked in the New York art scene after leaving Apogee in 1997. He is survived by two daughters.

DYNAVOX’S DYNASTATION VALVE CD PLAYER
the most eccentric silver disc spinner you’ve ever seen! (Yes, really).

MUSICAL FIDELITY’S BRAND NEW X-CANS V3
The best way to aspirate your beloved headphones?

ROKSAN’S NEW RADIUS TURNTABLE AND UNIPIVOT TONEARM
Style, sonics and an affordable price.

IS IT LIVE OR IS IT HI-FI?
LJK Setright ponders the eternal dilemma - whether to choose transparency above all else...?
Introducing an electrifying 'first' – a breakthrough for home entertainment. Now A/V sounds as good as NAD. For 30 years the critics have raved about NAD audio innovations. Winning awards has become something of a habit for us. Now you have the advantage of NAD sound quality in a more stirring, more emotion-packed A/V experience. Our engineers call it PowerDrive™ and it's an NAD exclusive.

Film soundtracks truly come alive, music is maximized – suddenly your entire cinematic experience is heightened with sensational sound. To fully appreciate how NAD takes music and home entertainment further, contact Lenbrook UK for your nearest specialist NAD A/V dealer.

Shown here: T562 DVD/CD Player and T752 Surround Sound Receiver.

www.nadelectronics.com
Just a few years back, it seemed like the only loudspeakers worth having were floorstanders. Their larger cabinets, better able to move air, gave more 'impressive' bass and obvious efficiency gains, while the sleek styling saved money by obviating the need for stands. Why then even consider bookshelf loudspeakers at all? Well, the fact is that the small boxes flex, boom and resonate less, and work far more synergistically in many rooms. In truth, there's little to touch a well designed and built bookshelf box. So in this month's supertest, Noel Keywood brings you the latest and greatest...

Reviewing bad loudspeakers is a depressing business, especially when there's always someone who'll swear that a peaky aluminium tweeter that sounds like an accident in a saucepan factory is singing like an angel! It does illustrate, however, how easily folk become attuned to a sound and then rely on it as a subconscious reference, for better or for worse...

In this look at small speakers, the emphasis is on good, rather than bad or even mediocre, ones. You're about to see the most rewarding listens in the category of bookshelf, near small standmount, loudspeakers.

Listening isn't such a straightforward business, and needs real thought and care. It is possible to tune a loudspeaker to achieve certain effects that many people, including reviewers unfortunately, commonly gravitate to. Broadly speaking these are subtle variations of boom and ting - euphonically damped bass (that won't go low) and lively treble (that hurts with bright recordings). Such loudspeakers are entertaining rather than accurate. Wrought carefully, though, they are fun to listen to, and arguably a good buy.

Importantly however, if you want to listen to music rather than the loudspeaker itself, then don't be fooled. A clean, well balanced and accurate design able to reproduce classical as well as rock will not sound as immediately gripping on rock alone, but will likely give greater long term pleasure across a wide spectrum of musical styles and types. The best loudspeakers, therefore, are not necessarily the most immediately impressive - the Quad electrostatic being a prime example. So when choosing your next boxes, make sure you listen at length and with care using a variety of music!

All of this raises the issue of what you are looking for and personal taste - and the possible disparity between that and any recommendation made by us. Rock, jazz, folk and country are overwhelmingly popular musical genres - so why do we bother with classical? One very good reason is that violin, horns and nearly all other instruments are found in rock too, and the violin in particular is a very testing instrument for a loudspeaker. Our recommendations are for a clean, neutral and revealing loudspeaker that works well across all categories of music, meaning it must handle violin as well bass guitar. We're not averse to a good rocker, but there are usually limitations. DVD-A and SACD have further complicated the issue. DVD-A in particular comes with sizzling high frequency energy levels, harmonics stretching right up to 30kHz. Check out the re-mastered, re-issued Fleetwood Mac 'Rumours' album or even B.B. King's 'Riding with the King'. A loudspeaker that sounds perhaps okay with almost all else can hiss and spit viciously with DVD-A like this; it could swing you away from a KEF to a Tannoy and its softer wideband sound, for example.

SACD offers an easier listen, thankfully, but it is open and dynamic all the same and a loudspeaker needs to be able to reveal this rather than stifle it. If you are going to be using these formats you need not just a wideband loudspeaker - but one you can listen to sitting on the settee, rather than behind it.

Today's albums are pretty upfront, which is why I always spin something like the Christina Aguilera's 'Stripped' CD. Yet a 'speaker that sounds superb with this can sound dreadful with classical. Be sure about what you want before you get it, and listen long and hard! The good news is that for a few hundred pounds or so you can get a great loudspeaker nowadays. Unlike the bad old days of the seventies and eighties, there's just no reason to suffer a lemon anymore. So here's a bunch of the best small loudspeakers on the market, from just £200 up to £1000!

Epos ELS3  KEF Q1  Mordaunt Short MS912  Mission 780SE  Tannoy Sensys DC1  Ruark Etude
Superb entry-level rock loudspeaker, with fine timing and real scale.

EPOS ELS3 £200

Epos Acoustics
+44 (0) 1442 26016
www.epos-acoustics.com

The babies of the group, in physical size as well as price, these new Eposes have a small 130mm polymer cone bass/mid unit mounted on a die-cast aluminium chassis allied to an aluminium dome tweeter with corrective front phase plate. Although a true shelf mounter in size, Epos has elected to put the port on the rear so a little rear clearance is needed for it to breathe, but only a few inches. Connection is through single wire terminals that will accept either 4mm plugs are bare wire.

In line with their measured performance the little ELS3s were immediately very correct sounding, giving a rich yet seemingly accurately balanced sound right across the audio band. Eleanor McEvoy's voice sounded rich, detailed and delightfully natural. She was projected well from these boxes - but then again, small speakers tend to do this - and had a delightfully real presence in the room. Unlike so many modern loudspeakers, the metal dome tweeter of this one displays little obvious brightness or colour; there's no clatter or rasp when cymbals are struck hard, a feature I welcomed. Although modestly priced, they sound very wide range, delivering properly and without constriction right up through the audio band. The result is a broad frequency palette and great poise with female vocals.

On stands a little into the room, bass was too light, so the 3s were pushed back to within a few inches of a rear wall. Able to excite the lowest modes of a 17ft room they sounded light but fast and supple in their bass delivery. In truth only upper harmonics reached full level, but lower fundamentals were still there, since the speaker does reach down to 60Hz and I managed a surprisingly large sound from them. They really are for smaller rooms though, 12ft-14ft long or so. Loudspeakers this small also lack sensitivity, so I had to turn up volume a little.

With fast, rhythmic rock, the ELS3s pulled out another engaging property: they are both tight and fast in the time domain - as small, well damped loudspeakers can. Christina Aquilera's 'Can't Hold Us Down' brought a grin to my face, these speakers were so grippy and clean. It was amusing to hear such a small cabinet produce such a large sound, making rivals seem a tad bloated and slow by way of contrast.

Bass had speed and punch, if not the power of a larger speaker. Such a well balanced loudspeaker can handle classical well enough, but here the small Eposes started to show weaknesses. Plucked basses revealed some box 'boof' and strings sounded a little coarse and coloured. Whilst the 3s were playing percussive rock that relies on timing they were fine, but presented with classical they started to err away from neutral.

The Epos ELS3s are a fun loudspeaker that sounds entertaining with rock. Fundamentally accurate, they offer a surprisingly large sound at a low price.

The ELS-3's frequency response displays good flatness from 80Hz right up to 20kHz, with no roll down at high frequencies at all. However, its output has been pulled down slightly to -2dB or so below that of the bass/midrange unit, to prevent the loudspeaker sounding too bright.

Epos have made this an 8ohm loudspeaker, measurement showed. Although the ELS-3 is easy to drive as a result, it is also insensitive, producing just 84dB SPL from one watt input. It needs amps of 60watts minimum.

The Epos measures well and will give good results, but it needs power. NK
KEF Q1 £250

This is the baby of KEF's Uni-Q range. It puts a 19mm aluminium dome tweeter at the centre of a 165mm woofer to give a point-source drive unit that offers great image focus (see also Tannoy's DC1). The bass unit is reflex loaded by a front panel port and on the rear there are bridged bi-wire terminals that accept 4mm plugs or bare wires. Construction and finish are first rate. This is a fairly large 'small' speaker for shelves, but the front port allows it to be pushed up against a rear wall, which is some compensation. The benefit of cabinet volume is deeper bass.

Even though the Q1 is a little larger than minis like the Mission 780se and Epos ELS3, there's a disproportionate improvement in bass depth and quality. The Q1 has real bass power, and goes low too. The opening drum strike of Angelique Kidjo's 'Agolo' came across well, sounding clean and bouncy, if with slightly muted level against a floorstander. Otherwise the Q1 has plenty of tight and punchy low frequency oomph that underpins modern rock recordings, like Aquilera's 'Can't Hold Us Down', very well.

This mini also has spectacular image focus and midrange clarity, cross-panned effects zipping from left to right with riveting power and speed. The Q1 delivers audio fireworks with a degree of projection that can't be ignored, yet it has fine basic tonal balance, superb clarity and seemingly fantastic dynamics for a 'speaker of the size.

However, there are some caveats. Cymbals crashes in the opening of Steve Earle's 'Justice in Ontario' were fiercely emphasised and the tweeter jangled badly in this particular circumstance. For most of the time it simply imparts a sheen. Occasionally though, when excited, it could really clatter hard, becoming over-prominent.

Yet the same tweeter was also responsible for some pretty spectacular imaging. Nora Jones was so alive and vivid, centre stage through the Q1's that even the most critical listeners would be taken aback I feel. KEF have wrought a balance that gives vocalists both body and timbral variety; this is a loudspeaker that conveys what's in the music.

Orff's Carmina Burana opened with an entertainingly large and resonant sounding kettle drum. I was pleased to hear fine resolution of the choir and a gloriously expansive ability with dynamic contrasts, from soft to loud, with no problems of muffling at low levels or harshness at high levels - lovely! I only note one small effect, and that is hard left or right images tend to sink back into the box a bit; this may be due to a little box colouration from the port.

The Q1 is literally spectacular. It is clear, clean and very dynamic. Being sensitive it goes very loud at low volume settings. Imaging is focussed and vivid. It can get clattery when presented with strong treble though. Great for the price all the same.

**MEASURED PERFORMANCE**

The balance KEF have struck for the Q1 favours low frequencies, with high falling away gently. This sort of characteristic gives a loudspeaker a full sound. There's a little peaking in the treble unit, a sign that it will likely display some characteristic metal dome brightness, and it may just be KEF have kept tweeter output down a bit to deflect attention from this. Since Uni-Q drivers usually sound quite lively and dynamic the Q1 is that even the most critical listeners would be taken aback I feel. KEF have wrought a balance that gives vocalists both body and timbral variety; this is a loudspeaker that conveys what's in the music.

Orff's Carmina Burana opened with an entertainingly large and resonant sounding kettle drum. I was pleased to hear fine resolution of the choir and a gloriously expansive ability with dynamic contrasts, from soft to loud, with no problems of muffling at low levels or harshness at high levels - lovely! I only note one small effect, and that is hard left or right images tend to sink back into the box a bit; this may be due to a little box colouration from the port.

The Q1 is literally spectacular. It is clear, clean and very dynamic. Being sensitive it goes very loud at low volume settings. Imaging is focussed and vivid. It can get clattery when presented with strong treble though. Great for the price all the same.

**VERDICT**

Strong, powerful and musically engaging, only its sharp tweeter robs it of greatness.

KEF Audio (UK) Ltd
(+44 0) 1622 672251
www.kef.com

Dimensions (mm) - H355, W222, D335; weight 6.4kg.
MORDAUNT SHORT MS912

£200

The 912 is on the large side as small loudspeakers go, but it has more bass as a result. Mordaunt Short uses its own, distinctive, Continuous Profile Cone (CPC) aluminium bass/mid-range unit, matched to an aluminium dome tweeter. Bridged bi-wire terminals are fitted to the rear panel, as well as a port which reflex loads the bass unit. A contoured front panel acoustically integrates the tweeter to the bass/mid unit and this in practice has quite some effect.

The MS912 sounded as smooth this time around as it did some time ago when I first reviewed it as a new model. It has a sense of cohesion that eludes most loudspeakers, even improving on the KEFs in this area, since it lacks their slightly obvious treble. With further exposure to them and taking on my most critical stance, they do perhaps sound a little generally soft, almost warm at times. Asked to reproduce Ashkenazy playing Rachmaninov's Piano Concerto No2, I thought initially that against KEF's Q1s the 912s seemed dull, but as the music progressed these speakers slowly revealed just how unusual they are in the scheme of things. Better able to resolve the tonality of individual instruments than most rivals, they brought a sweet, delicate air to violins, yet revealed their vibrance and life with a grace beyond others in this report. Brass sounded like brass, possessing a good metallic rasp quite different in colouring to that of the string sections, as you'd expect of course — but most often it still isn't so. Ashkenazy's piano had a deliciously open sound, fully bodied and large in the performance and notes issued from it in a beautifully modulated flow that was entrancing. The MS912s were able to reproduce the scale of the piano, from soft to loud. I felt there was a little metallic colouration in the mid-band somewhere, but it was small. There was less projection than the other speakers perhaps, with a slightly flatter sound stage, but that these loudspeakers can handle classical instruments with fluency and resolution isn't in doubt. They have an ease, warmth and delicacy that is impressive, if not immediately apparent.

With rock the MSS were equally accomplished. Christina Aquilera's vocals were delightfully clear and smooth, bass tight and rhythmic and transients fast but without fizz. Similarly, Norah Jones hung between the loudspeakers beautifully, sounding smooth, clean and clear. The slight downward trend in this speaker's response is heard as a smoothness — almost warmth — but there is a small lift higher up the band that keeps treble sounding fast and puts plenty of air into highs. The MS912s deliver a lot of filigree detail whilst never sounding hard or clanky. They were able to handle demanding rock like Steve Earle's 'Esmeralda's Hollywood' with a sense of ease yet appropriate drama that the others could not manage.

This loudspeaker offers levels of tonal resolution and detail retrieval ahead of its rivals. It is smooth and easy to listen to, whilst also sounding dramatic.

MEASURED PERFORMANCE

Measurement shows the MS912 has a well-damped bass output; there's no bass peaking to give the sound extra weight. The port operates around 40-60Hz. High up the band relatively speaking, and over the same range as forward output. The port exerts strong damping over a potentially large fundamental cone resonance and I suspect this will translate into tight but enthusiastic sounding bass.

Like others, Mordaunt Short use a 4ohm bass unit to achieve good sensitivity with solid-state amplifiers and the MS912 produces a healthy 86dB SPL from one nominal watt of input, more than most rivals. It will be louder at any particular volume control setting as a result. With an impedance Steve like a camel's back.
This baby box is as small as they come, but it still showcases a host of interesting design features. The bass unit has a rigid but light 130mm cone with ceramic matrix cone (fibrous cone with ceramic filler baked in), reflex loaded by the ported cabinet. This is allied to a Microfibre dome tweeter unit. The cabinet is solid, veneered MDF with audiophile grade crossover componentry, says Mission. The port exhausts at the rear, and connection is through bridged bi-wire terminals that accept 4mm plugs or bare wire.

This loudspeaker has a conspicuous clarity and a smooth, almost polished sound about it, for a host of good reasons I suspect. It lacks the zing and saucepan clatter of a metal dome tweeter, instead offering smooth and shiny treble from a tweeter that is a little forward. So Christina Aquilera's vocals were clean and well rendered in 'Can't Hold Us Down', but there was some top end emphasis that brought a sheen to the sound that emphasised sibilance, although without degeneration to spitch. I would have liked a bit more body to Aquilera's voice; it was a little back in the mix and lacked the force of some rivals in this particular group, from Ruark, Tannoy and Epos in particular.

For a small loudspeaker the 780SEs make a valiant attempt at producing low frequencies, the stabbing bass line on Can't Hold Us Down producing a plausible amount of acoustic power in the room. The 780SEs - like the Epos ESL3s - had to be pushed back close to the rear wall to energise the main room mode and so take full advantage of room gain to get reasonably solid and believable bass lines. However, this is a very small loudspeaker and it produces more bass than rivals of a similar size, which by and large miss the lowest 40Hz-80Hz octave completely. Very small loudspeakers carry this penalty.

With wideband DVD-A from the CDrs, the 780SEs did not open up as much as the wideband Tannoy and KEFs, giving a limited view of what was available. All the same, they were delightfully clean and revealing, punchy enough and always silky smooth. A lack of abrasion gave massed strings of the London Symphony Orchestra a sweet tone; they were also strongly lit, vivacious and well separated too. Horns had a fruity rasp and plenty of verve. Ashkenazy's piano sounded a little light in Piano Concerto No2, but the 780SEs were both sufficiently refined and projective to handle classical programme well. As with most Missions, imaging was superb at all times. Turning volume up with classical put an orchestra in front of me, with a broad panorama of instruments well embodied and sharply in focus.

The 780SEs are a clean and sweet loudspeaker that at times come across as dramatic. They lack some cohesion across the upper midrange and could usefully have put a little more body into vocals, but all the same as miniatures go they are first rate.
Rich, muscular and engaging, this distinctive design nonetheless lacks smoothness and clarity. In truth, this is a small standmounter rather than a bookshelf design, but it still fills the latter role capably, hence its inclusion. Ruarks use a textile dome tweeter, rather than a metal dome, allied to a fibre cone woofer. The latter is reflex loaded by a rear mounted port. Bi-wire terminals are fitted at rear, with bridging links.

These loudspeakers boast a somewhat different presentation to the others, sounding rich and full bodied. They can seemingly invest life and soul into what otherwise seemed, by way of contrast, a sterile sound. B.B. King's tones were engagingly natural, it seemed, and his guitar had more intrinsic character than I heard through all the other speakers. Whilst there certainly was some slight sharpness to upper treble, indicative of a high end peak, there was none of the metallic brightness heard with the KEFs for example. The Etudes were tonally even, fulsome and alluring, without doubt. There was some mild fuzziness to images and general lack of purity in the sound though. A small degree of muddle and coarseness affected the sound that wasn't present with the metal dome/ synthetic cone models.

The Etudes sound tonally far richer than the other loudspeakers within this group and have quite a different presentation. With plentiful bass and a good deal of projection they offer a dramatic sound with rock and a fulsome one with classical material, if not the last word in refinement.

The Ruark Acoustics Ltd
+44 (00)702 601410
www.ruark.co.uk
£650

RUARK ETUDE

MEASURED PERFORMANCE

The Ruark ETUDE was reviewed in Hi-Fi World & Computer Audio October 2003.

Dimensions (mm) - H340, W210, D270; weight 7.5kg

Frequency response

Impedance
Tannoy has resurrected its famous dual-concentric driver to take on KEF's Uni-Q and it reaches an affordable level in the new Sensys DC1. Dual concentrics have in the past been confined to expensive studio monitors. In the DC1 though Tannoy supplement the dual with a pod-mounted super tweeter that extends response well past 20kHz – up to 51kHz they claim. This is aimed at DVD-A and SACD, giving improved airiness to upper treble and even tightened bass. It seemingly makes the DC1 a competitor to KEF's XQ-I, although it is half the price and, in practice, a lot different in character. Tannoy fit bridged bi-wire terminals to the rear panel and an earth terminal too, to earth the driver chassis, used during the review. The bass unit is loaded by a port on the front panel.

The DC1s have the same sort of image focus and coherence as the KEF Uni-Q units in the Q1 and XQ-I. However, subjectively the DC-I is quite a different animal. Where both KEF loudspeakers have 'obvious' treble, the DC1 follows the Sensys 1 in having a laid back top-end delivery. This influences the DC1 strongly, differentiating it from so many other 'bright' sounding rivals. Given forward rock from DVD-A, like 'Riding With the King', the DC1 is really fly, with clean, smooth and noticeably airy treble imparting a lovely sense of openness to cymbals and rim shots. Guitars sound big, powerful and dramatic and King's voice on 'Ten Long Years' is not just gravy but open and atmospheric. Given strenuous rock like this the DC1s come across as focussed, clear and smooth, with none of the edginess or treble sheen imparted by prominent metal dome tweeters. The 'speakers also convey the extra bandwidth afforded by DVD-A, delivering tight, reasonably tuneful bass held at a sensible level against the rest of the performance.

The DC1s are flyers with rock from DVD-A and they do a good job with CD also. There is some slight opaqueness though and a little colour from the cones or horn throat, and possibly the front port, that is an intrinsic part of the DC1's character. This pulls a performance back a bit, as does that softer treble no doubt, and makes it a little boxy. I also felt there was some cuppiness to be heard from the tweeter firing out through the woofer. But the DC1s deliver vocals with real body and were revealing of both modulation and phrasing from Renee Fleming and Norah Jones, with none of the hardness or sheen of their rivals in this group.

Massed strings of the Philharmonia playing the overture of Wagner's Rienzi possessed a small degree of metallic colouration about them. There was also some slight cuppiness here. Although smooth and quite airy the DC1s are nevertheless a bit exposed by classical instruments, sounding boxy, a little edgy and coloured in contrast to quality rivals. The Sensys DC1s are a little more characterful than some rivals, but fundamentally entertaining all the same.

Under measurement the DC1 sounds unusually smooth and warm and its response is almost ruler flat, our analysis shows. There is some evidence, close in to the dual-concentric that treble is below the mid-band in level; there is also some lift at low frequencies, around 1kHz, probably related to the fullness of its sound and some box colour. However, the DC1 is unusually flat and smooth from 40Hz up to 20kHz and tat is an intrinsic part of the DC1's character. This pulls a performance back a bit, as does that softer treble no doubt, and makes it a little boxy. It is accurate, but lacks brightness or hardness in its sound - unusual. This is an unusually accurate loudspeaker all the same. The port is tuned to 40Hz and works down to 25Hz or so. It doesn't apply as much damping as meat and muscle through, the impedance curve suggests.

Sensitivity was high at 87dB even though impedance measures out at 8ohms. Efficiency is high and the DC1 is a fairly easy load, although it has some reactance at high frequencies.

The DC1 is an accurate wideband loudspeaker with an unusually smooth delivery. It also goes loud from little power, so measures well in all respects. NK

Dimensions (mm) — H406, W210, D292; weight 8.5kg

**VERDICT**

Smooth yet engaging, this charismatic 'speaker works superbly with rock music, but is too coloured for classical.

**TANNOY DC1**

Tannoy Ltd

C +44 (0)1236 420199

www.tannoy.com

**£450**

www.hi-fiworld.co.uk  OCTOBER 2003  HI-FI WORLD & COMPUTER AUDIO
The XQ1s are a small(ish) loudspeaker with a big price, yet I feel they justify their price tag. The cabinet is a little larger than most small ones, but still meant for close-to-wall use since it has a front mounted port. The 165mm Uni-Q unit has a 19mm centrally mounted aluminium dome tweeter in its throat, much like that of the Q1. KEF adds a super tweeter, seen in a pod on top and this extends frequency response out to a claimed 55kHz to take advantage of the extra bandwidth of DVD-A and SACD. The rear panel carries a bridged bi-wire terminal panel that will accept 4mm plugs or bare wire. Cabinet finish is superb, but perhaps it should be at the price.

I found this little loudspeaker dramatic the last time I heard it and even in the company of strong new arrivals it remains so. Most immediately stunning is its sense of sheer clarity and cohesiveness. Vocals in particular have a vivid centre stage presence unhampered by colouration, and it brings real drama to the sultry tones of Norah Jones, for example. Here the XQ1s almost reach electrostatic levels of neutrality, and were it not for the occasional intrusion of the aluminium tweeter I would almost rate them at such a level.

The XQ1s remain deeply impressive in this respect with most stereo material - Steve Earle's The XQ1 shows very little variation from frequency response flatness. Forward output reaches down to 40Hz and the port reaches 30Hz. KEF tune it high, to around 45Hz, our impedance plot shows. This should make the XQ One sound weighty but fast.

At high frequencies there's no crossover suckout and treble extends flat to 20kHz on the speaker itself and certainly well above 20kHz. The Uni-Q driver images well and strong treble reinforces this property. KEF, like their rivals, use a 4ohm bass unit to maximise sensitivity perceived as loudness at a particular volume control setting - and the XQ One is loud, producing a high 88dB excepted. By this I mean that when music with a lot of treble energy is played the XQ1s do sound over-bright and a little too enthusiastic at high frequencies – and this impacts on DVD-A in particular.

A classic example was the unfortunately poor re-balance of Fleetwood Mac's 'Rumours' album, with emphasised treble. The first cymbal crash of 'Dreams' fired from the XQ1s like a rifle shot; they can be a little overpowering at times. However, with music free of such fierce high frequency energy – as most is - the XQ1s are just superbly clear, open, revealing and detailed. With nicely balanced wideband like Eleanor McEvoy's 'Yola' SACD they have tightly timed bass with a nice sense of depth and a bouncy dynamic. Of course, just like the Q1s the XQ1s have unmatched image focus from the Uni-Q unit and this also helps toward their overall cohesiveness.

The XQ1s are as projective as the Q1s, bringing a vibrancy to classical that is all but unmatched by rivals. Strings were deliciously detailed, vibrant and clear. There was perhaps just a slight sense of added sheen and colour, an intensity not quite real that may raise a little scepticism in critical listeners. Like the Q1s also, the XQ1s are very sensitive and revealing of dynamic contrasts, bringing a liveliness to orchestral works that's thoroughly entertaining.

The XQ1 is simply a very advanced and dramatic speaker – especially for its size. A has a large, cohesive sound, spectacular clarity and superbly alive bass, plus dramatic stereo imaging - all great strengths.
ALL the loudspeakers sound quite different from one another, and each strikes a slightly different balance to its neighbour. Let’s take the KEF Q1s and Tannoy DCIs first to illustrate this. Both have a super tweeter claiming to reach 50kHz — an octave above conventional units - yet they sound very different. In the recent Sensys range, Tannoy has opted for a softer sound, and is tidy and accurate in basic quality even though, technically, both are wideband point-source designs. The XQ1 is one impressively clear, cohesive and revealing loudspeaker, but can get challenging with DVD-A. It is a totally different proposition to the DC1 in sound quality even though, technically, both are wideband point-source designs. The XQ1 is a great listen though — it’s breathtakingly open and clear. If you can live with the treble energy it delivers then there’s little like it. Expensive perhaps, but dramatic too!

The eagle eyed will see that there’s more than a passing similarity between the budget Q1 and the expensive XQ1. Whilst the XQ1 is smoother, more cohesive and accurate than the Q1, no one could accuse the Q1 of being anything other than great fun to listen to. It is one of my favourites in many senses, but there are times when (engineer speaking) the tweeter needs a notch filter to take out its peak, since subjectively it is obvious.

Epos has tried to get monitor quality from a small box at a very low price with the diminutive ELS3. It’s really a student’s starter ‘speaker — and a good one at that. It doesn’t have the obvious sheen of KEF’s Q1 and is tidy and accurate in basic balance. However, it is bass light and needs all the help it can get from ‘room gain’ to sound fast and dynamic, then it manages well. It does, however, have serious competition from KEF’s Q1 and Mordaunt Short’s 912. If you are really short on space though, it’s one of the best.

Ruark’s Etude offers another take on things completely. The Etudes put colour and body into vocals and instruments. They make the other loudspeakers in this report sound tonally sterile. They also come across as basically well balanced — which they are. Put these properties together and you have quite a convincing sound, rich but right you could say. I feel there’s actually a little too much colour and would like a smoother presentation but, according to what you are used to and might prefer, the Etudes can have much appeal. They have some unusual and interesting properties.

Mission’s tiny 780SE has to be the loudspeaker of the group if you want a really small one for the bookshelf and don’t mind the price. It’s also one of the most detailed and uncoloured here, if you ignore a little box boof when pressed hard by heavy bass, and a little tweeter sheen. Otherwise, Mission have given this tidder a warm balance, just like the Mordaunt Short MS912, which makes it delightfully easy to listen to. Like any good loudspeaker it’s basically agnostic, playing classical and rock with equal ability. With a clean, modern sound and delightful detailing the tiny 780SE is superb. It does need to be used close to a rear wall though and benefits from the support of room gain; the small cabinet just cannot generate strong low bass unaided.

Mordaunt Short’s larger MS912 overcomes this problem by delivering more low frequency output, and by any standards it has a plentiful supply of good quality bass. It also has a tweeter with abilities beyond those of its rivals in this group, which becomes obvious with strings in particular. It is finely detailed. The 912 has a warm but smooth balance and is both fast yet revealing. There is a little aluminium colouration I fancy, but from the bass/mid unit rather than the tweeter. It is only a smidgen though and largely unnoticeable. Not perhaps quite as uncoloured as Mission’s 7805SE or as lively as KEF’s Q1, it is still the best all-rounder - at a ridiculously low price.
Introducing the latest addition to the Series 5, the Naim AV2 (Audio Video) processor. It not only enhances anything you listen to, it makes everything you watch come to life. People talk about 'Surround Sound', at Naim we immerse you.

THE ULTIMATE ENTERTAINMENT SYSTEM

For your nearest stockist call +44 (0)1722 332266. Or visit www.naim-audio.com

World Radio History
There’s so much more to loudspeakers than meets the eye! While they may look similar on the outside, there’s a wealth of subtle but significant differences inside which dramatically affect the sound. Noel Keywood explains what to look out for, to make choosing your next ‘boom box’ a breeze...

Manufacturers have allighted on a good enough compromise design in the modern, two-way, reflex loudspeaker. A majority of loudspeakers available rely on this arrangement where a bass/mid-range unit is loaded by a cabinet with a port and, above it, sits a small tweeter to handle high frequencies.

This sort of loudspeaker goes low for its size. Some complain about bass quality, which can be a bit soft or vague perhaps, depending upon the effectiveness of the port (its tuning and damping), but a closed box (i.e. no port) must be bigger to offer equally deep bass. Here’s a guide to the modern loudspeaker, with tips on choosing the right one, as well as setting it up for the best results.

If you’re a violinist and would like to hear strings, only a ribbon or electrostatic will get close...

Small reflex loudspeakers intended for shelf or wall mounting commonly have a front port, so they can be placed hard up against a rear wall. The drawback here is that internal box colourations issue from the port. Rear ports lessen its audibility but need space—a few inches behind the speaker—to breathe. At high volumes small ports can chuff and again rear positioning reduces audibility.

For bass quality and impact look for the largest bass unit possible. Small ones work hard and produce large quantities of distortion as a result. It doesn’t sound nasty, lightening timbre a little and reducing apparent bass power. But at the end of the day you just won’t get bass impact from a small hard-pushed driver.

Cone materials have a large impact upon sound quality and it’s here most advances are being made. Traditional paper and fibre cones are light and can sound fast, but they also sound coarse, coloured and edgy or even nasty at high volumes as the cone starts to break up. Such drivers are cheap and efficient, but have audible limitations.

Through the seventies and eighties plastic cones, like Bextrene, were used to improve upon paper. They offered more consistency, better damping and control. However, they were also heavy, slow and often quacky. A generation of rather bland loudspeakers emerged.

Nowadays, new synthetic materials, often woven composites, are popular. Kevlar and glass fibre are two; both give a fairly hard, bright sound, especially when married to a metal dome tweeter. Mission are using a ceramic composite and others, like Castle and Wilson Benesch, use carbon fibre. These materials all have their own intrinsic characteristics, although design implementation affects sound quality too. Ceramic composite is super clean and carbon fibre quite dark but very relaxed in its sound; it’s well damped. Since these characteristics arise from cone ‘break up’ don’t be frightened to put on closely miked vocals when auditioning a loudspeaker and turn volume up, perhaps standing back a bit to compensate. Paper cones in particular can get nasty at high volume. Avoid heavy bass lines; they’ll confuse this issue of cone colour and high level break up.

Mordaunt Short and Monitor Audio both use metal cones. Modern ones work well enough, sounding...
At the lowest resonant mode of a room, high pressure exists against the walls (light pink). The loudspeaker best drives a room from a wall position and bass sounds loudest here too, so these positions give strongest bass from a loudspeaker clean and detailed, as well as fast, but there’s usually a little residual colouration. Metal cones have a bright, apparently open sound and are seemingly very clean. Mediocre ones will ring and sound coloured though, so audition carefully, especially with vocals and violin.

Tweeters fall into two basic categories: metal and fabric. Poor metal domes sound sharp and fizzy, adding sibilance and spitch to vocals in particular. They can also make violins sound both bright and coarse. When choosing a loudspeaker it’s a good idea to take along a few bright sounding CDs to check this. Good metal domes can sound insightful and detailed — even delicate, but there aren’t so many around.

Fabric (textile) domes usually provide a smoother sound and almost always one with less sheen. Again, there are good and bad ones and only listening can tell one from t’other. A poor fabric dome sounds coarse and peaky ones edgy.

Companies like German Elac make ribbon tweeters and these generally offer better results than domes; differences can be pronounced. A ribbon sounds very smooth and natural, airy and often sweet. Ribbon drivers are expensive however, reflected in the final assembled loudspeaker price. But if, say, you are a violinist and would like to hear rosin on a string, only a ribbon (or electrostatic) will get close.

A small loudspeaker unable to shift enough air to generate power within low notes will sound lightweight and even undynamic. However, given some assistance from room gain they work well enough providing you don’t expect really strong bass. The Mission 780se and Epos es3 are perfect examples in this month’s group test. Put in the right sized, meaning 12ft-14ft long approximately, they’ll sound balanced.

If you insist on using a loudspeaker so small and want deep bass then a subwoofer is a solution. Unfortunately, too many subwoofers are boom boxes that don’t go especially low, measurement shows; in fact, most are like this and they sound terrible, giving a loose, booming sound with little resolution of pitch. A good one from REL costs money, but it is worth it. Such a subwoofer needs careful tuning, otherwise you still won’t get good results. But a subwoofer working well can shake the place quite nicely and it does provide extra drama, especially with movies. Recording engineers sometimes play tricks too and it will reveal them, such as the 25Hz heartbeats on Dark Side of the Moon.

Anchoring a loudspeaker so it doesn’t vibrate helps give the sound definition and attack. You can do this by using rigid stands with floor and cabinet spikes, wall brackets (not to be sniffed at) or a firm, non-resonant shelf. This assumes you are using a small bookshelf design. Floorstanders like the Mordaunt Short’s 914 can be sand filled to improve stability and pretty approximate affair; all this, and sometimes the match will work. Normally though, big floorstanders are for bigger rooms, where they can generate enough volume and can excite the room’s lowest mode to harden their sense of attack, as well as damp the box. This is well worth doing if you don’t mind ending up with a cabinet so heavy it is almost unmovable. Kiln dried silver sand from a builder’s yard is the stuff to go for.

Large bookshelf loudspeakers like the Kef Q1s or Mordaunt Short 912s reach down to 40Hz these days, which is as low as most instruments go and a sensible lower limit. If you want to go lower or produce lots of bass power then you’ll need more cone area to shift air and this means getting a floorstander with an additional bass unit. This will not only produce more acoustic power, it will be able to accept more amplifier power, since there are two voice coils to share the load. Large floorstanders with prodigious bass output don’t always suit small rooms though, over-exiting room modes around 60Hz to produce a boomy sound. It's a...
Elac's JET ribbon tweeter uses the Heil air motion transformer principle to 'squeeze' air. Seen here are the folds in the ribbon which produce bass with real depth.

Bass quality is always an issue. Deep bass decays slowly and makes for a subjectively slow sound if there's lots of it. Big loudspeakers in 18ft rooms don't give the same fast sound as a small box tuned to around 50Hz in a medium sized room. Also, recording engineers commonly add boost at 60Hz to give bass a bit more life and impact. Hi-fi buffs into a speedy sound from rock are best served by a compact loudspeaker where there's plenty of output across the 40Hz-80Hz octave, but less below this. Tuning the port high, rather than low is a useful trick at a designer's disposal, adding to the perception of speed at the expense of depth.

Another trick is to vent a loudspeaker on the floor, so driving the vertical room mode effectively. Since most rooms are 8ft-9ft high this will give some extra oomph at 65Hz or so, adding some zip to the sound. Castle use floor venting.

A small loudspeaker will struggle to fill a big room and, much past 18ft long, a floorstander is needed to generate reasonably high volume. As a room gets larger so its main modes become better damped. An 18ft room will have a length mode at 30Hz where it won't provide much gain to support bass output from a small loudspeaker. Rooms at or above this size will have well damped, deep bass if adequately driven, but room gain will have moved down to a region below the operating range of a typical loudspeaker, giving altogether flatter sounding, less enthusiastic bass. It's a reasonably good size for a listening room all the same, having the floor area and volume to accept loudspeakers and a hi-fi rack.

To optimise sound quality most modern hi-fi loudspeakers are bi-wirable. With bi-wiring the crossover is split into high pass (treble) and low pass (bass) sections by removing external links. This means two cables per loudspeaker are required, one for bass and the other for treble. Although each cable would appear to carry the whole frequency range, almost no current flows over the rejection band, so the split is real and does work. Bi-wiring lessens muddle and improves clarity. These days dedicated four-core cables are available. Tannoy provide an earth terminal on their loudspeakers as well, bringing the terminal count to five.

It's worthwhile locating a loudspeaker firmly, in a suitable position and then connecting it up with a decent bi-wire cable to get the best from it. Small loudspeakers might be inexpensive these days but there's quite a lot of technology in them. Care with placement and set-up will help get the best from them.

Here's the lowest frequency a room will support fully, related to its length. Bass guitar reaches down to 41Hz, piano to 27.5Hz and Organ to 16Hz.

<table>
<thead>
<tr>
<th>Length</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>10ft</td>
<td>54Hz</td>
</tr>
<tr>
<td>12ft</td>
<td>42Hz</td>
</tr>
<tr>
<td>14ft</td>
<td>39Hz</td>
</tr>
<tr>
<td>16ft</td>
<td>34Hz</td>
</tr>
<tr>
<td>18ft</td>
<td>30Hz</td>
</tr>
<tr>
<td>20ft</td>
<td>27Hz</td>
</tr>
</tbody>
</table>

STANDS THAT DELIVER

As their name suggests, bookshelf 'speakers work well sitting next to your irreplaceable collection of Readers Digests. They're also very effective Blu-tacked to windowsills, if yours are deep enough. However, larger bookshelf designs will need a serious set of stands, such as these superb Apollo AZ10s. At just over £100, you get a very rigid and neutral platform for your baby boxes, raised to the correct twenty four inches off the floor. Optional top plate spikes are available to match the supplied base spikes, but again, Blu-tac works very well indeed. The finish is superb and they can be mass loaded should you feel the need. Recommended.
Gentlemen, Choose Your Weapons...

Loudspeakers are the most personal of passions. While many may agree on the best source or amplification, few audiophiles concur about the best 'speaker. Here, each member of the Hi-Fi World team nominates their favourite design. Couldn't disagree more? Then write in and tell us all about your own top transducer!

**YAMAHA NS1000M**

The problem with most loudspeakers can be easily identified: they don't make you think, "wow!" Spend an afternoon with a pair of top B&Ws, and you'll be impressed by their smoothness, clarity and colour. Strap yourself in before a pair of big JBLs and you'll love the way they follow a tune. The Yamaha NS1000Ms don't give you time to distil your thoughts on their respective strengths and weaknesses — rather, you find yourself gripped, transfixed, hypnotised and enraptured. Your jaw is on the floor.

Given that all 'speakers strive to fulfil a commonly agreed purpose — that of reproducing music as 'naturally' as possible — it is amazing that they sound so different. The fact that expensive, high end designs, which presumably throw more resources at the problem, don't converge any more than cheap ones, is all the more baffling. The Yamaha NS1000Ms sound quite unlike any 'speaker you've ever heard — you can spot them at fifty paces, playing in another room behind a closed door.

They're so easy to identify because they sound amazingly, uncannily, unerringly 'live'. That's 'live' as in 'alive'. As in real music being played by real instruments in real time. It's the sound you expect whenever you got to a live concert — be it Van Morrison or Ludwig Van...

How so? Well, timing is of the essence. First, the treble and midrange drivers are both phase-coherent domes (a small one and a very big one, respectively). Critically, they're fashioned from Beryllium — which is the lightest metal in the Periodic Table — giving ultra fast responses, ultra high sensitivity and incredibly low distortion. The midrange dome runs right down low, whereupon it turns to a lightweight carbon/paper cone to move air. Crucially, a bass port is nowhere to be seen, and for my money, no ported loudspeaker can ever sound right or true. A massive 50kg cabinet completes the picture.

The result is 'thunder and lightning'. The Beryllium drivers, which — JM Labs Utopia notwithstanding — are quite unlike anything ever used on any other design, give an unmistakably clear and open sound with razor-sharp transients. The good old fashioned, unreconstructed 12 inch woofer duly obliges with dizzying amounts of low frequencies, right on time thanks to that closed baffle cabinet. What a 'speaker — wow! DAVID PRICE

**LINN ISOBARIK**

"I like small speakers, I like tall speakers, I like wall speakers," declared Cliff Richard in Wired for Sound, "but most of all I like loud speakers" — and unfortunately most people agreed with him. Not Setright: I dislike all speakers. They are the most treacherous elements in the entire hi-fi panoply, and I especially dislike those which have to be turned up loud if there is to be any semblance of balanced response.
over the full frequency range. If only headphones did not tie me to my seat and make the world spin whenever I move my head, I might not bother with loudspeakers at all.

Making the best of a bad job proved easy. The Linn Isobarik (no longer made, alas!) suited my approach to listening. I do not care a tuppenny dam for what some people worship as soundstaging, but I do want to hear all the music correctly balanced. It may be that the Isobarik, with its forward-facing treble and mid-range drivers duplicated by another set facing upwards, is naturally poor at soundstaging. It can be made good at it by wiring the two boxes out of phase; I do not care.

What matters is that the Isobarik presents in effect two sets of Kans, one upright and the other supine, supplemented by a stereo pair of sub-woofers — and those depth chargers are particularly precise because of the matching pair placed behind them to seal their hindchambers and ensure that the ones I hear do not have to fight against changing pressures behind them. That is what the name meant.

The result is vast, fast, accurate, and admirably distributed: I can sit where I hear the speakers, or where I hear the room, and either way it’s satisfying. The active versions — Aktiv in Linn-speak — are even better, improving the balance between drivers and extending the low-loss frequency range even further. There are organ parts, in some pieces of which I am fond (Holst, Elgar and Respighi occur to me at once), that I do not hear through anything else. In the end, there is one thing that makes the Isobarik special. It is the only speaker I have heard that does not sound like a speaker.

**LJK SETRIGHT**

**LOWTHER ACOUSTA**

Loudspeakers are funny things - never perfect, and always the last and therefore most insignificant part of the chain! My friends rib me like mad about my long-term love affair with full range paper cone loudspeakers, and one of the finest remains the classic 1964 Lowther Acousta (not the earlier version), fitted with a single PM7a drive unit. Response is ragged (‘Noel, I beg your forgiveness!’) and the constant width folded rear horn does nothing to help the odd standing wave...

The drive unit itself is a real blast from the past. Based on Paul Voigt’s original 1927 loudspeaker, Lowther used parchment paper to fold the cones! The voice coil is formed on paper also, and is strangely wound on a strong alnico magnet, and uses cobalt steel pole pieces.

Driven by the wrong amplifier (anything transistor, and anything non-linear in the valve department) or placed in the wrong location (they need to be used hard in corners) these things can sound downright nasty, thin and shrill with zero bass and a kind of ‘take your head off’ midband and treble! These ‘speakers are incredibly efficient, around the 103 dB per watt rating, and despite Lowther’s ridiculous claims, power handling is no more than about 20 watts, but with that kind of efficiency, it can easily play in excess of 111 dB, which is very loud (we’re talking eleven out of ten, here)! Despite that ultra high sensitivity, Lowthers do not really suit single-ended zero feedback triode designs - rather, a good push-pull unit with some negative feedback (Quad II, Radford STA15, EAR 509) really suits these ‘speakers.

Set up correctly, the Acousta remains a dazzlingly dynamic and fast performer. It has the kind of bass speed that you can only get from an electrostatic, but the dynamics and sheer volume levels only available from moving coil ‘speakers. Treble is clean and fast, and devoid of any ringing or sibilance. There is a slightly boxy quality to the sound, but it is mild, and your ears do tune out from it! They are a simply great loudspeaker, with more charisma than any room full of modern boom boxes...

**HADEN BOARDMAN**

**BBC LS3/5A**

As a certain salubrious soap commercial once said, "one instinctively knows when something is right". This could not be more true of the LS3/5A. I’ve had my pair for a great many years, and prize them above all else. Just as the best literature is 'unputdownable', so my diminutive dynamos remain connected all the time, and I have no intention of replacing them.

Without a doubt, it is the prototypical, archetypal near-field monitor. Designed many years ago, the LS3/5A was originally built for use in outside broadcast vans, and most definitely not intended for the home! But such was the unusual brilliance of their sound, that public pressure resulted in the BBC granting licenses to manufacturers to build them to an incredibly tight specification, so every loudspeaker sounded precisely the same.

The drive units are KEF’s famous B110 midrange and T27 tweeter, which together with an extremely comprehensive crossover unit and the (then) radically small, taut and rigid infinite baffle enclosure, makes one of the finest loudspeakers. Speech is so naturally reproduced that it is almost chilling. Spatial detailing and image projection is remarkably vivid and explicit. Cabinet size seems to have no bearing on the sound that fills the listening room - bass is cleanly reproduced in spite of the frequency tailoring and the premature 70Hz roll off. The sound is seamless with a little warmth in the upper bass point and a smooth, if slightly curtained treble. The key to the LS3/5A is naturalness and neutrality, and in these respects, the loudspeaker is literally peerless.

It’s not all greatness and wonder, however. They demand careful placement on a solid, non-resonant support approximately twenty eight inches high, clear of sidewalls and at least eighteen inches from the rear wall. Oh, and they also require the highest quality signal possible from an amplifier that can drive their 110ohm or 150ohm loads. Even with all the right things in place, you’ll still not get high sound pressure levels from them, however — so subwoofers can be usefully deployed, such as Rogers'
bespoke AB1.

Designed, assembled, tested and calibrated in the United Kingdom, with the reputation of the BBC's best engineering boys behind it, this is unquestionably the finest loudspeaker ever built.

ALBERT LEE

QUAD ESL-988

I went to an ordinary boy's school in London that was extraordinary when it came to music. It had a literally world famous school choir that accompanied the likes of Pavarotti and Placido Domingo, and sung under the authoritative baton of legends like Haitink and Giulini. The Royal Festival Hall was our second home like Haitink and Giulini. It consisted of a Garrard 301, Quad II valve amps and a pair of large, brown cheese graters which I later learnt to be a pair of Quad ESL57s. (This loudspeaker's musical merit was further confirmed when I spied a pair in Brittan's library in Aldeburgh.) When I first heard it firing on all cylinders it didn't really impress. I remember distinctly thinking "that ain't hi-fi, where's the firing on all cylinders it didn't really impress. I remember distinctly

years later, as editor of this August journal, I had the chance to review the (then) brand new ESL 988. I was smitten, and soon ended up with a pair. From when first powered up, they sound atrocious. But after about two hours they really sing. Bass extends (yes, really) to make drum'n' bass superb, and they have an immediate sound that kicks ass with the best. Orchestras have wonderful width and pin-point imaging. For even more space and depth, the addition of a decent sub will make your jaw drop.

What makes the Quad 988? Well, there's simply nothing else like it. This 'speaker is used by many classical producers and engineers as professional monitors. A couple of hours trawling through your collection will soon have you forgetting all your previous prejudices. Absolutely nothing touches them when it comes to choral music. Stick on Tallis's 40-part motet 'Spem In Alium' and let that glorious sound wash over you! The sense of 'being there' cannot be bettered. And that's coming from someone who was there in a choir (with varied success) virtually every day for fifteen years. Are they my only speakers? No, but when I wheel them out (which is more often than my wife would like) they often stay there for weeks.

SIMON POPE

QUAD ESL-63

The most sensational loudspeaker I've used comprised a pair of stripped down Quad ESL-63s sitting atop Celestion SL6000 open dipole subwoofers. Initially I used Celestion's crossover, but this was just too basic and got replaced by my own design in an attempt to overcome problems. This not-so-little combo worked from 20kHz right down to 5Hz or so, combining all the strengths for which the electrostatics are renowned, together with earth shaking bass from open dipoles. Everything was on its limits and all limits could be reached: endless bandwidth and almost endless power seemed available. Yet at the same time the Quads were as open, smooth, neutral and revealing as ever, giving astonishing results with everything from Led Zeppelin to the Richard Wagner. After the off-on affair one always has with Quads, money was exchanged. Pieces were removed from the speakers in a slow striptease, as I tried to get past the outer dressing to the inner body. First the top plate and then the sock. This reveals — horror — a metal grille designed to stop little Johnny sliding out the speakers in a slow striptease, as I tried to get past the outer dressing to the inner body. First the top plate and then the sock. This reveals — horror — a metal grille designed to stop little Johnny sliding

NOEL KEYWOOD

With no kids at that time, the grilles were duly removed. "it's not the polarising volts that will kill you," Peter Walker once confided, "it's the stepped up audio...", just going to prove that Led Zeppelin through Quads could be a terminal pleasure!

This left the dust covers over the staters, which I left on, and the overload circuits were upgraded to Quad's secondary diodes to prevent the progressive compression and muddying of the sound imposed by the primary circuit.

You could hear a pin drop through these loudspeakers - they had enormous resolution, lacking the stiction and inertia of a motor assembly and coil. Unlike the '57, the ESL-63 was full range and totally coherent. With no crossover and no phase anomalies, nothing could match it with violin. I learned how flawed conventional loudspeakers were in this area. All vocals were sublime; nothing can match good electrostatics here either. Bass went down endlessly, but fiendish amounts of power were needed to drive the SL6000s!

This set up had no rivals. However, it was vast – too big for my lounge – and immovable so it was time to dismantle and call it a day. As Arnie said though, "I'll be back!"
Sevenoaks Sound & Vision stocks a wide range of Hi-Fi separates, DVD players, amplifiers, speakers, plasma screens, LCD televisions and projection systems from all the leading manufacturers.

From starter systems to custom designed multi-room and home cinema installations, our friendly staff are available in all outlets to advise, demonstrate and guide you through the home entertainment jungle. If you’re interested in home entertainment and want to avoid the confusion, contact your local Sevenoaks Sound & Vision outlet and experience more.

0% interest free option* is available on most products.

*Written details on request. Licensed credit brokers.
Minimum balance £400. Subject to status.

**YAMAHA**

Music All Around The Home

Introducing Yamaha’s Innovative New MusicCAST Wireless System

Are you interested in having music in every room in your house without the wires normally associated with a multi-room system? Then you will be delighted with Yamaha’s new MusicCAST - a client/server system that can distribute multisource audio wirelessly around your home.

Featuring an 80GB hard-disk, the MusicCAST can store up to 1600 hours of music in compressed MP3 format or 100 hours of uncompressed, CD quality PCM stereo. Copying music to the hard-disk takes around 3 minutes. Once recorded music can be played back in PCM quality from the central server and one client unit in another room, and in MP3 quality to an additional six clients. The whole system can send different music to each of the clients and allows you to create playlists for different rooms.

Custom Installation

Are you looking to neatly and seamlessly integrate a Home Cinema or Hi-Fi System into your home? Our Custom Installation experts are fully trained in all areas and provide a prompt, reliable and professional service. Whether you’re looking for lighting control systems, a dedicated home cinema installation with a retractable screen and built-in speakers or an integrated control system, Sevenoaks Sound & Vision has the solution.

New Weybridge Store

We are pleased to announce that in early September, our new store at 43 CHURCH STREET, WEYBRIDGE, SURREY will be opening. For up-to-date information please telephone 01932 828525 or visit our website.

Opening Soon

Subject to legal completion, we are opening new stores in the following locations:
Ealing (North London), Staines (Middlesex) and Wiltshire (Cheshire).

www.sevenoakssoundandvision.co.uk

Bedford
Birmingham
Brighton
Bristol
Bromley
Cambridge
Cardiff
Chelsea
Cheltenham
Crawley
Croydon
Edinburgh
Epsom
Exeter
Glasgow
Guildford
Holborn
Hull
IPSWICH
Kingston
Leicester
Leeds
Lincoln
Liverpool
Maidstone
Manchester
Newcastle
Norwich
Nottingham
Oxford
Peterborough
Plymouth
Poole
Preston
Reading
Sevenoaks
Sheffield
Solihull
Southampton
Southgate
Swansea
Swindon
Swiss Cottage
Tunbridge Wells
Watford
Weybridge New
Witham (Essex)
Wolverhampton

Please see Page 7 for address and telephone number details

FOR FREE TICKETS CALL 01732 459555
Turntables & Tuners

Arcam DVA 161 Tuner £249.95
Cyrus FM X Tuner £499.95
Denon TL 200L Mk II Tuner £119.95
Marantz ST 4000 Tuner £109.95
Michell Gyro SE/RB300 Tuntable £599.95
Project Debut Phono SB Tuntable £169.95
Project Debut II Tuntable £119.95
Project Debut II Tuntable (Carbon) £134.95
Project 1 Expression Tuntable £209.95
Pure Evoke 1 DAB Radio £99.95
Pure DRX-702ES Analogue/DAB Tuner £329.95
Sony CDP-XE570 £99.95

STARTER SYSTEM

Arcam DVA 161 Tuner £249.95
Cyrus FM X Tuner £499.95
Denon TL 200L Mk II Tuner £119.95
Marantz ST 4000 Tuner £109.95
Michell Gyro SE/RB300 Tuntable £599.95
Project Debut Phono SB Tuntable £169.95
Project Debut II Tuntable £119.95
Project Debut II Tuntable (Carbon) £134.95
Project 1 Expression Tuntable £209.95
Pure Evoke 1 DAB Radio £99.95
Pure DRX-702ES Analogue/DAB Tuner £329.95
Sony CDP-XE570 £99.95

PRO-JECT

RPM4 Turntable £349.95

"If you want severe turntable styling on a budget, you need look no further than this. The RPM4 soon impresses with the quality feel of its arm and the screw-down clamp to hold and flatten records, and as soon as the stylus settles into the groove it's clear this is a superior player. There's much less surface noise than with the Debut, and the music has much greater scale and power, allied to closer detailing. That lovely organic feel you only seem to get from great vinyl playback is apparent... This is a very grown-up record player for reasonable CD player money: it's well worth exploring." August 2002

PURE DIGITAL

DRX-701ES Digital Tuner £229.95

"This new tuner from the recently renamed Pure is based on the 2001 Award winning Videologic DRX-501ES, but under the lid is an all-new third-generation digital radio engine, in the form of Frontier Silicon's Chorus FS1010. The tuner uses 24-bit/192kHz conversion with 4x upsampling and data interpolation, and is powered by a low-noise toroidal transformer - such attention to sonic detail pays off. Digital outputs are provided on electrical and optical feed, but most people will use the analogue out and these sound very good indeed. As usual the tuner is subject to the signal quality off-air, but when it's fed from a high quality outdoor aerial so a good signal it's capable of a crisp, powerful and detailed presentation. Even more populist music stations like Radio 6 benefit from the mix of a neutral balance and fine weight, while speech is also neutral and easy to follow... If you want a quality home tuner for digital radio, you need look no further." October 2002

Wharfedale Pacific Evolution 30 £649.95

"Evolution? This is more like a revolution. Wharfedale's new range is more than just an upgrade of its Pacific series. The changes are radical, but the most obvious transformation is the removal of the original's unattractive tweeter module, which was situated on top of the speaker. The tweeter housing is now sunk into the Evo 30 cabinet, the intention being to improve dispersion and benefit from the improved rigidity of the strongest point of the cabinet.

Listen to the Evolution 30s and the sonic changes leap out at you. Sitting on their chunky spikes and situated in free space, the speakers sound wonderful: low frequencies delve deep and delivery is punchy and fast...

You'll have gathered by now that we love these speakers. They're beautifully made and are great all-rounders." March 2003
Amplifier Selection

<table>
<thead>
<tr>
<th>Amplifier</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arcam DiVA A65 Plus Amplifier</td>
<td>£369.95</td>
</tr>
<tr>
<td>Arcam DiVA A80 Amplifier</td>
<td>£599.95</td>
</tr>
<tr>
<td>Arcam DiVA A85 Amplifier</td>
<td>£799.95</td>
</tr>
<tr>
<td>Arcam PMI A32 Amplifier</td>
<td>£1,149.95</td>
</tr>
<tr>
<td>Cyrus 8 Amplifier</td>
<td>£799.95</td>
</tr>
<tr>
<td>Cyrus Pre X Pre Amplifier</td>
<td>£999.95</td>
</tr>
<tr>
<td>Cyrus Mono X Power Amplifier</td>
<td>£1,199.95</td>
</tr>
<tr>
<td>Denon PMA355 Amplifier</td>
<td>£1,999.50</td>
</tr>
<tr>
<td>Harman Kardon HK670</td>
<td>£2,999.95</td>
</tr>
<tr>
<td>Linn Kollector Pre Amplifier</td>
<td>£4,949.95</td>
</tr>
<tr>
<td>Linn UK85 Power Amplifier</td>
<td>£4,994.95</td>
</tr>
<tr>
<td>Marantz PM4200 Amplifier (Black)</td>
<td>£1,499.95</td>
</tr>
<tr>
<td>Marantz PM7200 Amplifier (Black)</td>
<td>£3,299.95</td>
</tr>
<tr>
<td>Musical Fidelity A3.2 Pre Amplifier</td>
<td>£999.95</td>
</tr>
<tr>
<td>Musical Fidelity A3.2 Power Amplifier</td>
<td>£999.95</td>
</tr>
<tr>
<td>Musical Fidelity A308 Amplifier</td>
<td>£1,999.95</td>
</tr>
<tr>
<td>Musical Fidelity Tri-Vista 300 Amplifier</td>
<td>£3,994.95</td>
</tr>
<tr>
<td>Quad 90 Power Amplifier</td>
<td>£5,494.95</td>
</tr>
<tr>
<td>Roksan Caspian Amplifier</td>
<td>£8,994.95</td>
</tr>
<tr>
<td>Rotel RA-01 Amplifier</td>
<td>£2,499.95</td>
</tr>
<tr>
<td>Rotel RA-102i Amplifier</td>
<td>£5,994.95</td>
</tr>
</tbody>
</table>

DiVA CD82T - Arcam’s latest sounds like a more mature version of its little brother. On an initial listen the increased solidity and refinement are obvious, but over time the subtler dynamic shading and more assured handling of transients come to the fore. The Arcam CD827 is one of the best CD players available at this price point.

DiVA A85 - You’ll have realised by now that we rather like this amp. It took us completely by surprise, and further strengthens Arcam’s already impressive product range. The A85 is superb, and we can’t wait to put it up against its peer in a group test.

B&W Bowers & Wilkins DM602S3 Speakers - £299.95

FREE SPEAKER CABLE* WORTH £60 IF PURCHASED TOGETHER

B&W CDM NT Series - Prices start from £749.95

FREE INTERCONNECT CABLE* WORTH £60 WHEN ANY ROTE CD & AMPER PURCHASED TOGETHER

B&W CDM NT Series

* Available (Pictured Right)

RCD-02 CD Player - £379.95
RA-02 Amplifier - £349.95

RCD-02 CD Player - Whether it's the raw, and sometimes just plain barking vocals of Tom Waits, or the stinging guitar stabs of Pete Townsend on some old Who tracks, the Rotel is one of those players that can’t help but bring a smile to the face - it's a breath of fresh air.

RA-02 Amplifier - The amp has a fast, detailed and yet satisfyingly full presentation. That allows it to make a fine job of the beats of Groove Armada’s Goodbye Century set without losing sight of the fine details of the mix, and also husking out Marianne Faithfull’s deliciously smutty vocals on Kissing Time with real relish. Add in decent levels of equipment - and the convenience of remote control, and we reckon Rotel has a winner on its hands.

We always try to ensure our prices are highly competitive. In the event you can find the same products and excellent service at a lower price, please bring it to our store managers’ attention.

Sevenoaks Sound & Vision
Cyrus has been developing high performance hi-fi systems for nearly 20 years. Today their upgradeable, modular product range includes multi-room systems, home cinema and some of the world’s finest hi-fi systems. Cyrus products are hand finished, half size die-cast enclosures and include a hidden digital command system that allows simple operation of any size system.

Joining the new Cyrus 8 amplifier is the stunning new high performance, upgradeable CD player, the CD8. Other new models in the 8 series include the AV8 digital AV processor and a new disc player, DVD8, featuring specially tuned video and audio circuitry.

Cyrus 8 Amplifier: "The 8 is a large step forward from older generations of Cyrus amplifiers, and takes the company back into the leading pack in the sub-£1000 integrated amp sector... The Cyrus 8 is a must-audition product."

ROKSAN

Kandy KA1 MKIII Amplifier £544.95

"When we last reviewed Roksan’s Kandy integrated amp in February it fought off serious competition to come top in a Supertest. This is its replacement, the MkIII. Internal changes include an uprated power supply for the preamp section and identical mono modules for the left and right power amp sections. Roksan also claims 50 percent lower distortion on line-level inputs and a whopping 150 percent less on the phono input. The rated power output is an impressive 120 watts per channel into 8 ohms, and this amp has a confident, muscular way with music that bears this out. But don’t be fooled into thinking this amp is raw but unrefined. With Van Morrison’s Down the Road the Kandy has the guts to render the performance exciting and dynamic, but also the guile to deliver subtle details.

The upgraded Kandy MkIII is an excellent amp; the MkII version was impressive, but MkIII is a stunner.

QUAD

11L Speakers £379.95

"Quad is best known for its superlative electrostatic designs, which start at £3500. So any £379 pair of speakers that comes the company’s name has to be going some to avoid tarnishing the family reputation. The first surprise is that the 11Ls come in real-wood veneers covered with piano-gloss lacquer. This type of finish is almost unheard of at the £1000 mark, let alone at this price. Has anything been sacrificed for such a luxury finish? Here’s the second surprise: apparently not.

The final surprise? Well, saving the best for the last, the sound quality of the 11Ls is phenomenally good. These are small speakers at just 33cm tall, but the scale and authority of their performance is terrific. The laws of physics dictate bass extension limitations, but thanks to a clever dual rear firing port arrangement the 11Ls plumb the depths with the determination of a rottweiler, even when placed in free space.

If you’re in the market for a pair of top quality standmounters these Quads are a must listen. Quite simply, they’re good enough to scare the competition big time.”

Speaker Selection

Acoustic Energy Aegis Evo One £179.95
Acoustic Energy Aegis Evo Three £349.95
Acoustic Energy AE1 MKIII (From) £1699.95
B&W CDM 1NT £749.95
B&W CDM 7NT £1249.95
B&W DM303 £179.95
B&W DM901 S3 £249.95
B&W DM902 S3 £299.95
KEF Q1 £249.95
KEF Q3 £399.95
KEF XO1 £999.95
Linn Katan (Cherry/Maple) £634.95
Linn Kivina (Cherry/Maple) £1044.95
Mission 731 £129.95
Mission 780SE £349.95
Mission 780SE £999.95
Monitor Audio Bronze B2 £199.95
Monitor Audio Silver S1 £299.95
Monitor Audio Gold Reference 10 £799.95
Monitor Audio Gold Reference 20 £1499.95
Quad 20 £99.95
Ruark Epilogue II £344.95
Wharfedale Pacific Evolution 30 £549.95

PLEASE NOTE: Some products may not be available at all outlets. Please call before travelling. Not in conjunction with any other offer.

Advertisement valid until 31st December 2003. £1000 Home Entertainment Systems Available from"
MUSICAL FIDELITY A3.2 Series

A3.2 CD Player £999.95
A3.2 Amplifier £979.95

FREE INTERCONNECT CABLE* WORTH £100 WHEN ANY MF CD & AMPLIFIER PURCHASED TOGETHER

Replacing the WHAT HI-FI? SOUND AND VISION Award Winning A3 CD and Amplifier, the new A3.2 models have been further refined and re-styled. The A3.2 CD Player now incorporates the same DAC, filter assembly and control mechanism as the highly-acclaimed Nu-Vista CD Player. The A3.2 Amplifier draws on experience gained through the development of the Nu-Vista M3 amplifier and as such has inherited many of its qualities, producing a sense of ease and flexibility that is normally only associated with far more expensive designs.

Special Edition

To celebrate twenty five years of high performance loudspeaker design and manufacture, Mission is proud to present special edition models of its highly acclaimed 780 and 782 loudspeakers. The 'SE' is more than just a 'go-faster' suffix. A selected version of Mission's unique microfibre treble unit is fitted and audiophile grade crossover components have been used. To reflect the special status of the 780SE and 782SE, these models in are finished in finely grained, Alder wood veneer.

782 SE Speakers (Pictured Left) £899.95

"Well, with the exception of the alderwood-veneer finish, these floorstanders look identical to the standard model, although there's a new tweeter and crossover design. One of the advantages of the three-way configuration is that each driver deals with only a narrow section of the frequency range, and the designers optimise each unit to perform its respective task. Mission's engineers have excelled in this area: these elegant floorstanders sound beautifully balanced and few rivals under £1600 can match their wonderful levels of clarity. The 'special edition' tag is overused but these talented floorstanders are bona fide sonic stars."

780 SE Speakers £349.95

"The revamped Mission 780s are hugely enjoyable: anyone with up to £400 to spend should consider these standmounters. Mission's clever MOV has paid off."

FREE SPEAKER CABLE* WORTH 10% OF THE SPEAKER VALUE WITH ANY MISSION SE SPEAKERS

Pioneer

PDR609 CD-RW Recorder £169.95

"While it looks simple, the Pioneer has an impressive array of features, including the handy double-speed disc finalization and CD-Text compatibility. Internally, the PDR609 is a big step up from the Award-winning PDR-509 it replaced: the DAC is now a 24-bit/96kHz number, aided and abetted by Pioneer's Legato Link conversion technology, and it has 24-bit A-to-D conversion, which is ideal for copying your vinyl onto CD. If this is your plan, you'll appreciate that the Pioneer makes it easy to create first-rate copies from any source, helped by the manual recording-level controls. It was hard to tell our copy of Jim White's No Such Place from the original.

While the Pioneer's replay quality can't match the Marantz, it costs £120 less, which would buy you a lot of blank discs. If you've already got a dedicated CD player, we'd go with this recorder."

We always try to ensure our prices are highly competitive. In the event you can find the same products and excellent service at a lower price, please bring it to our store managers' attention.
Denon has introduced the DVD-2900, the company's first-ever all-format universal disc player. Offering both DVD-Audio and Super Audio Compact Disc playback, it includes a host of leading-edge technologies and features to offer ultimate-performance multichannel audio and PAL progressive scan video playback.

Consistent with Denon's philosophy that a DVD player is a high-end audio component as much as it is a video playback device, the DVD-2900 is designed for unsurpassed sound quality. It incorporates leading edge Burr-Brown 24-bit, 192kHz audio D/A converters for the highest possible resolution and fidelity along with maximum surround sound separation and dynamic range. The DVD-2900 also offers full digital bass management for DVD-Audio and Super Audio CD, with selectable crossover slopes to optimise sonic performance with any loudspeakers and room environment. In addition, the player includes built-in Dolby Digital and DTS decoding with 5.1-channel outputs, plus built-in MP3 decoding that provides up to 10 hours of music playback from a single MP3-encoded CD-R or CD-RW disc.

The video performance of the DVD-2900 is equally exceptional. The player incorporates precision Analogue Devices 12-bit, 108MHz video D/A converters, and Denon's PureProgressive Scan technology featuring the Silicon Image SiI504 decoding engine. The processor is capable of real-time computation at more than 6 billion operations per second—massive computing power that assures seamless, artifact-free image quality.

### XQ One Speakers £999.95

By combining technologies from its Reference and Q Series, KEF has introduced the new XQ speaker range. Featuring KEF Uni-Q° ‘point source’ arrays for unrivalled off-axis performance and ‘super audio’ Hypertweeters, the XQ range fully exploits the wide bandwidth of digital formats like SACD and DVD-A. The range comprises the XQ One and Three stand mounters, the XQ Five floorstanders and XQ Two centre speaker. All X0 models are available in a variety of finishes.

When tested in a group test, the XQ Ones received top honours—"KEF’s new XQ Ones really are in a class of their own. With a depth of insight that is unmatched, plus a sense of cohesion that is rare—the XQ Ones are startling" concludes Hi-Fi World—April 2003. Please Note Price Excludes Stands

### Strata III Subwoofer (Wood) £699.95

REL is an audiophile company who take great pride in designing and building their highly acclaimed subwoofers. Because of their total commitment to performance, REL sometimes adopt unusual solutions to otherwise straight-forward problems.

"The aggression of Rage Against The Machine's Take The Power Back is near-tangible, the mibrance a spitting, spirited companion for the tight, deep, air-agitating bassline. As for the more deft creations of Chick Corea, the REL's articulate nature serves subtly to underpin basslines, rather than swamp them. The adaptability makes the Strata III a highly recommended subwoofer—its a very versatile, musical piece of kit, and it doesn't cost the earth."

Please Note Price Excludes Stands
outlets nationwide

Bedford 29-31 St Peters Street 01234 272779
Birmingham Arch 12, Livery Street 0121 233 2977
Brighton 57 Western Road, Hove 01273 733338
Bristol 92b White Ladies Road, Clifton 0117 974 3727
Cambridge 17 Burleigh Street 01223 304770
Cardiff 104-106 Albany Road 029 2047 2699
Cheltenham 14 Pithville Street 01242 241171
Crawley 32 The Boulevard 01293 510777
Edinburgh 5 The Grassmarket 0131 229 7267
Exeter 28 Cowick Street 01392 218895
Glasgow 88 Great Western Road 0141 332 9655
Guildford 73b North Street 01483 536666
Hull 1 Saville Row, Saville Street 01482 587171
Ipswich 12-14 Dogs Heath Street 01473 286677
Leeds 62 North Street 0113 245 2775
Leicester 10 Loseby Lane 0116 253 6567
Lincoln 20-22 Corporation Street (off High Street) 01522 527397
Liverpool 16 Lord Street 0151 707 8417
Maidstone 96 Week Street 01622 666366 Open Sunday
Manchester 69 High Street, City Centre 0161 831 7969
Newcastle 19 Newgate Street 0191 221 2320
Norwich 29-30 St Giles Street 01603 767605
Nottingham 597-599 Mansfield Road 0115 911 2121
Oxford 41 St Clements Street 01865 244773
Peterborough 36-38 Park Road 01733 897697 Open Sunday
Plymouth 107 Cornwall Street 01752 226011
Poole Latimer House, 44-46 High Street 01202 671677
Preston 40-42 Lune Street 01772 825777 Open Sunday
Reading 3-4 Kings Walk Shopping Centre 0118 959 7768
Sevenoaks 103-113 London Road 01322 459555
Sheffield 635 Queers Road, Heeley 0114 255 5861 Open Sunday
Solihull 149-151 Stratford Road 0121 733 3727
Southampton 33 London Road 023 8033 7770
Swansea 24 Mansel Street 01792 465777 Open Sunday
Swindon 8-9 Commercial Road 01793 610992
Tunbridge Wells 28-30 St Johns Road 01892 531543

NEW Weybridge 43 Church Street 01932 828525 (OPENING EARLY SEPTEMBER)
Witham (Essex) 1 The Grove Centre 01376 501733
Wolverhampton Burdett House, 29-30 Cleveland St. 01902 312225

within the M25

Bromley 39a East Street 020 8290 1988
Chelsea 403 Kings Road 020 7352 9466
Croydon 369-373 London Road 020 8665 1203 Open Sunday
Epsom 12 Upper High Street 01372 720720 Open Sunday
Holloway 144-148 Grays Inn Road 020 7837 7540
Kingston 43 Fife Road 020 8547 0717 Open Sunday
Southgate 79-81 Chase Side 020 8868 2777
Swiss Cottage 21 Northways Parade, Finchley Rd 020 7722 9777 Open Sunday
Watford 478 St Albans Road 01923 213533 Open Sunday

Please call to verify hours of business.
Contact our outlets via E-Mail outlet@sevenoakssoundandvision.co.uk

who are sevenoaks?

Founded in 1972, Sevenoaks Sound & Vision is one of the largest and most successful hi-fi and home cinema retailers in the country.
Each Sevenoaks Sound & Vision outlet stocks a wide range of quality products, covering all categories of specialist home entertainment, from Hi-Fi Separates to Widescreen Plasma Televisions and Projection Systems, all at highly competitive prices.

Friendly staff are available in all stores to advise, demonstrate and guide you through the home entertainment jungle.

opening soon

Subject to legal completion, we are opening new stores in the following locations:

**Ealing (North London), Staines (Middlesex) and Wilmslow (Cheshire).**

**custom installation**

Sevenoaks Sound & Vision’s Custom Installation Service enables the integration of a home cinema or hi-fi system into your home as neatly and seamlessly as possible. All electronics can be hidden away, speakers discreetly mounted either in the wall or ceiling and the complete system operated via remote control.

Our installation experts are fully trained to the highest standards in all areas and provide a prompt, reliable and professional service. Whether you’re looking for a multi-room system, a dedicated home cinema installation with a retractable screen and built-in speakers or an integrated control or lighting system, Sevenoaks Sound & Vision has a diverse range of products available to cater for all your requirements.

sevenoaks online

The Sevenoaks Sound & Vision website has news and information on the Sevenoaks group and its outlets nationwide. The website is designed to provide you with answers to the questions you may have when buying new equipment.

For impartial advice and information, just click on sevenoakssoundandvision.co.uk

stock clearance

With 48 outlets nationwide, the Sevenoaks Sound & Vision group stock and display a wide range of products. As individual models and product ranges are changed or superseded, the preceding models are made available at a reduced price for clearance. Visit our Website for an up-to-date list of the clearance stock, listed by outlet, within the Sevenoaks Sound and Vision group.

**0% finance option**

Spread the cost of buying. 0% finance option is available on the vast majority of products we stock. *Written details on request. Licensed credit brokers. Minimum balance £400. Subject to status.*

product range

An outstanding selection of products are on display and available for demonstration at all Sevenoaks Sound & Vision stores. However, some products may not be available in all outlets. Please call to check availability before travelling.

pricing policy

Whilst we do not claim always to be the cheapest, we try to ensure our prices are highly competitive. Take into account the expert advice, unrivalled product selection, demonstration facilities and excellent pre, during and after sales service and the lower price might not look such good value.

In the event you can find the same products and excellent service at a lower price, please bring it to our store managers’ attention. We will always endeavour to offer you the best deal.

www.sevenoakssoundandvision.co.uk
HIP TO BE SQUARE

Just like London Buses, you wait for ages for a decent ‘affordable’ phono stage and then suddenly three of them come along... Musical Fidelity’s new X-LPSv3 is the latest entrant into the fray, and it’s a real big hitter as David Price found out. Going from round to square hasn’t hurt it one bit!

An altogether larger and weightier affair than the preceding X-LPS, the new phono stage from Musical Fidelity measures 180x88x208 mm. Whereas the X-LP and subsequent X-LPS tipped the scales at 1.3kg, this box hits 2.5kg. It feels more substantial and better finished, cute as the tubular belles were. The package comprises a chunky 12V AC (500mA) power supply, which although rated the same as the old wall-wart looks far beefier, plus the X-LPSv3 itself.

Round the back lurk two sets of phono inputs (one for MM, one for MC – usefull!), an MM/MC switch, an earth terminal and the line outs. All use good, strong, gold plated RCA phons. The v3 boasts a 2dB better ‘A weighted’ signal to noise ratio on MC, and 3dB on MM and an input overload margin improved by 3dB – this aside, it retains its predecessors measurements, including the 3mV (claimed) MM sensitivity and 350uV MC sensitivity.

SOUND QUALITY

Impressive! Musical Fidelity now has its scooters on Creek’s and Trichord’s respective lawns, and is revving them up with a vengeance. Let’s set the scene – Creek’s OBH-21SE is a brilliantly capable little thing – all power and punch and energy and vim, but not the most finessed. If it’s ‘punk rock’, then Trichord’s Dino is ‘classical’. Richer, smoother and better proportioned, it is altogether more demure. This new Musical Fidelity lands bang in-between the two – it’s ‘jazz’, baby!

I kicked off my listening with Guns’n’Roses’ ‘Sweet Child of Mine’. The X-LPSv3 showed real space and grace. Whereas the Creek throws everything at you, the Mu Fi stands back a row or two – it’s not as direct, but you do get an altogether more panoramic view of the stadium, so to speak. There’s more bass too, and it’s not flabby or slow, but surprisingly grippy and engaging. The Dino has more still, although it seems just a little lackadaisical by comparison.

Moving up the scale, again the Creek’s midband forces itself at you. The effect is most engaging, whereas the MF sits down on its seat in great repose. The band seems a little more stadium rock, and less heavy metal. There’s a truly smooth and even midband which gives a nicely widescreen feel. Accurately located images inhabit an acoustic with fine depth perspective.

Cue up Kate Bush’s ‘Wow’ and the X-LPSv3 romps ahead. There’s a greater sense of what the song is about – it has a dreamy, contemplative quality, whereas the Creek just wants to bash it out. Move to the more expensive Dino and this is further evident, with extra spatial clues and low level detailing. The treble of this phono stage is superb for a budget design – as with all MF products it’s very couth, smooth and slightly sepia-tinged, just what you need at this price!

Overall then, you have a very couth and cultured sounding product that simply allows you to enjoy music without it being foisted upon you. It fits into the market as the great all-rounder at the price. Although comfortably superior to the already fine Creek, it’s not up to the Dino but then again is usefully cheaper.

REFERENCE SYSTEM

Michell Orbe turntable
Origin Live Illustrious tonearm
Ortofon Kontrapunkt B cartridge
Audio Research VSA55 amplifier
Yamaha NS1000M loudspeakers

VERDICT

Satisfyingly smooth and open sound makes this the best at the price.

MF X-LPSv3
Musical Fidelity Ltd
£249.00

SPECIFICATIONS (MANUFACTURER’S DATA)

MM
Sensitivity 3mV
Input impedance 47k ohms
Input overload margin 30dB
Signal / Noise ratio >75dB unweighted
MC
Sensitivity 350µV
Input impedance 100 ohms
Input overload margin 30dB
S/N ratio >72dB unweighted
RIAA accuracy ± 0.5dB 20Hz - 20kHz
A s every loudspeaker appraisal is invariably personal, let me begin with an anecdote. I heard a (somewhat well campaigned) pair of original ESL57s some years back, and was bowled over. Although I could hear a lot that wasn't quite right, I could also hear much that was spot bloody on — if you'll pardon my French! I was left intrigued, but ultimately unfulfilled. I came away from the experience thinking that I'd never heard classical or indeed electronic — music sound so good, but rock music was an altogether far too cerebral occasion.

The trouble was that it proved a defining audio experience. Properly done electrostatics — and the Quads are nothing if not this — throw a million watt spotlight on what's wrong with moving coil 'speakers. In this respect they're unpleasantly vengeful — it's as if they're saying, 'Okay, if you don't like me then I'm not going to let you love another'!

And the Quads are quite right, of course. With the exception of a handful of moving coil loudspeakers, some of which you can read about on p24, there are few conventional boxes that come anywhere close to what real music sounds like. The sad fact is that we condition ourselves to what we're used to hearing, and begin to fool ourselves into thinking that it sounds like real music.

The bitterest pill, however, is that Quad's ESL57s — for all their inspired genius — are also far from perfect. Electrostatics have lightning-fast transient response, making for a brilliantly natural and airy sound, but all the associated electronics create their own problems. Their input step-up transformer is a big thing to put bang in the path of the signal (they often have variable performance at the frequency extremes and hysteretic distortion in the midband). The design is also highly capacitive, which screws most solid state amps - with their low damping factor and high negative feedback — into knots. 'Statics are also prone to arcing at high levels, which means the panel starts to fry itself. In practice, this has meant the ESL57 is simply not capable of high volume levels, or indeed of faithfully conveying truly wide dynamic range. The ultra fast low and medium level transients fool you into thinking this is a brilliant rock loudspeaker, but crank up the volume and it sits on transients and starts to compress things.

They're also prima donnas when it comes to positioning. In an ideal world, there would be just as much space behind the '57 as in front of it. They should never be put flat against a wall.

As far as amplifier matching is
 concerned, a medium-power, push-pull valve amp is ideal. Tubes don't mind the nasty capacitive load of an electrostatic, and don't get too upset by their vicious impedance curve which swings from as low as 1 0.8ohms to over 60ohms! When serviced by Quad, 'clamp' circuits are fitted which prevent input voltages exceeding the 33volts which Quad quote as a maximum before damage occurs. These are necessary with big transistor amps, but moderately powered valve amp users would do well to remove them for superior sound.

**MOD YOUR QUADS**

Haden Boardman talks you through five serious upgrades to stock ESL 57s...

1. **get them off the floor with I8-24" stands**
2. **located inside the back of the ESL panels is a covering of 'sack-cloth', and the tweeter panel has an even thicker chunk of felt - remove them!** WARNING: the very high voltages inside these speakers can kill - only open them up when the power has been switched off for several hours!
3. **buy an additional pair and stack them.** Extra efficiency, higher SPLs and better bass are the rewards. This requires a properly rigid frame - most people build one which screws into the sides of the '57s in place of the wooden end cheeks.
4. **ro-frame them - the original wooden carcass is not solid, and major gains can be had by building a stiffer frame.**
5. **use a super tweeter to improve treble.** Adding a Decca-Kelly or an ATD ribbon can bring more spaciousness. Wire in a single 60B/octave high pass filter - most people prefer a 2uF cap, although there's invariably room for experiment.

**ELECTROSTATIC THEORY**

An electrostatic comprises a moving Mylar film diaphragm set between two fixed, perforated electrodes through which sound can pass. The film receives a fixed charge, whilst the electrodes receive the varying music signal, stepped up to a very high voltage. As power from the amplifier energises the fixed plates, the statically charged film vibrates in sympathy under electrostatic forces, pushing sound waves through the perforated electrodes.

**SOUND QUALITY**

Dynamite. I can happily report that this re-panelled and rebuilt pair of Quad electrostatics is one of the very best loudspeakers I've heard in my life. Regular readers will know I am still in awe of the Yamaha NS1000Ms (which use ultra-light and stiff Beryllium domes - instead of electrostatic panels - to give incredible transparency), and the Quads haven't quite managed to wear me off. However, I can confidently say that in some ways they surpass the Yamahas, and in most others they're frighteningly close. Now, this is the first pair of loudspeakers I've come across about which this can be said - and believe me I've been looking long and hard!

If you've heard an old pair of ESL 57s, you'll remember them as being very clean and crisp, but somewhat veiled in the treble, soft in the bass and dynamically limited. Your most powerful impression will doubtless be of the disappointingly low volume levels they're capable of.

Forget all this - it simply doesn't apply with these. Positioned correctly and properly aspirations by a decent valve amplifier and a serious source (preferably vinyl, due to its higher resolution than CD), you'll hear a gobsmackingly large and powerful sound with masses in reserve. There's a bass response so deep and rumbling that you'll wonder why anyone needed a subwoofer, a nerve-tingling midband which will have you taking a sharp intake of breath, and a deliciously finely etched treble response with wonderful filigree detailing. Above all is a massively expansive and open sound with incredible cohesion and smoothness from bottom to top.

I started my listening with The Crusaders' 'Street Life', complete with that sublime vocal performance from Randy Crawford. I've been using this as a review tool a lot of late, and was beginning to tire of it despite the song's brilliance. The Quads made it sound shiny and new — freshly minted and straight out of the bag! In the first couple of bars, the stunning, glass-clear midband imparted the sound of the instruments themselves, rather than any combination of plastic or doped paper drive units. The Fender Rhodes keyboards sounded precisely thus, the hi-hat cymbals were disarmingly natural, and Randy's voice was just as I remember...

---

**BORN AGAIN**

Back in 1999, we tested a rebuilt pair of Quad ESL57s from One Thing Audio. Since then, the company has introduced its very own OTEC electrostatic treble panel, designed to be substituted in place of the Quad panel but the OTEC's tonal signature is such that changing in panel matching is within 0.5 dB. The OTEC treble panel is the first couple of bars, the stunning, glass-clear midband imparted the sound of the instruments themselves, rather than any combination of plastic or doped paper drive units. The Fender Rhodes keyboards sounded precisely thus, the hi-hat cymbals were disarmingly natural, and Randy's voice was just as I remember...
hearing it in a Tokyo nightclub. back in 1992! Sheer, unabashed transparency – with no quacks, warbles, sponginess, squeaks, squawks, booms or tizzes. This is why people love electrostatics – it takes you to a higher plane. You feel privy to a secret that even most audiophiles don’t know: it’s an amazing sensation of sheer luxury and indulgence, yet it seems so natural and so right. You think to yourself; ‘why did I bother with anything else for so long’!

Firecracker attack transients allied to amazing neutrality and real power handling equals real fun with classical music, so I cued up my DG pressing of Beethoven’s Pastoral Symphony (Karajan) and sat back waiting to be amazed. And I was. The first bar – no, scratch that - the first note of the first bar showed how stunning these things are. Have you ever had a symphony orchestra in your living room? You’ve doubtless had a clanky, nasal, catarrh riddled, warbles, sponginess, squeaks, transparency – with no quacks, amazing sensation of sheer luxury and indulgence, yet it seems so natural and so right. You think to yourself, ‘why did I bother with anything else for so long’!

What then is wrong with them? While they can go from quiet to loud at the drop of a hat, they can’t impart the full dynamic shading that either the NS1000Ms or the Perigee FK-1LS (reviewed a few months back) can. With either of the latter two, a drum stick thwacked onto a massive amounts of air, yet sounding disarming and with their massively heavy and highly damped closed boxes show no signs of stress as that twelve inch carbon fibre coated paper bass unit punches out like an iron fist. Cue up Saxon’s ‘747 - Strangers in the Night’ and the NS1000Ms pin you against the rear wall, but never once assault your ears despite the immense, immutable, visceral thwack.

The Quads simply can’t do this – but with a great valve amp like the Audio Research they get surprisingly close. Yes, really! Indeed, I’ve never heard any electrostatics sound so powerful and articulate at high levels. Serious amounts of bass emerge from within, and it’s deliciously tight and taut and lithe – more so even than the Yams. They drive rooms brilliantly, given the equipment to do the job. I’ve heard less convincing rock music emerging from vast, horn loaded JBL studio monitors...

To give you an illustration of how disarmingly different Quads at their best can sound, I put on my old vinyl copy of Kraftwerk’s ‘Computer Welt’ on the turntable and sat down. I heard rhythmic patterns – interplay between two sequenced synthesiser tracks in the mix – that I’ve never heard before, despite playing this song literally thousands of times before, on a dizzying variety of hi-fi (including £125,000 esoterica). I thought my days of upgrades ‘that will give you a new music collection’ were long gone, as I’d got my own system sounding so darned good. But then you put these, the ultimate ESL 57s on, and discover what you’ve been missing. Sorry to have to launch into superlative-drenched purple prose, but a good pair of second-hand Quad ESL 57s fully rebuilt by One Thing Audio is the best loudspeaker value I’ve ever come across. For around £1,500 you’ll have one of the greatest ways of hearing music yet devised. Recommended, then...

Verdict

One Thing Audio Prices:

- New OTEC treble panel £150
- Original bass panel rebuilt £130
- EHT rectifier board RBT £50
- Heavy Duty Clamp board CLP4 £29.50
- Audio transformer upgrade kit £35 pr
- Hi-spec rebuild audio transformer £45
- Complete ESL57 rebuild £1000 pr
- Rupert loudspeaker stands £175 pr

Quad ESL57

Classique Sounds (+44 (0) 116 2835821

www.hi-fiworld.co.uk OCTOBER 2003 HI-FI WORLD & COMPUTER AUDIO 37
A3.2 Series
Machined, MIL-SPEC Aluminium Front Panel.
Powerful, robust, built.

For details of your nearest stockist ring 020 8900 2866. www.musical-fidelity.co.uk
As prices of basic DVD video players crash through the floor, manufacturers are scrabbling to offer 'added value'. DVD-Audio and SACD are obvious attractions, but present the buyer with a dilemma over which format to invest in. The result is the new breed of 'universal' machine, as evinced by Pioneer's original DV-747 some two years back. With its new DVD-2900, Denon believes it can bring serious sonics to the sub-£1000 party. Dominic Todd takes it into battle...

Here's a tricky one. At £850, Denon would like us to believe that its new DVD-2900 is a better machine than the excellent, similarly priced Pioneer DV757i universal DVD player. It also hopes to wrest sales from British manufacturers of 'audiophile' DVD video machines such as Myriad, not to mention bespoke DVD-Audio and SACD players from the likes of Arcam and Sony respectively. Oh, and then there are the serious mid-price CD players it's gunning for, such as Cyrus's CDB8...

With this in mind, the Denon has to be a jack of all trades and master of — at least — some. It has to be extremely well designed, specified and built - and by and large, it is. It would frankly be easier to mention what this machine doesn't do, but here goes anyway! It will play DVD video, SACD and DVD-Audio discs, plus of course plain old CD. Furthermore, it also does DVD-R and MP3 CD playback, and even JPEG discs for showing digital pictures on TV. Significantly, it is the first Approved PAL Progressive Scan player from Japan. This works in conjunction with a component output to create a more stable picture. The effect is rather like switching from a 50 to 100Hz TV, although the technology is very different.

Also included is a built-in Dolby Digital/DTS decoder, and every type of connection needed including a SCART for those who must use this compromised connection. Finally there's also an RS-232 port for what we are told is 'future system expansion'.

The internals show real promise. It's good to see such a solid chassis for a DVD player, with a quality of finish which really is beyond reproach. The three shielded box, five block internal layout is designed to isolate analogue, digital and video circuits from each other. Audiophile quality Silmic capacitors are used in the audio chain. The disc loader features a special hybrid construction of moulded plastic and metal that further absorbs vibration for stable disc playback. Audiophile grade Burr-Brown 24-bit, 192-kHz DSD 1790 Audio DACs are used, and there's a Pure Direct QUIET mode that switches off all non-essential circuits and displays during music playback.

Full Digital Bass Management for DVD-Audio/ SACD is provided by an Analog Devices 32-bit processor — which offers an 80Hz crossover with
that it’s got the necessary Component Video inputs to get the best from this player. It wasn't quite High Definition, but it’s the closest you’re likely to find in this country, at least at this sort of price. Switching off the Progressive Scan brought a slight blurring and loss of sharpness. Skin tone appeared more “digttised”, like a cheap digital camera, than it had before. Overall, though, the resolution was still excellent with good colour contrast and a natural tonal palette. Indeed, I haven't seen any other sub-£1000 DVD player that could improve upon that only the very finest of CD players can achieve.

I next switched to a DVD-Audio pressing of Bach's Adagio from Double Concerto for Oboe and Violin. The most striking element of this is the last thing certain types of music really need, but for this particular track, the surround mode worked extremely well indeed. It managed to acquire the fine balance between dynamic prowess and subtlety that only the very finest of CD players can achieve.

The timing of the piece was gentle, yet it proceeded well, without becoming bogged down by an over bearing double bass. Because the bass wasn't overblown, the track had cohesion and realism, which, again, showcased the new technology in an impressive light. That old reviewer cliché of being able to even hear the performers breathing came to light too, although in the typical manner of the Denon this was subtly presented to the listener rather than highlighted in Technicolor.

SPECIFICATIONS

- Advanced Silicon Image SiI504 PureProgressive Scan for PAL
- Twin 12bit 108MHz Video DACs with Noise Shaped Video
- Audiophile grade Burr-Brown 24-bit, 192-kHz DSD 1790 Audio DACs
- Two Pure Direct modes for music replay
- Built-in high-grade DTS and Dolby Digital decoders
- Dedicated multi-channel DSD/SACD decoder
- Dedicated multi-channel MLP/DVD-Audio decoder
- Full Digital Bass Management for DVD-Audio/ SACD; 80Hz crossover with 12dB high and 24dB low pass slopes
- standard 24/96 digital outputs; optical and coaxial
- SRS True Surround
- Variable Black Level (Set-up): 0 and 7.5 IRE
- Below-black (PLUGE) on both progressive and interlace outputs
- 5 Picture Memories, with adjustable tint, brightness, contrast, sharpness and gamma
- Super Sub Alias Filter on Progressive and Interlace for Luminance and Chrominance signals
- 5.1 and Steree analogue outputs
- Glo-Key remote control

With such an adroit performance on the so-called ‘high resolution’ formats, there’s a good chance that many considering the DVD-2900 will be contemplating replacing their existing CD player with it. Therefore, part of Denon's remit must be for the ‘2900 to sound at least as good with existing Compact Discs. With Annie Lennox’s ‘Bitter Pill’, it appears that the company has succeeded - mostly, I’m pleased to report that conventional sixteen bit reproduction wasn’t the let down after SACD and DVD-A that I’d feared. It’s quite a brightly recorded album, and a little mechanical at times, yet it suited the Denon well. Vocals that can sound a little to synthetic the sound quality here was the sweetness of string tone. It was perhaps a touch too smooth, in the manner of many Denon silver disc players that have gone before it, yet one couldn’t argue with the improvement over CD it brought. Again, the oboe was presented in a refined and polished manner, with a seemingly accurate timbre that

12dB high and 24dB low pass slopes and adjustable delay time (from 0-15ms). There’s even a unique SACD set-up from front panel. What’s not so hot is the tacky remote, that would shame a machine at half its price.

SOUND QUALITY

Beginning the format marathon was David Bridie’s, 'Malaria' on SACD. Even in two-channel mode this had a wonderful sense of depth, but what impressed most was the bass. This had a solidity to it that vinyl owners will be familiar with (it reminded me of my old Roksan Xerxes!), but will be a revelation to most CD users. In surround mode, the song became truly captivating, with effects swirling around the listener, encircling them within a web of music. Of course this...
came across more naturally than expected, yet still had plenty of projection. The strong, punchy beat was also every bit as full bodied as one would hope for. It's rather a matter of personal taste, but I could foresee some feeling the 2900 lacked a degree of bite. Most listeners wouldn't really notice this, but come a part of the song where the mix stops suddenly, with the pause filled by a single note from a triangle. The Denon doesn't quite have the dynamic thrust to pull this off with total conviction. In short, the mix simply doesn't stop swiftly enough.

Where the Denon can seem a little overly polite is with something a little grittier such as The White Stripes, 'Black Math'. It should be a melange of a head banging, foot stomping classic, yet I got the impression that the Denon didn't really approve. It went through the motions, but never really let rip. That smoothness that had suited Annie Lennox was more of a hindrance to the fizzing guitar and percussion here. Furthermore, the timing seemed a little too slow, which didn't help the Denon's cause either. On the plus side, the vocal rendition was engaging and the bass response its usual unobtrusive yet deceptively powerful self. If only the midrange had a little more bite it would have been more impressive still. As a CD player I would say that it couldn't quite compete with the best £400 players, but isn't that far off. From a £850 DVD player that, believe it or not, is high praise indeed!

**CONCLUSION**

Indeed, 'high praise' is a suitable phrase for the Denon's performance in general. For straight DVD replay, it easily matched the best from Rotel, Sony and Pioneer price for price. Its picture is perhaps not the most vivid, yet it is all the better for it in the longer term, when viewers simply have had enough tomato red where there should be terracotta, and flushed faces when they should be drained.

Progressive Scan is a real bonus and I would strongly advise its use. Without it, and the partnering component output, you'd only be accessing 80% of what the Denon is truly capable of.

Much the same is true of the SACD and DVD-A processors. If you neglect these, you really would be missing out on the finest sound quality a digital format has yet to offer. Both can provide a level of fluidity to the sound that would take a CD player costing far into four figures to match. Interestingly, of these two rival high resolution formats, I couldn't really pick one over the other. The beauty of the Denon is that you're covered for whichever format wins out commercially. Then you've still got the pretty good CD player. If you're replacing a machine that costs under £400 then you should be pretty pleased with the results. It's only the likes of Arcam, Exposure and Rotel above this price point that can show an improvement, and what they can't do, of course, is play DVDs!

Of course, £850 is a lot of money for one component, yet I can think of few better ways to invest it than Denon's DVD-2900 – if you're after a do-it-all machine that still doesn't give too much away when asked to address the specifics of two channel CD playback. Recommended.

---

**MEASURED PERFORMANCE**

Both DVD-A and SACD give full bandwidth of 2Hz to 100kHz on this player. SACD being 8dB down at the upper limit – better than usual. With vanishingly low distortion levels around 0.002% from both high resolution formats the DVD-2900 is engineered to get the best from them.

With CD it managed well too.

**VERDICT**

A superbly designed and built do-it-all player that delivers both fine sound and great vision – right now, class of the field.

**THE EDITOR SAYS**

This is not the equal of Cyrus's identically priced CD8 with CD, but nor is it supposed to be. It's a superb do-it-all machine with a welter of facilities, and the emphasis on video and DVD-A/SACD playback. It isn't the equal of bespoke DVD-A or SACD machines at a higher price (such as those from Meridian or Marantz respectively), but the Denon does rather better than you'd expect considering its £850 price tag.

Blistering value as the likes of Pioneer's DV-656 is at £400 or thereabouts. I'd personally save my pennies and go for the Denon. It guarantees a good starting point. You'll enjoy CD replay and will experience genuinely high fidelity from the 'advanced resolution' audio formats. Furthermore, unless the i-Link of Pioneer's fine DV-751i is important to you (i.e. you already own a VSA-A10 amplifier to link it to), this is one to have at the price right now, as far as sonics are concerned. Oh and it's a pretty picture, too!
AGONISING OVER AUNTIE

I take issue with the BBC's response to "Mono Stereo Radio - Oh!" in the latest letters section of the August edition of Hi-Fi World. BBC Reception's Kevin Joiner avoids explaining the proliferation of mono broadcasting on DAB by focusing on, and playing down, a single issue affecting Radio 4 listeners. Radio Five Live (and Sports Extra), the World Service, the Asian Network and BBC 7 are all broadcast in mono on DAB. When Five Live Sports Extra is on air then either the R3 bit-rate is cut to 160kbps or R4 is reduced to 80kbps mono. How this can be reconciled with previous BBC statements that R3's bitrate would not drop below 192kbps is beyond me, but I digress!

By referring to the Sports Extra schedule it can be seen that a reduced service on R3 or R4 occurs almost on a daily basis. Currently R4 is also broadcast in mono from the early hours of the morning until 9am. The reasons for this escape me as the unused multiplex capacity is rarely allocated to another station. The argument often used, when DAB R4 is in mono, is that there is no significant impact as all the programmes broadcast are in mono anyway. This may coincidentally be true for programmes such as PM or the News but, as any comparison with FM will show, it is not true for all programmes.

Kevin Joiner's response states that "we therefore manage this capacity in a way which balances the technical quality requirements of different types of programme with the provision of services of sufficient range to meet the diverse interests of our audience. However, the extreme demand on capacity which leads to mono broadcasting of some programmes is rare." With the above in mind, can the BBC explain why, when considering the programme content, BBC7, unlike R4, is never broadcast in stereo and exactly how "mono broadcasting of some programmes is rare"?

The BBC promotes DAB as "digital quality sound" but omits to mention that a significant proportion of the "digital quality" stations are broadcast in mono and thus fails to ensure that listeners can make an informed choice about DAB. Cynics might think that this is deliberate because, given the BBC's pioneering role in the DAB standard, a public association of AM sound quality with DAB would not do much for either DAB's adoption or the BBC's reputation. The BBC response goes on to say that "if we had limited our aims on DAB to the provision of existing services without providing new ones this challenge (of managing capacity) would have been eased. However such an approach would have failed to meet our objective in serving audiences beyond the editorial range of the services already available, and would certainly have presented a less attractive proposition for those listeners considering the adoption of digital radio." The "challenge of managing the "extreme demand" of multiplex capacity is entirely of the BBC's own making because it was their decision to overpopulate the multiplex. The BBC's management could have justifiably claimed to have met their objective, without compromising audio quality to the degree they have, simply by a more measured approach.

The decline in audio quality since the launch of DAB runs completely counter to the trend set by other new digital technologies and, if the DAB sales figures are to be believed, the "quantum over quality" approach is not resulting in the wide scale adoption of DAB. With the BBC's position as premier UK and world broadcaster, their approach of "quantum over quality" is significant and has resulted in those being little prospect of DAB being used for serious listening for the foreseeable future. Those informed about digital radio are now either using higher quality delivery channels such as digital satellite, cable! Freesat! or opting to stay with FM and, almost without exception, the UK hi-fi magazines are expressing serious reservations about DAB. I was enthusiastic about DAB when it first launch but it has since been relegated to the position of being the digital radio equivalent of AM radio.

Rob Hatcher
Northampton, England

I was horrified to hear a BBC spokesman on Radio Five Live talking about the 'CD quality digital sound' of Digital Radio. It's cynical and downright misleading. I think it's great to have the new networks, but does the Beeb really have to pretend that there's no appreciable loss of sound quality? The only way to get serious sound from DAB is from Arcam's DT81 - which at £600 isn't the most accessible tuner ever made! It can't make a silk's purse out of a sonic sow's ear, but at least makes it more amenable! DP

Letter of the Month wins a pair of 300 Metals interconnects and one year's FREE subscription to Hi-Fi World.

AGONYING OVER AUNTIE

I take issue with the BBC's response to "Mono Stereo Radio - Oh!" in the latest letters section of the August edition of Hi-Fi World. BBC Reception's Kevin Joiner avoids explaining the proliferation of mono broadcasting on DAB by focusing on, and playing down, a single issue affecting Radio 4 listeners. Radio Five Live (and Sports Extra), the World Service, the Asian Network and BBC 7 are all broadcast in mono on DAB. When Five Live Sports Extra is on air then either the R3 bit-rate is cut to 160kbps or R4 is reduced to 80kbps mono. How this can be reconciled with previous BBC statements that R3’s bitrate would not drop below 192kbps is beyond me, but I digress!

By referring to the Sports Extra schedule it can be seen that a reduced service on R3 or R4 occurs almost on a daily basis. Currently R4 is also broadcast in mono from the early hours of the morning until 9am. The reasons for this escape me as the unused multiplex capacity is rarely allocated to another station. The argument often used, when DAB R4 is in mono, is that there is no significant impact as all the programmes broadcast are in mono anyway. This may coincidentally be true for programmes such as PM or the News but, as any comparison with FM will show, it is not true for all programmes.

Kevin Joiner's response states that "we therefore manage this capacity in a way which balances the technical quality requirements of different types of programme with the provision of services of sufficient range to meet the diverse interests of our audience. However, the extreme demand on capacity which leads to mono broadcasting of some programmes is rare." With the above in mind, can the BBC explain why, when considering the programme content, BBC7, unlike R4, is never broadcast in stereo and exactly how "mono broadcasting of some programmes is rare"?

The BBC promotes DAB as "digital quality sound" but omits to mention that a significant proportion of the "digital quality" stations are broadcast in mono and thus fails to ensure that listeners can make an informed choice about DAB. Cynics might think that this is deliberate because, given the BBC's pioneering role in the DAB standard, a public association of AM sound quality with DAB would not do much for either DAB's adoption or the BBC's reputation. The BBC response goes on to say that "if we had limited our aims on DAB to the provision of existing services without providing new ones this challenge (of managing capacity) would have been eased. However such an approach would have failed to meet our objective in serving audiences beyond the editorial range of the services already available, and would certainly have presented a less attractive proposition for those listeners considering the adoption of digital radio." The "challenge of managing the "extreme demand" of multiplex capacity is entirely of the BBC's own making because it was their decision to overpopulate the multiplex. The BBC's management could have justifiably claimed to have met their objective, without compromising audio quality to the degree they have, simply by a more measured approach.

The decline in audio quality since the launch of DAB runs completely counter to the trend set by other new digital technologies and, if the DAB sales figures are to be believed, the "quantum over quality" approach is not resulting in the wide scale adoption of DAB. With the BBC's position as premier UK and world broadcaster, their approach of "quantum over quality" is significant and has resulted in those being little prospect of DAB being used for serious listening for the foreseeable future. Those informed about digital radio are now either using higher quality delivery channels such as digital satellite, cable, Freesat, or opting to stay with FM and, almost without exception, the UK hi-fi magazines are expressing serious reservations about DAB. I was enthusiastic about DAB when it first launch but it has since been relegated to the position of being the digital radio equivalent of AM radio.

Rob Hatcher
Northampton, England

I was horrified to hear a BBC spokesman on Radio Five Live talking about the 'CD quality digital sound' of Digital Radio. It's cynical and downright misleading. I think it's great to have the new networks, but does the Beeb really have to pretend that there's no appreciable loss of sound quality? The only way to get serious sound from DAB is from Arcam's DT81 - which at £600 isn't the most accessible tuner ever made! It can't make a silk's purse out of a sonic sow's ear, but at least makes it more amenable! DP

Letter of the Month wins a pair of 300 Metals interconnects and one year's FREE subscription to Hi-Fi World.
was there before. This is a mish mash but on CD sounds surprisingly good, much better than with the active preamp I was using.

My gripe is the vinyl front end. The music is all there, clear and pure and on quiet simple pieces beautiful. But on heavier stuff, driving rock, symphonies or opera choruses it lacks body and presence. I want to feel the stick hitting the drum skin again, put the unmuffled timps back in the pit. Do I change the cartridge, now seven years old though in use for only five, and if so to what around £500 to £1000, and I or sell the Iltok and buy an OL Encounter or Illustrious?

Is the phono stage struggling to drive the Alectos through the passive and affecting the sound (the volume is round at 4pm even for moderate listening)? Could this be remedied by more sensitive speakers like Klipsch La Scala or Heresy, reducing the volume setting needed and thereby increasing the impedance the phono stage faces, or do I just change the phono stage? How would your WAD Phono II work in this situation? My budget is around £1500 and could be stretched a little and added to by the second-hand value of discarded items. This has me head scratching and I'd appreciate your advice,

Charles

In my experience, Charles, phono stages in general hate running passive preamps - you end up with the dynamic presentation of two rather damp towels being placed over your record-deck kit and build my own. Is the Townshend as I know very little about them anywhere!

Dan Lovely

West Sussex.

Hi Dan. First off, I've never heard of your Emeralds. If any readers have seen such a beast before, please e-mail in and let me know. Second, your Black Box. I don't think it will be a massive upgrade to your CD6000 OSE, if at all. It's likely that the presentation will change when you switch over to the Black Box, but not really improve. This is mean swapping phono leads at the power amps when swapping between vinyl and CD, but I guess you are more into vinyl anyway? No doubt the impressive Illustrious would give a big improvement, but your phono stage and passive pre need sorting out first.

HB

The Goldring Elite isn't the punchiest or most advanced MC around. Also, cartridges do wear out and five years is enough with consistent use. The music will just go dull on you. For real drama get our WAD Pre II all-valve phono stage and run a Shure V15 VxMR into it. This little lot will paste you against the wall and is well within your budget. MM cartridges like the Shure inevitably don't have the see through clarity of a high quality MC, but then they don't have the high price either. Of MCs, the Ortofon MC20 Supreme is a no-too-expensive model with some clout and again within your budget. And should the urge to upgrade hit you try soldering some special components into the Pre II, like Black Gates. This will open your eyes to a new world where timbral color and variety exists!

MORE THAN THIS?

Could you help me with a dilemma I have at the moment with my record deck? I am at the moment using a Townshend Avalon with a RB 250 with OL counterweight mod, but I would like to improve on its performance. I was thinking of fitting the OL DC motor upgrade and having the arm cable upgraded, so which is the best arm cable to have fitted? But then I thought should I sell the Avalon and buy the OL record-deck kit and build my own. Is the Avalon worth the upgrade, or would I be better off spending my money on something else? The Avalon does sound quite good and was a good upgrade from my Rega 3. What is the history of the Townshend as I know very little about it and have never seen another one? I bought mine locally for £280, did I get a bargain? I have around £500 to spend plus any profit from the sale of the Avalon. Your comments would be very welcome.

Alan Collingburn

I'd suggest you save your pennies and go for a Michell GyroDec 5E - at under £1,000 it's still the best vinyl value around and the new DC motor makes it even better still. The Avalon is a fine deck and a real bargain for under three hundred pounds, but if you're after your 'final' high end deck, the Michell is the one. It will exhibit greater incision and control than the Avalon, and is much more upgradeable (it can be taken right up to Orbe spec), should you feel the need. Townshend is most famous for its Rock turntable, which is a charismatic design that has (like most turntables) undergone significant evolutionary changes over the course of its life. It's excellent even by today's standards, and I've heard rumours that there's a new version out soon - so watch this space, as they say...

DP

BRIGHT SIZE LIFE

I'm having some issues with the CD end of my hi-fi system. It consists of a Marantz PM6010 KI, Marantz CD6000 OSE, Thorens TD160B/ SME 3009S Ill Ortofon S10III, Wharfedale Emerald 95 loudspeakers, vdfi D102 111 interconnects and QED Silver Anniversary bi-wire 'speaker cables.

Having recently discovered the musical sound of vinyl, my listening tastes have suddenly changed, and so has the way that I appreciate the sound that my CD player produces. I've been dabbling in a bit of Pink Floyd, Led Zep, Beatles, and some heavy metal on vinyl, and found that my CD player sounds really bright in comparison.

I know that this is general rule of thumb, and when I saw an Arcam Alpha Black Box for sale at £25, I jumped at the chance to possibly change the way my system sounded. I believe that the Black Box I bought is the original model from 1989, and it only has one coax output on the rear panel. Hearing from somebody that the Arcam sounded pretty smooth, I thought that it may help tame my CD's harsh top end. After plugging the Arcam in and letting it warm up, it does seem to sound a bit smoother, but I can't help thinking that there's some discrepancy between the quality of the CD player's internal DAC and the quality of the Arcam. After all, it is about 10 years or so older than the CD6000. So, do you think that my system will benefit from the Arcam DAC? Or should I condemn it to 'doorstop' status? Also, have you ever heard a pair of Wharfedale Emerald 95s, as I can't find a professional review on them anywhere!

Dan Lovely

West Sussex.

Hi Dan. First off, I've never heard of your Emeralds. If any readers have seen such a beast before, please e-mail in and let me know. Second, your Black Box. I don't think it will be a massive upgrade to your CD6000 OSE, if at all. It's likely that the presentation will change when you switch over to the Black Box, but not really improve. This is...
because the Marantz is an excellent machine already, and the Black Box was never a high-end product, but sold as an upgrade to budget/mid-price eighties CD spinners. If you want to improve your CD sound, I think your only real option is to go for one of the £1,000 machines. If it's smoothness you seek, then the Meridian 507 is the one, or if you want just a little more power and punch, Arcam's FMJ CD33T is superb.

DP

GOODBYE SEVENTIES

I am at present using an Audio Analogue Puccini SE, with my main source being a Pioneer DVD717 through 1970s KEF Concertos. Could you suggest a replacement for the KEFs, or would it be better to upgrade them?

Brian Cooper

The '717 is not a bad CD player - a little smooth and lacking in bass impact perhaps, but not half bad at all. I would suggest one of the KEF Q models here, they would work well with your amp and source, and depending on budget/size of room go for either the Q5 or Q7. Again, it may be worth looking at a dedicated CD player in the long run... as good as the '717 is, it has its limitations.

Brian Cooper

MOTHER CREATED A MONSTER!

At last - a magazine with an editor on my wavelength! My hi-fi journey started in my early teens with a tower system courtesy of Amstrad. Don't laugh, if you got real close to the 'speakers, with the right record on the deck you could be almost there! After growing up though, a Sony CD spinner was an unexpected Xmas Persia. Bless my mum - she didn't realise it was a hi-fi separate and she created a monster. The Amstrad was duly donated to charity, and although I wore out the Sony and the Whorfedale AS 10.2 speakers, I'm still using the NAD 3225PE along with a Cambridge Audio CD4, a Musical Fidelity X-DAC and some Diamond B 8.1s. This is my dining room background music system, as after graduating from university I used my hard earned cash to get my 'proper' system. I have a Cyrus CD7Q/PSX-R into a NAD C370 (to be upgraded next) and onto some gorgeously wife-friendly Harlech S2s.

Notice something missing? Of course you have - you're the expert! My mid thirties crisis means I need to play my eighties vinyl, so my question is what amp with a good phono stage should I buy, or do I go for a separate one?

What should I be looking at in terms of budget to show up my CD player? Go on, help a guy stuck on that soul new romantic/goth rose tinted glasses thing rediscover his vinyl?

Phil Reid,
West Yorkshire

'How much do I have to spend?' is like 'how long is a piece of string?' Frankly, if you want serious sound, you're talking a Rega P3 at the absolute minimum, with a Goldring G1042 and Creek OBH-15 phono stage. This little lot should come in at around £600, and will run your Cyrus CD player very close - in fact, it will probably sound better if set up and sited properly. However, a Michell TecnoDec/TecnoArm at a little under £1,000 would give a dramatically better result, and more detailed sound, or if you're really keen you could go for the GyroDec/TecnoArm for around £1,300. You'll need a good amp to exploit this, so either consider a Cyrus B/PSX-R or Sugden's A21 if you want variously power or passion. A good compromise would be Monrio's MC207 reviewed last month, which has some of both.

The greatest benefit to your new vinyl-enabled system will be that you can play your old copy of Cult's 'Love' at higher volumes than your parents would ever allow. You will also discover that Japan's 'Vin Drumm' is masterfully recorded (as well as played, which you knew anyway...). You'll find, however, that even a great vinyl source can't stop Spandau Ballet's 'True' inducing vomit... DP

'NUFF RESPECT!

I have now been a reader and subscriber for a number of years, and observe with great interest the correspondence you receive, as well as the progress of the magazine in general. Whilst an admiral of the style, views and opinions of Simon Pope and Noel Keywood (amongst others) I do believe that with David Price taking over as editor a fresh perspective has (once more) been gained, keeping Hi-Fi World at the forefront of real reading in this area. His willingness to embrace all that is new (e.g. computer audio) along with older key items (classic 70/80s kit, quadrophonic etc.) does - I think - demonstrate he is open to all aspects of the business, which surely must be a healthy position!

Gary Francks letter in the August edition suggests that DP is concentrating far too much on computer audio, nerdy stuff, the latest and greatest. I cannot agree with him, but consider the editor affords it relevant amounts of space, given its impact on most of us and the industry generally we really cannot ignore it! Computer audio can have some distinct advantages for all of us too, if we are prepared to try something out, like archiving. By the way, the combination of material in the last issue - audio issues and vinyl replay in particular - was in my view excellent, up to date and pertinent.

Is UK Setright a name that I recall from the distant past in association with motoring? It seems to ring a bell. His contributions in the latest edition were very interesting and thought-provoking, especially the one on the Linn Kremlin. Sadly I could not afford one, even second-hand and have instead a Pekin, which I know is not in the same league.

Regarding reviews: how about allowing or encouraging manufacturers to give their point of view on the outcome and printing this in the same issue? This could be extremely revealing, especially when the conclusions are less favourable, or tempered by matching considerations. This sort of interface with the real world/readers might well provoke greater sympathy and understanding of the needs of listeners, by some manufacturers at least.

Thanks for a monthly read that is always inspiring, please ensure that you keep it up! 

Mark Eley
Northumberland

Hmmm... a manufacturer's right to reply, huh? In a sense, it would be a good way to correct any erroneous information that occasionally creeps into reviews (yes, it does, really!), but I fear it could descend into a 'PR puff zone', where the industry's press...
people go into purple prose mode about how great their products are... which is the last thing any of us wish to read! For example, "thank you for your comments on the new (insert make and model here) - we feel it offers a winning combination of price and performance, together with sleek modern styling unmatched by any of its rivals..." (repeat ad infinitum...) See what I mean? Still, I’m open to persuasion - let me know your thoughts.

Thanks for the kind words about my editorship Mum — ermm, I mean "Mark Eley, Northumberland" — and yes, Setright is a veteran motoring writer (most famously for Car magazine), but he’s also a gifted musician with more than a passing interest in hi-fi. Not sure if I’d agree with some of his more outspoken thoughts on Radio Three, but this magazine is nothing if it is not a forum for ideas. See ‘The Great Debate’ for more on this... DP

JAMES STRIKES AGAIN...

Those seedy lovers, obsessed with 20Hz to 20kHz miss a few minor points:
—Whilst we may not hear below 20Hz, we certainly experience it - as those "hit" by a bass drum can attest, we can feel down to 6Hz.
—Music created by real instruments is not about sinusoids, but about transients, attack and decay, the interplay of harmonics, and so on (how exciting, and I thought it was about the emotion of the experience of the performance!)
—For decades it has been known that wide bandwidth (i.e. beyond 50kHz) audio recordings sound much more realistic than recordings of 30kHz or, heaven forbid, 20kHz bandwidth.
—It is a well known fact that bass quality is improved by extended high frequency resolution — especially obvious with drums. Perhaps this is why drumbeats recorded on CD sound like someone hitting a sack of potatoes?
—Music reproduction is about reproducing the experience of the live music, the emotions it produces and how it makes us feel, not focusing simply on hearing and simple models.
—High Fidelity is about faithfulness to the source — capturing the source. Using real instruments that means at least 0 to 100kHz, with no phase or amplitude anomalies. One advantage of this is that, in multi-track recording environments, the interaction of those ultrasonic harmonics we can’t hear can take place post recording (i.e. during mixing), producing a much more realistic sound and soundstage.
—"Suspension of Disbelief" (remember that?) has been replaced in CD with "Looking on in Disbelief", whilst music has been superseded by muzak.
—Whilst in digital audio the mantra 20 to 20 reigns supreme, a minor detail of the temporal resolution of the human auditory system being significantly less than ten microseconds, coupled to the fact that the "brickwall" filters required in CD recording produce an in-band phase response like a corkscrew on heat, are conveniently ignored. James Morrow Belfast

RIISING DAMPING?

I’m wondering if I put the transformer from my REGA Brio 2000 on damping material, will I ban a lot of resonance that comes from the transformer, so that it can’t go to the rest of the electronics? Does it make any sense to dampen the Elkos too, like they do with the German high-end Symphonic Line brand? Huub Derkx Maastricht Holland

Good question. Personally, in my more ‘lone’ moments’ when I’ve had no friends around, no one to have lunch with, and no life, I have ventured inside my hi-fi cases to apply a little bit of Sorbothane in the hope that it will improve the sound, and, on the whole, it has. Essentially, the pressed steel casings used in most hi-fi separates resonate all too easily — allowing sound-destroying vibes to get to your electronic componentry (which, as we all now know, are microphonic). If you line them with rubber, they’ll vibrate less, and give a cleaner sound. However, I’d avoid opening up any newish hi-fi separates, lest you void the guarantee. If this is not an issue, and you’re experienced enough in electronics to not get yourself an electric shock, and you don’t apply damping material anywhere that will cause something to overheat and/or catch fire, then by all means experiment. An old trick is to apply Blu-tack to ‘deaden’ the capacitor tops, as these are very microphonic devices. This, in conjunction with damping sheets on the insides of the metalwork, should give a stronger and tighter listen. Then, clean all your socketry with pipe cleaners dipped in isopropyl alcohol and you’ll have a sharper and more focussed sound too! The only downside to all this is the philosophical possibility that there’s more to life than resonance control — tell me Huub, is Maastricht really this boring...? DP

LUCA - THE COMEBACK

I’ve done some new tests and, now, I think I know where the problem is.
—Test 1: With utmost care, I’ve moved the PL3B arm along its operative arc, farther the inner grooves, until over the central platter’s spindle. Initially I slowly surveyed the presence of the anti-skating effect. It has disappeared! Only when I’ve replaced the PL3B in its rest, the problem reappears. The opposite movement (over the label) bends the wires temporary, and for this reason its interference disappears. This fact explains where the problem is. The anti-skating effect isn’t a constant mechanical matter but due to internal wiring. So I’ve decided to check if the wiring was overstrained, convoluted or wrapped. I’ve removed the arm tube and observed that in the wiring there isn’t problems. The wire rises inside the centre of the arm pillar, through a fixed spindle. It exits by a very small hole in the side of the spindle, directly into the arm tube. Here is the trouble. This tube arm has some incomprehensible design solutions. The above mentioned hole is too tight and thus produces grave problems: it hampers and binds the wire, prohibiting movement in all directions. Theoretically the only answer is to enlarge the hole by a drill but practically it’s impossible. I don’t know other solution. Since I’ve remounted the arm tube the vertical friction seem lightly changed. Perhaps, now, the internal wires binds less.
—Test 2: I’ve bought another LP12 and

Sorbothane and Blu-Tac - essential weapons in the war against resonance.
Spectacular Offers
Only On The
Sevenoaks Website
www.ssav.com

SAVE UP TO
50%
OFF ORIGINAL SELLING PRICE

Hundreds of Bargains
AVAILABLE FROM OUR 48 OUTLETS NATIONWIDE

Special Buys ✓ Overstocks ✓ Ex-Display ✓ End Of Line ✓ And Much More - All Fully Guaranteed

Log on to www.ssav.com and click on Special Offers

48 Outlets Nationwide
Bedford • Birmingham • Brighton • Bristol • Bromley • Cambridge • Cardiff • Chelsea
Cheltenham • Crawley • Croydon • Edinburgh • Epsom • Exeter • Glasgow • Guildford • Hertford
Hull • Ipswich • Kingston • Leicester • Leeds • Lincoln • Liverpool • Maidstone • Manchester
Newcastle • Norwich • Nottingham • Oxford • Peterborough • Plymouth • Poole • Preston • Reading
Sevenoaks • Sheffield • Solihull • Southampton • Southgate • Swansea • Swindon • Swiss Cottage
Tunbridge Wells • Watford • Weybridge • Witham (Essex) • Wolverhampton

New Outlets Now Open
We are delighted to announce that we have opened new stores in the following locations:
Poole 01202 671677 • Solihull 0121 733 3727 • Swindon 01793 619992
Weybridge 01932 826525 (EARLY SEPTEMBER) • Wolverhampton 01902 312225.
Please Note: These stores are not currently available on our Freephone number.

Call Freephone 0800 587 9909

Why risk virtual shopping when there’s a REAL STORE nearby?
now I can listen the PU3B's sound quality by comparison with my absolutely perfect Ittok LVII. The systems used in the tests are as follows: Turntable 1 – Linn Sondek (Cirrus, Valhalla) and Syrinx PU3B/VdHi MIC ONE special. Turntable 2 – Linn Sondek (Valhalla), Ittok LVII, Sumiko BPS. 

(Unfortunately, I don't own two identical cartridges but I think that if an arm is damaged then its poor performance is more perceptible to the different characteristics of two good cartridges. Am I wrong?) Amplification: Exposure preamplifier XIV and IX power supply and Exposure XVI mono power amplifier; Naim NAC 72 preamplifier/ HIFIC1 NAP 140 power amplifier. Loudspeakers: Rogers LS3/5a, JBL LS6, Sonus Faber Amati Homage. Stands: Foundation Designer, Linn, Sonus Faber. My conclusions are that both arms sound good, but in a different manner. The Ittok/Sumiko combo is very tuneful and musical with a softer and sweeter midband, and the soundstage is larger and deeper. However there are some other aspect where the PU3B kills the Ittok. It's able to perform with impressive finesse, energy and dynamics, and frequency extremes have more resolution, depth and relief. Musical detail retrieval is more accurate, better focused and more immediately recognisable. Bass is very fast, tight, extensive, without unnatural slowness-sloakness, heaviness how Ittok does. Overall the PU3B and vdHi's sound has more tightness, freshness, cleanliness, liquidity and freedom. I don't think that all these differences are produced by virtue of a better cartridge only. What do you think about my tests and arguments? Perhaps, there is something haven't I verified? What other checking must I try? I should like to know it.

Luca Berselli

For those who missed last month's issue – this is the story of one man's battle with an ageing Syrinx PU3 tonearm, in a quest to boldly better his existing Ittok LVII. Luca obviously has a lot of time on his hands – perhaps he should hook up with Huub from Maastricht? Anyway, last month he bravely embarked on an odyssey to bring his Syrinx – which he initially suspected to be damaged - back to life. By the sound of it, he has succeeded. Actually, Luca, your listening bears out my own experiences with this arm. While it's not a good idea to compare two arms with two different cartridges, I too would agree than the Syrinx is a grippier and more focussed performer. It's a little closer to the SMEV school of tonemarm, which goes for relentless resolution rather than tuneful musicality a la Tik Tok. Obviously, your Syrinx is working at least nine-tenths of its ability, or it wouldn't be able to better the Ittok in any respect. My suggestion now would be to sit down, have a glass of wine and listen to some music! DP

THE GREAT DEBATE - 1

Around forty years ago, when I was just a lad, the Third Programme broadcast a live performance by Sadlers Wells Opera of Brett and Well's "Rise and Fall of the City of Mahagonny". The Opera was a brave choice for Sadlers Wells, since by then Bertold Brecht was a senior figure in the cultural establishment of East Germany and Kurt Well a major contributor to American popular music, and the score owed a great deal to early jazz. So in Cold War Britain it raised political and cultural controversy about the content of the Third Programme. My father, who used to enjoy the live broadcasts of nineteenth century symphonic music, left muttering after the overture, but I remained captivated, locked to the stereo radiogram and its FM radio.

For me this performance opened many doors, through Brecht's plays to theatre and, for a while to communism! Through Brecht and Well's other collaboration the Threepenny Opera to John Gay and the Beggars Opera and hence to baroque and early music (both popular and aristocratic). Through the interval talk on Berlin in the 1920s and 1930s I found Christopher Isherwood and Mr Norris Changing Trains. Finally, through Kurt Well, an opening towards an appreciation of jazz and a much more considered approach to contemporary pop, leading ultimately to the Doors themselves and their rendition of the Alabama song.

What this illustrates is that the Reithian mission to educate functions best when it is not simply to the standards of a particular cultural or intellectual elite, but to an exploration of contemporary cultural diversity. This is where LKJ Setright is misleading in his chronology of the third radio channel. The transition to Radio 3 as a largely music programme was a disaster as it largely divorced symphonic and chamber music from the other manifestations of contemporary culture, theatre, the arts, spoken word and jazz. Throughout the 1970s and 1980s Radio 3 was in the hands of a particularly parsonic elite with an extraordinarily selective approach to 20th century music. As a result Radio 3 largely lost its audience and the advent of Classic FM showed that the audience for the inherited symphonic and chamber repertoire wanted a different approach.

This competition has animated Radio 3, once it was realised that it had to provide a better, but no less diverse response to Classic FM. Over the last fifteen years there has been a greater openness to baroque and early music, to contemporary music that people were actually listening to such as minimalism, to jazz and latterly to international popular music (not necessarily pop which is now largely a globalised American product, Mr Setright). Had we had a programme such as Late Junction in the 1960s and 70s we might have heard the popular music of black South Africa and gained an earlier exposure to Abdullah Ibrahim (then Dollar Brand), Hugh Masekala, Miriam Makeba not to mention the white musicians Chris MacGregor and Harry Miller. Amongst this list are arguably some of the greatest exponents of late 20th century jazz. Because there was no place for them on the radio we did not hear their music. Now with greater diversity we can, and also hear new currents in popular and serious music across the world. Closer to home, and made possible by the current diversity of Radio 3, we have access at last to one of the greatest of British contemporary composers, Mike Westbrook, who was shamefully excluded in earlier years.

Whilst this diversification is occurring we can still enjoy the great educative strands of the station, Composer of the Week, Building a Record Library and Record Review. I am also delighted to see the re-introduction of more discussion and spoken word programming and the better coverage of the other arts, which begins to restore the original mission of the Third Programme. More than at any time in the 1970s and 1980s Radio 3 is a place where intelligent people of all classes and wide cultural interests can congregate.

As a regular listener to radios Four, Three and Two I would wish to celebrate the quality of the BBC output. At the moment that competition is fiercest the BBC is producing some of it's best output across these networks. Of course not everything is perfect. Mr Setright correctly singles out the arch and patronising afternoon children's programme, but this reflects a problem with all current BBC radio children's programming which talks not to, but down to them. This is however the exception, not the generality. Much as I admire the elegance of Mr Setright's motoring journalism, on this matter the gentleman is simply wrong.

Dr John Hurley

THE GREAT DEBATE - 2

I was delighted recently to discover Hi-Fi World and to find in its contributors...
that dawn of the written word LJK Setright, whose articles for Car magazine I recall with pleasure. Concerning Radio 3, I have to say I have much sympathy with LJK’s comments - for me, Radio 3 was the last bastion of beautifully crafted and played music, introduced in its entirety by scholarly people with little or no populism. This is what I want from that station: if I want rock or pop I can find it elsewhere, in spades, and if I want excerpts presented in artificially sweetened tones I can find them on Classic FM (as long as I can stand the adverts).

That said, perhaps one must also sympathise with those responsible for Radio 3, who presumably have to be able to point to increasing audience figures in order to justify continued expenditure on equipment and transmission. Because of reception difficulties encountered across most of the south of England, I suspect that Radio 3 does not qualify in the minds of the powers at the Beeb for much transmitter power, and for that reason alone perhaps one should welcome any measure which will rectify that situation. Maybe those lured to listen by Late junction will begin to demand music from the centuries up to about 1800, powerfully transmitted in FM stereo without compression! I would support any move to maintain or secure this.

Keith Aburrow

THE GREAT DEBATE - 3

I have to side with Simon Pope on this issue. LJK Setright seems to be suffering from what a friend of mine calls “nouveau-stalag” when it comes to modern music. Does he really need to be reminded that many composers we take for granted as part of the mainstream were, in their time, extremely controversial; at the first performance of Stravinsky’s ‘Rite of Spring’ the audience rioted! Late junction is hardly populist, but it certainly conforms to Lord Reith’s dictum of “educating and informing”. My musical life has been enriched immensely by exposure to music that wouldn’t otherwise get any radio exposure. Something Simon didn’t mention is the sense of “ownership” that Late junction listeners have. There’s a tremendous element of interactivity, not just in the message boards, but the fact that you can e-mail the programme with a question, a suggestion or piece of information and get a response while it is on air. Listening to Late junction is like visiting a friend with an encyclopaedic knowledge of music and an album collection to match.

Bob Meyrick

Thanks for all your letters on this ‘heated debate’ - Mrs Merton would be jealous! LJKS voiced the sentiment that Radio 3 shouldn’t be dumbed down – and FR Leavis himself would have been surprised at the number of readers who agreed (I’ve printed but a small selection). ‘Swinging Simon Pope’ (aka The Popemeister) argued it should be made ‘more accessible’ to those who’d otherwise be chilling to night time Radio 1. Speaking as one who came to the station via this route (i.e. listening to Late junction), I’d have to agree.

Is it live or is it hi-fi?

I am writing - as a seemingly lifelong Car magazine reader - to say how pleased I was to read the contribution of Mr Setright (‘LJK’S). If I recall correctly from his mortaring articles, LJKS plays the flute (if not, something that you blow into...) in orchestras, and it would be interesting if he could give us some thoughts and wisdom from the music making perspective. It is also interesting with regard to the attitude of musicians to reproduction equipment, as others I have spoken to seem to put up with pretty basic stuff - perhaps because they know the music and automatically fill in or correct what is missing or wrong. Or perhaps the musicians I have spoken with were not very musical. Whatever, we need to know!

Alan Froy

No sooner said than done - Setright is writing a piece to address precisely this point!

Static power

There are surprisingly few articles in hi-fi magazines on matching amplifiers to loudspeakers. Let me discuss my own case: my equipment includes Quad ESL63 speakers, Quad 405 II and Quad 77 preamplifier. I suspect the 405 II to be a ‘lazy and boring” machine (very reliable, however). I would like to acquire another power amp. and when I inquire I am told that, “Quad Electrostatics are very specific loudspeakers which require a Quad power amp.” So, nobody uses different power amps? What about Arcam, YBA and many more? Your comments please?

Anon

As we have mentioned several times before on these pages, the Quad ESL63 is one of the finest loudspeakers ever produced, but like any other loudspeaker, it is only as good as what it is fed. The 405 is still a fine amp, but yes, the speakers are

When the going gets tough, the tough get a NAD C370.
Dear Simon, sometimes there is only one real course of action left. If the sub platter is this bad, what condition the main bearing / motor and arm? I would suggest its time for the great turntable scrap yard in the sky, buy yourself something like Project's excellent little RPM4 and enjoy... DP

RIGHT FIRST TIME

I am 19 and am looking to buy my first hi-fi system, I have around £2,000 to spend but am not sure what to buy, but as there are so many choices I bought some copies of your magazine and have been looking at your website. I would like a MiniDisc deck, a CD player and around 200W loudspeakers. I would also, if possible, like the MD and CD decks to link into the PC like the Sony ones. Any help would be appreciated.

Tom Simpson

What is in a Watt? I take it you want a system to play loud and have good clear dynamics! Well speaker sensitivity does play a part here! And remember watts are logarithmic not linear; so to double from 10 watts is actually 100 watts, and to double that, you are looking at 1,000!

MiniDisc is easy - go for the Sony MDS-JB980. It has your desired NET MD link and MDLP, so you can squash your four hours worth of MP3 horrors on a disc, if that's your cup of tea? Then, listen to Arcam's CD82 and Cyrus's CD6 CD players, and the 'loud' choice at the price point, NAD's C370 integrated amplifier. As for loudspeakers, depending on the size of your room, audition Dynaudio Audience 52, KEF Q5 or B&W 603/111.

A loudspeaker's power rating only tells you at what point it will destroy itself - and even then it is pretty approximate. Most people want to know how loud a 'speaker will go and this is the maximum SPL (Sound Pressure Level) it will generate - not often quoted. Sensitivity is important too, since it says how loud a 'speaker will go from one watt. I suspect you want a loudspeaker that goes loud. The ultimate for this alone are Cerwin Vegas. More in keeping with hi-fi standards look for large, floor standing, multi-driver designs like the Revolver R50s I reviewed last month, which go loud form little power.

B&W's less expensive floor standers are worth auditioning too.

NK

DEAL

If you had a Systemdek II x for many years, it's been a faithful companion to all the components it has ever had to perform with. Recently, I've noticed the sub-platter has developed a wobble. It would appear that this is being caused by several small cracks, running outwards from the bearing. The big question, is what to do? Is it time to say goodbye, or can I replace this part, and possibly upgrade it at the same time? I would be grateful for any advice/contacts you could give.

Simon Dillon

Quad 405 – good but not the full nine yards.  

SUB STANDARD SYSTEMDEK

I have owned a Systemdek 11x for many years, it's been a faithful companion to all the components it has ever had to perform with. Recently, I've noticed the sub-platter has developed a wobble. It would appear that this is being caused by several small cracks, running outwards from the bearing. The big question, is what to do? Is it time to say goodbye, or can I replace this part, and possibly upgrade it at the same time? I would be grateful for any advice/contacts you could give.

Dear Simon, sometimes there is only one real course of action left. If the sub platter is this bad, what condition the main bearing / motor and arm? I would suggest its time for the great turntable scrap yard in the sky, buy yourself something like Project's excellent little RPM4 and enjoy... DP

SUB STANDARD SYSTEMDEK

I have owned a Systemdek 11x for many years, it's been a faithful companion to all the components it has ever had to perform with. Recently, I've noticed the sub-platter has developed a wobble. It would appear that this is being caused by several small cracks, running outwards from the bearing. The big question, is what to do? Is it time to say goodbye, or can I replace this part, and possibly upgrade it at the same time? I would be grateful for any advice/contacts you could give.

Simon Dillon

Quad 405 – good but not the full nine yards. 

Sony's new MDS-JB980 is NET MD equipped.
3 years of proven reliability. 2 years guarantee.

Shop prices are expensive because of rent, rates, wages, etc. Buy direct & save £££.

Price is not a guarantee of sound quality. We have signed testimonials to prove that customers prefer our amplifiers to £8,000 preamp + 320 watts power amplifier, £4,000 pre/power amp & power supply, £2,600 pre/power amp & power supply, £1,400 well reviewed 150 watts amplifier.

Money back guarantee (less £30 UK or £100 overseas) that you prefer:-
£1,000 or £1,450 "KT88 Triode Connection" amplifiers to most transistor amplifiers, most transistor / valve hybrid amplifiers, most Single Ended valve amplifiers, most Ultra Linear valve amplifiers selling for £2,000 to £20,000
£2,500 or £1,800 "10 inch High End" speakers + our £1,450 amplifiers to overpriced pretentious £100,000 systems (at realistic life-size volume)
£700 EL34 valve amplifiers (40 watts + 40 watts) to most transistor amplifiers and transistor / valve hybrid amplifiers costing £1,000 to £2,000
£500 EL34 valve amplifiers (40 watts + 40 watts) to most £700 amplifiers.
£380 to £800 valve phono stages to most transistor phono stages.

Telephone 01634 268662 anytime or 01634 373410 for Mr Andrew Everard's review in Gramophone Magazine and Summary of 21 testimonials from satisfied customers.

www.affordablevalvecompany.com

Amplifier shown without CE safety cage, to prove that these are genuine valve amplifiers. Customers must not remove CE safety cage.

Free UK delivery. Subsidised £50 UPS delivery to other countries.

3 years of proven reliability. 2 years guarantee.

Shop prices are expensive because of rent, rates, wages, etc. Buy direct & save £££.

Price is not a guarantee of sound quality. We have signed testimonials to prove that customers prefer our amplifiers to £8,000 preamp + 320 watts power amplifier, £4,000 pre/power amp & power supply, £2,600 pre/power amp & power supply, £1,400 well reviewed 150 watts amplifier.

Money back guarantee (less £30 UK or £100 overseas) that you prefer:-
£1,000 or £1,450 "KT88 Triode Connection" amplifiers to most transistor amplifiers, most transistor / valve hybrid amplifiers, most Single Ended valve amplifiers, most Ultra Linear valve amplifiers selling for £2,000 to £20,000
£2,500 or £1,800 "10 inch High End" speakers + our £1,450 amplifiers to overpriced pretentious £100,000 systems (at realistic life-size volume)
£700 EL34 valve amplifiers (40 watts + 40 watts) to most transistor amplifiers and transistor / valve hybrid amplifiers costing £1,000 to £2,000
£500 EL34 valve amplifiers (40 watts + 40 watts) to most £700 amplifiers.
£380 to £800 valve phono stages to most transistor phono stages.

Telephone 01634 268662 anytime or 01634 373410 for Mr Andrew Everard's review in Gramophone Magazine and Summary of 21 testimonials from satisfied customers.

www.affordablevalvecompany.com

Amplifier shown without CE safety cage, to prove that these are genuine valve amplifiers. Customers must not remove CE safety cage.

Free UK delivery. Subsidised £50 UPS delivery to other countries.

NOW HEAR YOUR MUSIC REPRODUCED
AS IT WAS MEANT TO BE

ESSENTIALS FOR VINYL LOVERS
Our Anniversary Ringmat is THE pre- eminent record mat for all turntables. Then add our:
LP Blue Statmat and Statcap to remove static;
Ringcap Mill to remove vibrations emanating from the centre of the record; and
Ringmat Spacers to provide an improved interface between platter and record, to remove
resonance from your turntable and platter and to fine tune stylus rake angle/ VTA.
All these, including the Anniversary, make up the full Ringmat Support System.

DRAMATICALLY IMPROVE CD, SACD and DVD SOUND (& PICTURES)
Our CDi Blue Statmat will transform playback from your digital players.

RETAIN LINEARITY with RINGMAT AUDIOPHILE CABLES
Our Pure Signal Interconnects and Pure Power Speaker Cable are simply the finest cables
available for linking-up your hi-fi system and getting the best performance out of your other
Ringmat and Statmat products.

PLUS, THE BEST ISOLATION PRODUCTS AVAILABLE
Isolate all your components, including your TV and speakers, by using our Statfeet.
Ringmat Feet and/or Ringmat Domes, our "soft feet" approach, must ALSO be used if you
want the best sound (and picture) from your equipment.

NEW PRODUCT PAGES, GUIDANCE & UPGRADE OPTIONS
NOW AVAILABLE ON OUR WEBSITE www.ringmat.com

Also, LOOK OUT for
OUR NEW WEBSITE STORE and SHOPPING BASKET at www.ringmat.com
Our Stand at THE HI-FI SHOW, Renaissance Hotel, HEATHROW, 27-28 September

RINGMAT DEVELOPMENTS
PO Box 200 Brentwood Essex CM15 9FB GB

call: 01277 200 210 visit: www.ringmat.com or e-mail: enq@ringmat.com

NOW HEAR YOUR MUSIC REPRODUCED
AS IT WAS MEANT TO BE

ESSENTIALS FOR VINYL LOVERS
Our Anniversary Ringmat is THE pre- eminent record mat for all turntables. Then add our:
LP Blue Statmat and Statcap to remove static;
Ringcap Mill to remove vibrations emanating from the centre of the record; and
Ringmat Spacers to provide an improved interface between platter and record, to remove
resonance from your turntable and platter and to fine tune stylus rake angle/ VTA.
All these, including the Anniversary, make up the full Ringmat Support System.

DRAMATICALLY IMPROVE CD, SACD and DVD SOUND (& PICTURES)
Our CDi Blue Statmat will transform playback from your digital players.

RETAIN LINEARITY with RINGMAT AUDIOPHILE CABLES
Our Pure Signal Interconnects and Pure Power Speaker Cable are simply the finest cables
available for linking-up your hi-fi system and getting the best performance out of your other
Ringmat and Statmat products.

PLUS, THE BEST ISOLATION PRODUCTS AVAILABLE
Isolate all your components, including your TV and speakers, by using our Statfeet.
Ringmat Feet and/or Ringmat Domes, our "soft feet" approach, must ALSO be used if you
want the best sound (and picture) from your equipment.

NEW PRODUCT PAGES, GUIDANCE & UPGRADE OPTIONS
NOW AVAILABLE ON OUR WEBSITE www.ringmat.com

Also, LOOK OUT for
OUR NEW WEBSITE STORE and SHOPPING BASKET at www.ringmat.com
Our Stand at THE HI-FI SHOW, Renaissance Hotel, HEATHROW, 27-28 September

RINGMAT DEVELOPMENTS
PO Box 200 Brentwood Essex CM15 9FB GB

call: 01277 200 210 visit: www.ringmat.com or e-mail: enq@ringmat.com

PUTTING SOUND INTO FOCUS

from this... to this
We researched

Few would dispute that a decently done valve amplifier is capable of superb sonics, but the problem is that they’re not as user-friendly as solid-state designs — at least to the uninitiated. While you can buy any sensible transistor integrated, plug it in and expect a reasonable sound whatever your system, it isn’t quite the same with those aspirated by thermionic valves. The VSi55 is an exception.

Essentially, it is the integrated version of Audio Research’s established VSS5 power amplifier. It is a large, imposing looking device, and by no means unattractive. It measures 14x8x16” (in old money), and features a centrally mounted, milled, anodised aluminium top plate, complete with large inset Audio Research logo.

The gently recessed front panel features a long LED volume display, which also shows source selected and whether muting is engaged or not. To the right is a bank of control buttons, including power, mute, source (which toggles through the five inputs, and volume up and down. All these controls are duplicated on the supplied remote — it’s not the most auspicious looking device, but does the job well enough and — hey — any remote controlled valve amplifier is welcome! The fact is that the Audio Research VSi55 is an ergonomic dreamboat compared to its tubular rivals.

Round the back, there are five pairs of single-ended inputs labelled CD, Tuner, Video, SE1 and SE2, plus a full-range mono subwoofer output, voltmeter test points for setting bias, reasonably sized loudspeaker terminals with both four and eight ohm taps and an IEC mains socket. The amplifier has an optional perforated cage-type top cover for £250, which would be essential for those with young children or pets. But having neither, I found the VSi55 looked rather fetching ‘as naturel’.

Audio Research says that very short, high performance input relay paths are used, as per the sister REF2 MkII. The active circuitry is essentially that of the VSS5, but with 7dB more gain for greater sensitivity. It also uses the same Class A input (with regulated DC heater supply) and driver stages utilising three 6N1P tubes, and partial cathode-coupled Class AB output stages with two pairs of 6550EH output tubes. Interestingly, three little rubber socks are provided for the input valves.

Although Audio Research is undoubtedly one of the most respected US tube amplifier manufacturers, it is not a name that we’d instantly associate with the ‘value for money’ tag. However, the new VSi55 integrated amplifier changes all that, says David Price
presumably to minimise sound-impairing resonance.

The control section is passive, utilising microprocessor-controlled relays which contribute enormously to this amplifier’s ease-of-use. Switch it on and for thirty seconds there’s a flashing LED to tell you that the output is muted while the unit warms up. Then it goes automatically to the last input selected, and to mute mode — considering this amplifier’s considerable power, this is a welcome ‘speaker (and ear)-friendly feature. Using the Vsi55 is a joy — the electronic input selection and warm up facilities allied to remote control, plus the excellent build quality and finish make it instantly appealing to seasoned valve-ophiles and solid-staters alike.

SOUND QUALITY

As you may have gathered from the ergonomics of this new Audio Research integrated amplifier — with its brilliantly judged selection of ‘real world’ features — it is not way out on the fringes of hairshirt hi-fi. It’s pitched at people who are serious enough about sound to consider valve amplification, but who’d rather not keep a soldering iron or oscilloscope to hand. And it’s voiced precisely in this way too.

At nearly £3,000, buyers have plenty of choice. There’s a host of tube designs around, and by the time you’ve reached this price point, you can pretty much choose your poison. To wit, there are some very nice parallel single-ended and single-ended triode power amplifiers available from Italy (for example), not to mention the wealth of products from closer to home. The Vsi55 simply does not set out to compete with these — it is unashamedly an easy, user-friendly, one-box solution to the problem of amplifying music in the home. As such, it actually finds designs such as Musical Fidelity’s A308 integrated as its natural competition — this offers precisely the same blend of features but uses solid-state rather than tubes to realise the brief.

Given the aforementioned remit, the Audio Research Vsi55 sounds quite spectacular. Hardened tubular types will doubtless be seduced by far more esoteric circuit designs, but audiophiles seeking a mixture of serious power and speaker driving ability and a wonderfully engaging and propulsive sound will love this. It actually sounds much like a valve version of a superb transistor integrated — by which I mean it has masses of grip, punch, power and precision — with a frankly staggering ability and a wonderfully engaging and powerful nonetheless. You don’t get Naim levels of grip, but it comes very close to fine solid-state designs such as Musical Fidelity’s A308 Integrated. There’s absolutely no sense of compression or breathlessness until you get the volume up to ear-splitting levels — methinks the output transformers that Audio Research has chosen are something very, very special indeed.

Moving up to the midband, and the surprise and delight continued. It is not as finely etched as a top solid state design — it lacks a rigorous, forensic, ‘hear-through’ midband. However, it really isn’t that far off — the Vsi55 delights in throwing out oodles of detail with tremendous spirit and dedication. A vinyl recording of Beethoven’s Pastoral Symphony (Karajan, DG) allowed the Audio Research to conjure up one of the most expansive and uncoloured acoustics I’ve heard from anything outside the realms of telephone number price tag, lottery winner super-fi. Via my reference Quad ESL57s, I was greeted with a vast, chasm-like soundstage with tremendous depth perspective. Fat, two dimensional, rosy and sepia tinged it was not — I can’t think of any valve amplifier more unlike a Quad II! Instead, we had brilliant image articulation, very open and natural front to back and left to right image placement, and a sense of total unflappability. When the strings really kicked in with the volume cranked right up, the Audio Research integrated held onto everything with a vice-like grip, steadfastly refusing to let go of the tightly defined yet
'Down By the Jetty' (which is a thrashy new wave recording), then you get precisely the same pleasant, warm signature. Essentially, the high lack real incision or analysis — even something like Sugden's A21a Class A solid state integrated at one third of the price does better. Those seeking silky smooth, velveteen high treble should look to a decent parallel single ended design which will bring an altogether more organic and cohesive upper mid and treble, but just remember to use horn loudspeakers — or turn your hearing aid up...

Together, the Vsi55's many talents make for a riotously musical experience. You can throw many types of music at it, and sit back and be amazed. The powerful, electronic strains of Kraftwerk's 'Computer Welt' proved mesmeric, throwing up vast amounts of midband detail that showed the track's sequenced electronic percussion like few amplifiers I've heard before. The massive, pounding basslines of Yazz's 'Fine Time' showed precisely how meaty those output transformers are — even at ear-poppingly high volumes through my Quad Electrostats (yes, really!). The sub-bass was brilliantly articulated and there was no sense of the song's rhythms going AWOL.

(As valve amp output transformers gradually saturate, they invariably lose control of the way bass notes start and stop, but this didn't happen until I'd got to seriously silicon sound levels.) Put on a piece of soft, acoustic rock such as Susanne Vega's 'Freeze Tag' however, and the amplifier moves from being a 'big mutha' to the epitome of delicacy and repose...

**CONCLUSION**

This is one of the most well rounded, best conceived, user friendly valve amplifiers I've come across. It's an unashamedly do-it-all design, which — much to my surprise — manages to successfully fulfil its design remit. In short, it 'tubes without tears'. Here's a product that brings the magic of valves to a wider audience. At £2,895 the new Audio Research Vsi55 is by no stretch of the imagination cheap, but its tremendous range of abilities is such that it can justifiably be labelled superb value for money.

**MEASURED PERFORMANCE**

Power output from the Audio Research measured 49watts into 4ohms and 45watts into 8ohms, so the 4ohm section is better coupled and best used. Since most UK loudspeakers now use 4ohm bass drivers, the Audio Research is just about a 50watter and will go loud. But then the 6550 output transformer is popular in America because it has weelly.

I was impressed by the power bandwidth; output was not curtailed by the transformers at 40kHz or 10kHz, a sign of good transformer design. Also of significance was wide frequency response, reaching 70kHz no less, good enough for 24/192 DVD! — with a smooth roll off above this limit.

Distortion was largely second harmonic and levels about as expected. Fixed bias amps overload less gracefully than auto-bias and this was obvious in the distortion spectrum at high levels and the hard peak clipping that occurs at the limit. The VSi55 behaves almost like solid-state here. Hiss was low and hum a critically low 1mV. Input sensitivity was poor at 800mV, not adequate for old tuners like a Troubleshoot. The Audio Research was properly engineered, unlike almost all other tube amps (tis sad but true). NK

- Power (4ohms) 49watts
- CD/tuner/aux. Frequency response 5Hz-70kHz
- Separation 80dB
- Noise -92dB
- Distortion 0.014%
- Sensitivity 420mV
- dc offset 10/8mV
Braving bumpy skies for Malaysia’s annual A/V Fair, Noel Keywood finds a very different Kuala Lumpur...

Bumping across India at 38000ft on my return from Malaysia’s annual A/V Fair, I was intrigued by a book titled History of Malaya. It’s one of trade, conflict and piracy, in a setting where people survived in coastal settlements, backed by a hostile Malarial hinterland of swamp and jungle.

Even today traders are everywhere - and pirates too. The latter have given up on Dhowos and are now to be found in Pressing Plants, according to the IFPI! This year I got to more clearly see what an impact they have on local conditions, because the biggest difference from previous years was a total lack of counterfeit goods; the Malaysian government had finally had cracked down hard on pirates early in 2003 and it has had a big affect.

In one single action, Malaysia’s DVD market has been decimated, if the shopping malls in Kuala Lumpur are anything to go by. The racks are still there, but this year they are full of VCDs instead of DVDs. I could hardly find a DVD for sale. “The price of an original DVD is 80-100 Ringgit (RM)” one trader told me, “and no one can afford that”. Also, the government is issuing hologram stickers for all DVDs and CDs but we cannot get them.

In previous years DVDs were everywhere, priced at 15RM, or around £2.50. It was impossible to tell they were counterfeits, so good was the sleeve artwork and signal quality. Most were likely digital copies; few were poor quality. At full Western retail an original DVD to a Malaysian would be the equivalent of £20-£25, a price few are prepared to pay it would seem, especially after having it so cheap for so long!

With VCDs everywhere and not a DVD to be found – well I was offered a few under-the-counter ones – sales of DVD players have taken a hit. A VCD, or Video CD, uses mpeg 1 compression, which has half the resolution of the mpeg 2 of DVD. It gives a grainy picture, much like older video cameras. VCD has always been more prevalent in the Far East and, for the time being at least, it has returned big-style in Malaysia. Since most DVD players originate in the Far East they play VCD, but quality is a stimulus and VCD lacks it.

I noticed that not only had the DVDs gone, but also the fake watches and pirated computer software. Luckily, the IFPI hadn’t touched an original local creation – Nasi Lemak. With coconut rice, a piece of lightly curried chicken and various local delicacies this is one of Malaysia’s small delights. Washed down with coconut milk or iced coffee it more than makes up for any...
A Soundstage valve preamplifier and, either side, 12watt monoblock power amplifiers, all for Rm2500, or around £116.

lack of DVDs as far as I'm concerned, but locals aren't so happy. Malaysia's A/V market has been hit by this crackdown.

In the long term I suspect prices of original discs will fall to 60Rm or so and sales will pick up, since other goods like camcorders are priced much like the West, to discourage grey importing. All the same, this crackdown has had a large impact locally, on jobs and the home entertainment market. For the time being at least, the copying business is out of business, but pirates have been around some time in this region it seems and I somehow doubt they are ready to abandon their pressing plants yet.

Trading conditions are still lacklustre in the Far East, after the boom years of the late nineties. The Gulf war didn't help nervous markets and SARs has hit the tourist trade, although the 747-600 I took to get there was packed to the gunwales all the same.

With DVD kicked out of touch and no new technologies from Japan, I spotted nothing new or innovative this year. Often Far East markets get to play with new technology first, but only Blu-Ray is on the horizon and it hasn't yet made it out of Sony's Japanese labs, nor from Philips either. However, interest in audio and all things electronic is still solid in the region and with China not so far away Malaysia gets product like small EL84 based valve amps for just 600Rm (around £100). I got the impression that with DVD temporarily sidelined as a quality source the LP had re-emerged a little too.

The History of Malaya is full of setbacks and woes that have befallen the region. Most of them were a lot worse than anything I saw or experienced this year, that's for sure. So although the traders weren't so happy and the pirates even less so, I suspect the effects will be short lived.

A local LS3/5a loudspeaker club had a room housing a wide assortment, from Richard Allan through to Rogers and KEF versions of this popular small monitor. Visitors could hear each through a high quality system. The Club says the 3/5a is being revived by Richard Allan, using KEF manufactured drivers.

Thanks to a crack down on piracy, Video CDs (VCDs) have replaced DVDs, offering Malaysians poorer quality at the same price!

Vinyl was back in force this year, as this Chinese audiophile 180gm virgin vinyl pressing proves...
As good as it gets - just hear the B2.2 Revelation!

Music lovers - forget 5.1 ch HT, stereo is here again! In fact, the 2 ch sound from SETs and really good single-driver horn speakers has never been bettered for pure musical enjoyment. And horns don't come any better than the new B2.2 Revelation (right). The dynamics and transparency are phenomenal - they give a depth of sound stage and image focus which is just so believable.

The Beauhorn Virtuosos simply manage to make music of all kinds more interesting and involving than conventional speakers.

Paul Messenger, Hi-Fi+

But it's also one of the most effective and convincing music speakers you're ever likely to hear. It doesn't take long to forget about the hi-fi and simply get deeply involved in the musical content, thanks to the astonishing sense of realism that comes courtesy of tight midband time-coherence alongside dynamic contrasts that simply sound more 'right' and 'real' than those heard with more conventional speakers.

Paul Messenger, Hi-Fi Choice

[B2.2 Revelation review]
Heaven Orelle

Orelle's brand new SA100evo integrated amplifier seeks to better its £1,000 rivals in the great scheme of things. Albert Lee is star struck.

The new Orelle SA100evo has an unusual case construction, designed to dissipate sound-degrading mechanical energy in a benign way. Made from aerospace-grade aluminium, the 440x370x70mm affair is most substantial at 8.5kg and finished beautifully — no rough edges here! Rectangular, with a large radius on each end that runs from the front to the rear, it looks truly distinctive. It's also non-magnetic, with minimal interaction with the PCB and transformer whilst providing a good RF shield.

The fascia is also a fine mix of form and function - the motorised volume control is a very large aluminium disc with an extremely weighty feel. To the left of this are the function switches, consisting of input selectors for aux 1, aux 2, tape, tuner, video and CD. The power on/standby is located under the selector bank, and has both fault and output indicators. There is a remote control included which although tiny, works extremely well — the circuitry switches into a low noise mode when it's not receiving a signal so as not to interfere with audio signals.

Round the back, there's an IEC mains socket, two pairs of substantial binding posts (so bi-wiring can be achieved with little fuss), and all the signal inputs and outputs through gold plated phono sockets. They consist of Aux 1, aux 2, video, CD, tuner and tape in and out. There's another pair of sockets labelled pre out, so you can connect another power amplifier for bi-amping (which gives far better results than bi wiring). A moving magnet RIAA option is also available at extra cost, but was not included in this review sample. The component quality is of a high standard - the resistors are mainly 1% metal film types coupled with polyester capacitors.

LISTENING IN

The SA100evo is simple to operate, because of its well thought out design. The instruction manual specifies a warm up period of thirty minutes, and another seventy-two before full performance will be realised. After switch on, the violet output LED comes on, along with the red check and fault LED. The latter stays on for ten seconds then goes off and the violet output LED stays flashing for a further ten seconds so the microprocessor can check that the amp is ready for use. After waiting for seventy two hours with a CD on repeat, I was finally in a position to start listening.

The first disc in the CD player was Frank Zappa's 'One Size Fits All'. Frank's voice positively ripped out of my loudspeakers, planted bang in the centre of my living room with the drum kit pounding with great gusto. The Orelle was showing early promise as a very articulate and erudite musical performer. Its image projection was quite superb, with the recorded acoustic hanging behind my loudspeakers, seemingly completely disconnected from them. Next came my favourite Zappa track, 'San Bernadino', which rocked out at great speed.

Next up was Eva Cassidy's 'Songbird' - a very subtle album of songs, which is difficult for amplifiers of this category to reproduce convincingly. Here, the Orelle showed real finesse, projecting her...
EXPERIENCE THE CHORD EFFECT!

The first time you hear your sound system with Chord interconnecting cables will be the first time you've really heard it.

Be warned - the effect can be shattering.

Your eyes and ears will be opened. Your music will never sound the same again.

Specify Chord cables - Hear the light!

The BorderPatrol P20

‘One of the best music appreciation devices available.’
Jason Kennedy Hi-Fi Choice Summer 2002.
EDITORS CHOICE

Full details on the P20 and other BorderPatrol amplifiers and power supplies can be found on line at www.borderpatrol.net

Tel/fax 00 44 (0) 1242 717171
e-mail bp@borderpatrol.net
www.borderpatrol.net

definitive audio

Peddlers of fine wares, including:

Record players: SME models 10, 20 and 30; Kuzma Stabi, Stabi Reference; Nottingham Analogue Interspace, Space Deck, Hyperspace and Dais; Michell Orbe; VPI AriesScout; Avid Volare, Sequel and Acius.

Arms: Rega 300/600/900; SME Series IV and V; Kuzma Stogi; Triplanar.

Cartridges: VanDenHul Grasshopper and Collar; Kuzma KC REF; EMT; Reson Rea and Elite; Cartridge Man Musicmaker; Benz-Micro including Benz-Open Air, Kondo lo J.

Amplifiers: Border Patrol; Canary; Sugden; Art Audio; Monarchy; Western Electric; Icon; Tom Evans Audio Designs; SJS.

CD Players: Wadia; Sugden, Primare: Resolution

Loudspeakers: Living Voice; Vitavox; Lowther

Cables and Tables by Living Voice.

For sales and information
E-mail: bp@borderpatrol.net
www.borderpatrol.net

the CHORD co.uk

FOR SALES AND INFORMATION
CALL: 01722 331674 FAX: 01722 411388
E-MAIL: CHORD@CHORD.CO.UK
OR VISIT US AT WWW.CHORD.CO.UK

58 HI-FI WORLD & COMPUTER AUDIO OCTOBER 2003
exquisite voice with tremendous sympathy, as if it was shimmering in mid air. Her own rendition of 'Somewhere Over the Rainbow' is a magnificent piece of music, and showcased the SA100evo's essential nature – it is both warm and smooth, but strong and precise. Its air of authority is something which few amplifier at this price can boast of.

Miles Davis' 'Kind of Blue' sounded extraordinarily organic and cohesive. The musicians seemed to be there in my lounge, and really grooving together, while Coltrane's saxophone had exactly the right amount of bite. This Orelle has a more natural sound than the Cyrus 8 integrated, for example - its image placement is more solid, with superior depth and width.

Next, I pressed my turntable into use. In my opinion, Garrard 301s are probably the finest turntables ever built, and it really shone with this amplifier via a Trichord Dino phono stage. Using an Origin Live RB250 and Roksan Corus, I was again struck by the lucidity of the midband. The stereo image again was beautifully three-dimensional, and the mid to treble balance completely devoid of grain or distortion.

Likewise, its transient abilities were laudable. Music was able to go from soft to loud with alacrity, making for a fluid and natural sound. After a marathon listening session of more than nine hours I can say that I did not suffer from any traces of listening fatigue at all.

Downsides? Well, the Orelle SA100evo is no powerhouse, and cannot drive difficult speakers to very high volumes for extended periods of time. The bass isn’t the tightest compared to the likes of Cyrus’ 8 integrated (which itself gives ground to Naim’s NAIT 5), so don’t expect this to aspire tricky loads with any degree of success. Despite its fairly high rated power output, it’s very much in the ‘sweet and subtle’ category rather than the ‘big bruiser’. Still, listen to this amplifier’s superb midband and all is forgiven!

For my money, this is one of the best in an already crowded category – that of the £1,000 ‘super integrated’. It’s an excellent all rounder, blessed with an open sound and flat frequency response, but definitely biased towards sonics rather than stomp. Clarity and subtlety are its forte, along with the ability to portray rhythm and timing information present in the original source material. Its exceptional resolution of the nuanced ‘micro dynamics’ translates the swell and flow makes that makes music sound like music!
Arcam says its new DT-81 is 'the best Digital Radio tuner under £2,000'. Well, that's as maybe, says Noel Keywood - but thanks to the medium's obvious limitations, that's not necessarily saying much...

Digital radio is now 'taking off', thanks in no small part to dramatic price falls and wider availability (coming to a supermarket near you). And as one of the very first entrants to the field - as it has been with other technologies - Arcam has been a major force behind the medium. Whereas the likes of Pure Digital (and latterly Acoustic Solutions and Cambridge Audio) have pushed hard on price however, Arcam has remained firmly in the quality - rather than quantity - domain. With the release of the new DT81, the Huntingdon company's third DAB tuner, they're looking to continue the formula. Cost-conscious bargain hunters need not apply...

Is there still a role in life for such an esoteric Digital Radio tuner? DAB is now being pushed as a 'free' format, and free - my friends - will sell anything! Certainly, the allure of its wealth of content cannot be denied. There are oodles of stations not seen on VHF/FM and even a DAB skeptic like myself starts to smile at the likes of Kerrang on air; whilst the London airwaves around me carry Planet Rock, Smash Hits, Kiss, XFM and others as an antidote to today's droning divas.

Working from a roof top aerial, the Arcam pulled in a useful 49 stations in Central London, missing some test transmissions that popped up on a rival Pure DRX-702ES. Since I can get around 32 VHF stations, that's not an enormous amount more, but then the picture is more complex here than a simple station count reveals. VHF stations carry around ten times more data per transmission, and since data equals bandwidth they are pretty dense on Band II if you use a large roof top array as I do. There are weak ones, powerful ones and interfered with ones amongst that 32.

You don't get any of this with DAB. Transmissions are packed into neat ensembles (or multiplexes). A bit like supermarket chicken they're stripped and neatly packaged to reach you fresh and clean - but you don't get a lot of flavour. Musicam compression is used to reduce the audio signal's data rate to around 128kbps, ten times less than that from CD. According to Arcam's press guidance blurb in the DT81, they are attempting to get the best possible sound quality from DAB by using 24/192 Wolfson DACs, plus numerous tweaks and upgrades. This feisty document goes on to claim the DT81 is the best sounding DAB tuner under £2000 and, since it advises to the avoid the budget end of the market, I used the DT81 alongside a rival they could just be alluding to, the £350 Pure DRX-702ES!

Unlike the Pure, Arcam's new DT81 is DAB only - it lacks VHF/FM or AM. If you want analogue you must use a separate tuner, which can be fed through the DT81 via FM Audio inputs and selected from a front panel button.

On facilities the Arcam doesn't really compare with the feature laden Pure. It's a fairly straight-forward DAB tuner with some useful features. DAB tuners auto-tune on installation like modern TVs, and the DT81 is no exception. It takes a little time to trundle up Band III but once completed a station can be selected by spinning the tuning knob, then pressing a Select button beside it. Alternatively, there are sixteen presets available from a bank of eight buttons.

Build quality is excellent and finish neat. The green fluorescent display was superb, giving station names in full with fine clarity. It can
be dimmed or switched off if desired.

Whilst setting up and using the DT8I is easy enough, connecting up was 'interesting'. I was surprised to find a BNC panel mounting socket on the rear panel for the aerial. DAB tuners to date have used F connectors. Whilst the BNC is a popular connector in pro equipment it isn't yet common in the home and trying to make connection with any coaxial plug or socket will mean a trip to Maplins if the dealer cannot oblige. Arcam supply a BNC terminated wire aerial and this should get most people up and running, straight for the box.

Reading the fine print I see that the DT8I has nominally a 50ohm aerial input. UK domestic product usually comes with a 75ohm input and aerials are also nominally 75ohm. In as far as I can get a sensible reply from Britain's aerial manufacturers, domestic Band III DAB aerials are 75ohm, not 50ohm. It isn't a big issue; characteristic impedance is pretty nominal. Mismatched terminations suffer reflection and may increase error rate. Germany seems to pay more attention to this sort of thing (DAB was, originally, a German technology) so I wasn't surprised to see Arcam recommending Robert Bosch aerials for a decent Band III, and for an L-Band. Yes, the DT8I also receives L-Band, like its rival the DRX-702ES.

The UK gets L-Band in 2007 but unfortunately I got no sense from either the BBC about what L-Band is supposed to be offering in future, or from aerial manufacturers about suitable product. DAB is not, at present, directed at anyone wanting to erect their own aerials. The attitude seems to be 'leave it to the professionals'. Good aerial information is sparse, to say the least. The DT8I draws attention to all this by providing an Engineering Mode which, I must admit, I used more than User Mode. It gives error rate, as well as Ensemble frequency and other data. Arcam fit decent aerial signal strength meters to their analogue tuners, so you can see whether they are working optimally and they fit an equivalent to this tuner. Error rates varied from around 25 down to 1 in my location, according to the programme being received. XFM (<10) and Capital (0) managed well, for example, whilst the Beeb hovered around 10 and Virgin was surprisingly poor at 25 or thereabouts. The rear panel also carries a Data Service output and a digital output with electrical and optical connectors.

**SOUND QUALITY**

So, can a £650 DAB-only tuner like this justify its price tag, by putting some flavour back into the grab sound of emasculated digital? The short answer is, sadly, no. I spent hours listening closely to the DT8I on Radio 3 transmitting at 192kbps and at all times it was as revealing as possible. But you can't really go too far with this because there isn't so much to reveal in low data rate digital. It is bereft of richness, giving more an outline of the music than any real insight. A DAB tuner, no matter how good, cannot retrieve what isn't there in the first place. DAB can crack up badly with massed violins but this is I suspect more a encoding problem in the transmitting chain rather than a receiver problem. The DT8I handled violin and viola within Max Bruch's Double Concerto well, eking out as much detail as possible. There was just a little more insight than the Pure but it was a small difference and at times I fancied pole position changed. Digital systems change behaviour with programme content and this was at times a bit perplexing.

Monteverdi's 'Return of Ulysses' saw the DT8I again put a little bit more sparkle into a dulcimer than the Pure, but differences were again small. There was little to separate the tuners across a broad range of classical programme I felt, although large orchestral works revealed Pure's PAC technology, as they call it, which equalises the analogue output, lifting low frequency energy to give DAB more body.

With broadband Rock the DRX-702ES obviously had more bottom end clout and heft, but whether this was good or bad depended upon the quality of what was being transmitted. Led Zeppelin's 'Since I've Been Loving You' had Bonham applying more muscle through the Pure, yet the DT8I sounded tight enough, bringing just a little bit more definition to his cascading drums. XFM was using lots of low frequency energy to generate a background rumble and here the Pure was starting to produce cone flap from the Revolver R45! Again, close listening showed it was possible to hear a little further into Jimmy Page's guitar work through the DT8I, and this extra insight existed across all stations and music types.

I wouldn't argue with the bold claim that this is the best sounding DAB tuner under £2000, but that's not to say the case is unarguable. Pure's DRX-702ES gives a bigger, warmer balance from DAB's many rock stations, with heavier bass. Sometimes it sounded bloated alongside the Arcam, sometimes just fuller. The DT8I was about as tight and detailed as it is possible to get from DAB at present, taking into account mediocre transmission quality. Of course the Pure offers VHF/FM and if you turn to this during a Radio 3 broadcast all is embarrassingly revealed.

DAB isn't really a quality medium - it's pop radio, a good modern alternative to Medium Wave. Arcam's new DT8I wrings as much as possible from it, but the price is high all the same.
"...the best tonearm I've heard to date..."

Hi-Fi World 2003 on Illustrious Tonearm

Origin Live Tonearms

"There may be better value propositions around to upgrade your system but if there is I haven't heard them...I fully anticipate this product remaining at the heart of my system for many years to come. A fantastic product then from Origin Live and this particular audiophiles dream review tool."

TNT Audio 2002 on Silver Tonearm

"The highest of recommendations for the Encounter tonearm: a new benchmark for musical communication, natural detail and timbral truth."

Paul Szabady, Stereo Times 2003 on Encounter Tonearm

"Brilliantly detailed yet utterly musical, this arm is set to join the all time greats. Wholeheartedly recommended."

Hi-Fi World 2003 on Illustrious Tonearm

Very occasionally new products appear that are so advanced as to render all previous benchmarks obsolete. People believe our new range of tonearms are just such products and we invite you to experience an unprecedented leap in your system performance - regardless of your tonearm. Arrange for an audition now.

Silver Tonearm £599
Encounter Tonearm £970
Illustrious Tonearm £1,570
Illustrious Signature Tonearm £2,500

All products carry a full no risk money back guarantee and are available via your nearest Origin Live dealer or by direct mail order.

Origin Live, Unit 5, 362b Spring Road, Sholing, Southampton, SO19 2PB
tel/fax: +44 (0) 2380 578877
www.originlive.com

MICHELL TECNODEC

A SYMBOL OF PRECISION

Michell Engineering Ltd,
2 Theobald St, Borehamwood,
Herts, WD6 4SE

Tel: 020 8953 0771
Fax: 020 8207 4688
Email: info@michell-engineering.co.uk
Web: www.michell-engineering.co.uk
Onkyo says its new CS-210 micro system is "the audiophile's choice". Haden Boardman investigates...

Onkyo makes some bold claims for this little system - genuine audiophile performance for not much for than a couple of hundred quid! Well, this is a nice little system, but by no stretch of the imagination can the word 'audiophile' be labelled upon it. Still I know where Onkyo is coming from, as it has some unique features in this market sector. The power amplifier section eschews the usual hybrid thick film IC device for a totally discrete output stage, called WRAT (Wide Range Amplifier Technology), which is claimed to use minimal amounts of negative feedback (by transistor standards).

Along with carefully selected components, this makes for a power bandwidth of up to 50kHz. Although power is quite low - the RMS rating is given as 20W into 4 ohms at 1kHz - it is well on par for this kind of system. Indeed this little fella is actually quite happy with some fairly evil 4 ohm loads on the end of it. Build quality is very high, even better than the small Denon UDM-31 system I reviewed last month.

As a bedroom alarm clock, the timer on this unit was much more flexible than any other I have seen. Separate weekday and weekend timers, a proper record timer, which will activate a suitable Onkyo cassette or MiniDisc, and a sleep timer. Very flexible and easy to use. No tone controls are fitted, instead a four position bass and treble booster called Acoustic Presence is fitted. Instead of the cheap electronic volume controls, this unit is fitted with a higher quality motorised potentiometer.

No less than three separate input/output sockets are provided, and the supplied remote control will happily control the whole lot utilising Onkyo's R1 remote control interface system. Speaker terminals were sadly the usual clip things. Onkyo supplied a pair of the fairly chunky D-NTX2 speakers, which take the total price up to a penny under £300. The bass unit is apparently Onkyo's own OMF structure (Onkyo Micro Fibre), a cotton weave mix. Cabinet construction was fairly solid, and the tweeter a fairly standard plastic thing.

SOUND QUALITY

The loudspeakers came complete with a decent grade of OFC quality cable, but I cannot say I was impressed with them, as they sounded tizzy, thin, and boxy. So, with its claims of being happy to drive demanding loads, I thought it time to make the little Onkyo sink or swim. A pair of current hungry Dynaudio Audience 42s (£400) - one of my favourite compact loudspeakers at any price - duly replaced the rather iffy Onkyo offerings. At this point, most minis would have popped a fuse, but not this thing.

Sure it ran a little warm, but you would not have believed you were actually listening to a small £230 system. Smooth, open and unfatiguing, it gave a real sense of musical involvement that simply transcended its meagre mini system status. From CD, bass was warm (relatively speaking), with a decent amount of energy and articulation. Midband was clean, and treble smooth and surprisingly incisive yet devoid of any nasties. Radio quality was fine, complete with RDS and a basic medium wave tuner. Of course, the Dynaudios are more than a little over the top here, so I would recommend something more like the new £100 Mission M30s.

This little system does offer terrific sound quality for the price. I have heard separates at twice the money which deliver less. The Denon UDM31 is a very good unit, but fiddly to use and neither as powerful or as musical as the Onkyo. We are talking small degrees here, but for me, the Onkyo CR-305 receiver unit has a definite edge over it. But don't bother with those speakers - they're not that good. I was sorry to see it go back!
DEMONSTRATION ROOM AT 12A SPRING GARDENS, NEWPORT PAGNELL, MILTON KEYNES, BUCKS MK16 OEE BY APPOINTMENT ONLY - CALL FOR DETAILS ON 01908 218831

The Kec182 is our latest introduction for the true beginner and designed by Andy Grove. A simple and elegant design based on the classic ECL82 valve, a triode and power pentode sharing the same glass envelope. The amplifier consists of two ECL82s per channel, the triode sections work as the input/phase splitter and the pentode sections work in push-pull for the output stage. The amplifier offers 8 watts into an 8 ohm load, the hum level is extremely low, comparison to solid state standards. The chassis is constructed of 1.6mm mild steel with a black powder coat finish, there is only one signal input pair controlled at the front by a volume control for that simple touch. The speaker connects are the standard 4mm banana type, positioned at the rear, as are the mains input which is received through an IEC lead, mains switch and earth post

We have made the construction as simple as is humanly possible with comprehensive instructions. The circuitry is based on a single printed circuit board. Ultimately this kit is for the guy who has always fancied a go at building a kit, but never dared. Simon Pope says, "It's a great introduction to the valve sound. For its humble price it delivers a full and rich sound with great detail and good depth." Kec182 weighs 9kg. External dimensions are 30cm(w) x 23.5cm(d) x 11cm(h)

KECL82 VALVE AMPLIFIER KIT £195

These are our new 6550 series amplifiers. A pure class A design; providing 40 watts into an 8 ohm load (available in a 4 ohm version if required). A truely high end design by Andy Grove, using Svetlana 6550Cs in push-pull (any 6550 or KT88 tube can be used with this amp). It features valve rectification (5U4) and choke pi filter power supply and is hard wired. Weighs 19kg with dimensions 390mm(w) x 330mm(d) x 190mm(h) with valves or 220mm(h) with cage. Simon Pope says - "If you favour attack and rhythmic grip, together with a smoothness of sound that's incredibly easy to live with, the KIT6550 could well be the kit amp for you. The 6550 is one for those who like a valve sound married to the attack and clout of a good quality solid state design".

KIT6550 VALVE INTEGRATED AMPLIFIER KIT £615

KAT6550 VALVE POWER AMPLIFIER KIT £580

The Ke184 features a pair of EL84 valves per channel in push-pull configuration. They give 15 watts into an 8 ohm load. The output transformers are Ultra Linear. Up front the ECF80 input/phase splitter valve has an extremely smooth sound. The Ke184 has very low hum, for simplicity the kit is built on a printed circuit board. A strong steel chassis is fronted by a 3mm anodised front panel and attractive chromed custom made knobs. There are five line level inputs, plus one monitor input, with a tape output included, all controlled from the front panel. At the rear is a mains switch/IEC power input, earth post, phono, and 4mm banana sockets. Simon Pope says, "The quality that can be gleaned from this amp is a fine introduction to the joys of the valve sound. The Ke184 will highlight all the intricacies and depth of detail in your favourite recordings whilst retaining a warmth and fullness that is almost exclusive to pure valve amps and is rare at this price point." Ke184 weighs 10kg. External dimensions with valves are 300mm(w) x 270mm(d) x 150mm(h).

KEL84 VALVE INTEGRATED AMPLIFIER KIT £298

The 2A3 PSE integrated amplifier offers a seriously hi-end sound, but without the cost usually associated with single-ended amplifiers. The stereo chassis houses, on the output, 2 x 2A3 in parallel single ended configuration and a single 6SN7 as the driver tube per channel. The valve rectified power supply consists of a SU4 and a 10h choke. This feedbackless design provides 8.5 watts into an 8 ohm load, so a good sensitivity speaker is required above 90dB. It can accept 6 line-level inputs fully controllable from the front panel. We provide the excellent Alps Blue potentiometer as standard. The amplifier is hard wired so plenty of scope for tweaking in the future. Simon Pope says, "The 2A3 PSE is extremely impressive piece of kit; good imaging, wide sound stage, nicely extended on the high frequency and tremendous bass thump. Weight - 20kg, external dimensions with valves fitted - 390mm(w) x 360mm(d) x 220mm(h)

2A3 PSE INTEGRATED AMPLIFIER KIT £570
The PRE-II is a valve pre-amplifier with six inputs, tape monitor and two sets of output sockets. It utilises a high quality line driver transformer and x5 gain. The PHONO-II is a dedicated valve phono stage that incorporates a step-up transformer for MC users. Finally, PSU-II is a power supply unit that feeds both the PRE-II and PHONO-II.

<table>
<thead>
<tr>
<th>Component</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply Unit (PSU-II)</td>
<td>£205.00</td>
</tr>
<tr>
<td>Pre-amplifier (PRE-II)</td>
<td>£215.00</td>
</tr>
<tr>
<td>Phono Stage (PHONO-II)</td>
<td>£110.00</td>
</tr>
<tr>
<td>Moving coil step-up transformer</td>
<td>£77.00</td>
</tr>
<tr>
<td>Passive pre-amplifier (PAS-II)</td>
<td>£235.00</td>
</tr>
</tbody>
</table>

KiT34 is a 32 watt stereo valve integrated amplifier, featuring a pair of EL34s, in push-pull mode, per channel, plus an ECF80 pentode/triode as input/phase splitter. The power supply is valve rectified (2 x 5U4), using a heavy duty choke to achieve exceptional smoothing. The output transformers are 14% Ultra Linear tapped to keep distortion down to its lowest level and the kit is totally hard wired utilising three tag boards. It has five line level inputs, plus a tape-in and tape out, all controllable from the front. Simon Pope says, 'This integrated bring together the best sonic virtues of our KIT88, KiT34 and top of the range 300B PSE in an affordable package. The highlights of the sound are a deep and taut bass response, together with an open and highly detailed mid and high frequency response that only the best valve designs can achieve...a true valve classic.' Weight 22kg, External dimensions with valves fitted - 390mm(w) x 360mm(d) x 210mm(h) £480

Our Parallel Single Ended amplifiers offer ultimate sound quality. Each monobloc has two of the beautifully linear 300B directly heated triode in its output stage, producing 20 watts into an 8 ohm load. At the front we have a 6AU6 pentode and an ECC82 as the driver valve. This design utilises a 5U4 rectifier valve in the power supply, in combination with a 10H choke, giving an extremely quiet supply. Both mains and output transformers we EI pattern. For purists, feedback is switchable and the kit is totally hard-wired. For those that require valves, we provide the superb Tesl 300B/6, Russian 3L4s and European 6AU6s & ECC82. Simon Pope says, 'Not to put too fine a point on it, the sound these monoblocs create is among the finest that can be encountered in hi-fi.' Our 300B PSE kit bears an affordable price of £895.00 (UK price) excluding valves. Each monobloc weighs 23kg, external dimensions with valves: 25cm(w) x 38cm(d) x 22cm(h) per monobloc. £895

The HD83 headphone amplifier is a beautifully simple design using Mullard ECL83 valves, a triode and power pentode housed in the same envelope. It works directly from any source, be it CD, tape, tuner etc., or from an amplifier's tape out or pre-amp out sockets. The circuit uses high specification EI output transformers that will drive any headphone load from 16 ohms to over 300 ohms depending on how the secondaries are wired up. The HD83 is a single-ended design with the power pentode wired up in triode configuration for added sonic purity, and it is as quiet as a mouse. For sound quality Jon Marks says, 'The bass is punchy and controlled without becoming artificial, while treble has the crispness of the best solid-state, with the tonal purity, delicacy and speed associated with valves.' External dimensions 8cm(w) x 30cm(1) x 8cm (h) weight 4kg. £195
**Hi-Fi World in Malaysia at Millennium Hi-Fi & Av. Kuala Lumpur, Malaysia**

Hi-Fi World is now distributed through good bookshops and newstands in Malaysia. For back issues, general enquiries and advertising, contact Simon Chang at Millennium Hi-Fi & Av.

**Millennium Hi-Fi & Av**

500-1-3 First Floor, Wisma Indah (Sheen Court), Jalan Tun Razak 50400 K.L.

tel: 603 9283 8171 fax: 603 9281 3762
et: 603 9283 8172
e-mail: info@millennium-audio.com

---

**Printed circuit boards**

Ke184 Printed Circuit Board 213mm(w) x 35mm(I) x 16mm(d).

Ke14 Printed Circuit Board 105mm(w) x 130mm(I) x 1.6mm(d).

Pre-II Printed Circuit Board 120mm(w) x 120mm(I) x 1.6mm(d).

PHONO-II Printed Circuit Board 115mm(w) x 130mm(I) x 1.8mm(d).

---

**Demonstration Room at 12A Spring Gardens, Newport Pagnell, Milton Keynes, Bucks MK16 0EE by Appointment Only - Call for Details on 01908 218836**

**Kit84 Upgrade Kit**

1 x 100K Alps blue Potentiometer
2 x 1000uF, 16V Black Gate
4 x 100uF, 100V Black Gate
4 x 0.22uF, 400V Jensen paper in oil

**Kit6550 Upgrade Kit**

1 x 100K Alps blue Potentiometer
2 x 2200uF, 16V Black Gate
4 x 100uF, 100V Black Gate
4 x 0.22uF, 630V Jensen paper in oil

**300B PSE Upgrade Kit**

4 x 4700uF, 16V Black Gate
4 x 1000uF, 16V Black Gate
2 x 0.47uF, 630V Jensen paper in oil

**300B PSE Upgrade kit**

3 x 100K Alps blue Potentiometer

**243PSE Upgrade Kit**

300B PSE main E/I transformer
30A 6mm dia. x 60mm(h), Secondaries: 380V-0V-380V,250mA/30V-30V-30V,120mA/60V-60V-60V.3x15VA, suitable for 120/200V operation.

**243K4 Upgrade Kit**

3 x 100K Alps blue Potentiometer

**PSU - II**

40mm(h) x 35mm(d) x 70mm(w) clamp fitting, 1H, 35mA

**Stage 2 PSE Upgrade Kit**

4 x 4700uF, 16V Black Gate
4 x 1000uF, 16V Black Gate
2 x 0.47uF, 630V Jensen paper in oil

**Stage 3 PSE Upgrade Kit**

4 x 1000uF, 16V Black Gate

**Stage 4 PSE Upgrade Kit**

4 x 4700uF, 16V Black Gate
4 x 1000uF, 16V Black Gate
2 x 0.47uF, 630V Jensen paper in oil

---

**Mains transformers & Chokes**

**KIT8550/KAT6550**

2 inch stack, 150mm(h)x130mm(w)x135mm(d) Primary- Secondary 8.4 - 8.4, output .

**KE184**

1.5 inch stack, 150mm(h)x130mm(w)x135mm(d) Primary- Secondary 6.4K - 6.4K, 14% UL taps, Secondary 4 x 64ohms

**HD83**

2 inch stack, 80mm(w)x95mm(h)x100mm(d), clamp fitting, 15H, 20mA

**PSU - II**

250mA

**250B PSE**

30A 6mm dia. x 60mm(h), Secondaries: 380V-0V-380V,250mA/30V-30V-30V,120mA/60V-60V-60V.3x15VA, suitable for 120/200V operation.

**KE184**

clamp fitting, 1H, 35mA

**HD83**

95mm(h) x 65mm(w) x 70mm(d) clamp fitting, 1.2A, 3.15V - 0V -3.15V,0.4A suitable for 120/240V operation.

**KE184**

2 inch stack, 80mm(w)x95mm(h)x100mm(d), clamp fitting, 15H, 20mA

**HD83**

95mm(h) x 65mm(w) x 70mm(d) clamp fitting, 1.2A, 3.15V - 0V -3.15V,0.4A suitable for 120/240V operation.

---

**Output transformers**

**300B PSE**

30A 6mm dia. x 60mm(h), Secondaries: 380V-0V-380V,250mA/30V-30V-30V,120mA/60V-60V-60V.3x15VA, suitable for 120/200V operation.

**KE184**

clamp fitting, 1H, 35mA

**HD83**

95mm(h) x 65mm(w) x 70mm(d) clamp fitting, 1.2A, 3.15V - 0V -3.15V,0.4A suitable for 120/240V operation.

---

**Mains transformers & Chokes**

**KIT8550/KAT6550**

2 inch stack, 150mm(h)x130mm(w)x135mm(d) Primary- Secondary 8.4 - 8.4, output .

**KE184**

1.5 inch stack, 150mm(h)x130mm(w)x135mm(d) Primary- Secondary 6.4K - 6.4K, 14% UL taps, Secondary 4 x 64ohms

**HD83**

2 inch stack, 80mm(w)x95mm(h)x100mm(d), clamp fitting, 15H, 20mA

**PSU - II**

250mA
These are expert kits, not for the inexperienced. You must be able to solder and read a circuit diagram. The valve kits contain lethal voltages. We cannot be held responsible for any errors arising from the construction of these kits.

amplifier kits description

<table>
<thead>
<tr>
<th>Description</th>
<th>Ref.</th>
<th>UK Price (£)</th>
<th>Over £ Price (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2A3 PSE valve amplifier kit (with valves)</td>
<td>KIT6550</td>
<td>£195.00</td>
<td>£170.00</td>
</tr>
<tr>
<td>300B PSE Valve Monobloc amplifier kit (without valves)</td>
<td>KIT34</td>
<td>£120.00</td>
<td>£105.00</td>
</tr>
<tr>
<td>2A3 PSE valve pre-amplifier module</td>
<td>PHONO II</td>
<td>£235.00</td>
<td>£200.00</td>
</tr>
<tr>
<td>2A3 PSE/6550 chassis</td>
<td>HD83</td>
<td>£60.00</td>
<td>£55.00</td>
</tr>
<tr>
<td>300B PSE E/I mains transformer</td>
<td>Ke184</td>
<td>£75.00</td>
<td>£65.00</td>
</tr>
<tr>
<td>300B PSE E/I output transformer (4 ohm? or 8ohm?)</td>
<td>HD83</td>
<td>£80.00</td>
<td>£70.00</td>
</tr>
<tr>
<td>2A3 PSE Valve Monobloc amplifier kit (without valves)</td>
<td>KIT34</td>
<td>£115.00</td>
<td>£100.00</td>
</tr>
<tr>
<td>300B PSE E/I mains transformer</td>
<td>Ke184</td>
<td>£90.00</td>
<td>£80.00</td>
</tr>
<tr>
<td>300B PP Conversion pack (converting a 300B PSE to 300B PP)</td>
<td>Ke184</td>
<td>£20.00</td>
<td>£17.00</td>
</tr>
<tr>
<td>300B PP Valve Monobloc amplifier kit (without valves)</td>
<td>Ke184</td>
<td>£80.00</td>
<td>£68.00</td>
</tr>
<tr>
<td>3A36 36W KT88 integrated amplifier</td>
<td>PHONO- II</td>
<td>£370.00</td>
<td>£330.00</td>
</tr>
<tr>
<td>3A40 40W EL34 integrated amplifier</td>
<td>PHONO- II</td>
<td>£470.00</td>
<td>£400.00</td>
</tr>
<tr>
<td>2A3 PSE valve pre-amplifier module</td>
<td>PHONO II</td>
<td>£235.00</td>
<td>£200.00</td>
</tr>
<tr>
<td>2A3 PSE mains transformer</td>
<td>HD83</td>
<td>£60.00</td>
<td>£55.00</td>
</tr>
<tr>
<td>300B PSE Valve Monobloc amplifier kit (without valves)</td>
<td>KIT34</td>
<td>£115.00</td>
<td>£100.00</td>
</tr>
<tr>
<td>2A3 PSE Valve Monobloc amplifier kit (with valves)</td>
<td>KIT6550</td>
<td>£165.00</td>
<td>£140.00</td>
</tr>
<tr>
<td>300B PSE Valve Monobloc amplifier kit (with valves)</td>
<td>KIT6550</td>
<td>£485.00</td>
<td>£415.00</td>
</tr>
<tr>
<td>300B PSE Valve Monobloc amplifier kit (with valves)</td>
<td>KIT6550</td>
<td>£485.00</td>
<td>£415.00</td>
</tr>
<tr>
<td>300B PSE Valve Monobloc amplifier kit (with valves)</td>
<td>KIT6550</td>
<td>£485.00</td>
<td>£415.00</td>
</tr>
<tr>
<td>300B PP Valve Monobloc amplifier kit (without valves)</td>
<td>KIT6550</td>
<td>£485.00</td>
<td>£415.00</td>
</tr>
<tr>
<td>300B PP Valve Monobloc amplifier kit (without valves)</td>
<td>KIT6550</td>
<td>£485.00</td>
<td>£415.00</td>
</tr>
<tr>
<td>300B PP Valve Monobloc amplifier kit (without valves)</td>
<td>KIT6550</td>
<td>£485.00</td>
<td>£415.00</td>
</tr>
<tr>
<td>2A3 PP valve pre-amplifier module</td>
<td>PHONO II</td>
<td>£235.00</td>
<td>£200.00</td>
</tr>
<tr>
<td>300B PSE valve Monobloc amplifier kit (without valves)</td>
<td>KIT6550</td>
<td>£485.00</td>
<td>£415.00</td>
</tr>
<tr>
<td>300B PSE valve Monobloc amplifier kit (with valves)</td>
<td>KIT6550</td>
<td>£485.00</td>
<td>£415.00</td>
</tr>
<tr>
<td>300B PSE Valve Monobloc amplifier kit (with valves)</td>
<td>KIT6550</td>
<td>£485.00</td>
<td>£415.00</td>
</tr>
<tr>
<td>3A36 36W KT88 integrated amplifier</td>
<td>PHONO- II</td>
<td>£235.00</td>
<td>£200.00</td>
</tr>
</tbody>
</table>

parts description

<table>
<thead>
<tr>
<th>Description</th>
<th>Ref.</th>
<th>UK Price (£)</th>
<th>Over £ Price (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jensen 0.22uF 630Vdc paper in oil capacitor</td>
<td>JEN - 0.22U</td>
<td>£14.00</td>
<td>£12.00</td>
</tr>
<tr>
<td>110ohm 5% resistor</td>
<td>ALPS - 100K</td>
<td>£2.00</td>
<td>£1.70</td>
</tr>
<tr>
<td>10Kohm 5% resistor</td>
<td>ALPS - 100K</td>
<td>£2.00</td>
<td>£1.70</td>
</tr>
<tr>
<td>440Vdc 22.5uF LCR capacitor</td>
<td>LCR - 22.5U</td>
<td>£75.00</td>
<td>£65.00</td>
</tr>
<tr>
<td>100Kohm 5% resistor</td>
<td>ALPS - 100K</td>
<td>£2.00</td>
<td>£1.70</td>
</tr>
<tr>
<td>100Kohm 5% resistor</td>
<td>ALPS - 100K</td>
<td>£2.00</td>
<td>£1.70</td>
</tr>
<tr>
<td>22.5uF 440Vdc paper capacitor</td>
<td>LCR - 22.5U</td>
<td>£10.00</td>
<td>£8.50</td>
</tr>
<tr>
<td>430Vdc 630Vdc valve amplifier</td>
<td>JEN - 0.47UF</td>
<td>£20.00</td>
<td>£17.00</td>
</tr>
<tr>
<td>2000mm safety gloves (pair)</td>
<td>S025 GLOVES</td>
<td>£20.00</td>
<td>£17.00</td>
</tr>
<tr>
<td>2A3 PSE/6550/34 cage</td>
<td>Copper Foil II</td>
<td>£12.00</td>
<td>£10.50</td>
</tr>
</tbody>
</table>

World Audio Design Amplifiers fully built from Malaysia

<table>
<thead>
<tr>
<th>Description</th>
<th>Ref.</th>
<th>Price (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Millenium Hi-Fi &amp; AV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Order from our Far East Distributor:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tel: 07 554 5171 - Fax: 07 554 7645 - email: <a href="mailto:mha8@jaring.my">mha8@jaring.my</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>140 40V EL34 EMI shield</td>
<td>140</td>
<td>£19.00</td>
</tr>
<tr>
<td>1A40 40V EMI shield</td>
<td>1A40</td>
<td>£19.00</td>
</tr>
<tr>
<td>2P20 20W 5881 power amp</td>
<td>2P20</td>
<td>£34.00</td>
</tr>
<tr>
<td>1A80 20W 5881 power amp</td>
<td>1A80</td>
<td>£34.00</td>
</tr>
<tr>
<td>2A3 PSE mains transformer</td>
<td>KIT6550</td>
<td>£195.00</td>
</tr>
<tr>
<td>300B PSE/6550/34 cage</td>
<td></td>
<td>£12.00</td>
</tr>
<tr>
<td>2 metre of adhesive copper foil (EMI Shield)</td>
<td>Copper Foil II</td>
<td>£12.00</td>
</tr>
</tbody>
</table>

Tel/Fax: 01908 218 836
I enclose cheque/postal order for £ made payable to World Audio Publishing Ltd. I wish to pay by Mastercard / Visa /Switch/ Solo. Please debit my account no.

order information

<table>
<thead>
<tr>
<th>NAME:</th>
<th>ADDRESS:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>POST CODE:</td>
<td>COUNTRY:</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

World Audio Design
137 Jalan Pendekar 2, Taman Skudai Baru, 81300 Skudai, Johor DT, Malaysia
Tel: 07 554 5171 - Fax: 07 554 7645 - email: mha8@jaring.my

Tel/Fax: 01908 218 836 [email: orders@worldaudiodesign.co.uk]

These are expert kits, not for the inexperienced. You must be able to solder and read a circuit diagram. The valve kits contain lethal voltages. We cannot be held responsible for any errors arising from the construction of these kits.
Electronics made Simple by Ian Sinclair
This book covers the basic theory and principles of electronics. A good read for the beginner.
Code No. 1430 £12.99 + £2.50 P&P (UK)

Build your own Electronic Test Instruments by Elektor
This book contains designs for 17 measuring instruments, seven generators and analysers, ten miscellaneous instruments and a number of test and auxiliary devices. The designs range from simple multimeter cables to a special printed circuit, drawing of which are given in an appendix.
Code No. 1910 £14.95 + £2.50 P&P (UK)

Build your own High-End Audio Equipment by Elektor
Build your own High-End Audio equipment contains construction projects for solid state preamplifiers and power amplifiers, active crossover filters, an active subwoofer, a monoblock compressor and a headphone amplifier.
Code No. 1910 £14.95 + £2.50 P&P (UK)

Audio & Radio Handbook by National Semiconductor
National Semiconductor's manual is an essential aid to engineers and experienced hobbyists in the application of National's line of consumer audio and radio ICs. Not only does it host a comprehensive data base of their ICs but also comes with theory aspects of amplifiers and preamps and covers electronic principles.
Paperback 300pp, Code No. 1810 £13.95 + £2.50 P&P (UK)

The Joy of Audio Electronics by Charles Hansen
This is a full-service guide to the pleasures of hand-on electronic construction. This book covers test and measurement projects, how to build simple kits, safety issues, devices, theory and resources. A must for the beginner who plans to build more advanced electronic systems in the future.

Audio Measurements by Harman Kardon
Famous compendium of measurement and test techniques for audio reproduction equipment of the tube era includes discussion of all instruments needed. Covers transformers, transformers, tape recorders, cartridge, tape recorders, cartridge, tape recorders, etc.
Code No. 1830 £13.95 + £2.00 P&P (UK)

Inside the Vacuum Tube: One of the most thorough (and funny) books ever written on the way vacuum tube function. Ritter's mastery of analogs common to radio makes the book especially useful to those who want to learn about vacuum tubes.
Code No. 1840 £14.95 + £2.50 P&P (UK)

Glass Audio Projects: 17 Vacuum Tube Designs
This book contains 17 vacuum tube projects, designed and tested by some of the best audio experts. Design for a 200W output, a 35W output or a 6250 single-ended, a 3000 parallel, a 300C3C single-ended, a K70 with KT66 or a 62C3 single-ended strip to name a few. Information is provided so projects can be built for hobbyists.
Paperback 75pp, Code No. 1790 £10.00 + £2.50 P&P (UK)

Vacuum Tube Amplifiers by Valley & Wellman
This is a well known reference valve test book and is assembled from plans by ten knowledgeable authors. An absolute bible when it comes to valve electronics.
735pp, Paperback, Code No. 1790 £29.95 + £4.30 P&P (UK)

RCA Receiving Tube Manual
This book covers the RCA's commercial valve line up to 1940. The manual covers the terminology, technology and applications of the tubes, including a large section giving some data and a pocket of data on numerous tubes. A must have for any audio enthusiast.
350pp, Paperback, Code No. 1800 £13.95 + £2.50 P&P (UK)

Inside the Vacuum Tube: One of the most thorough (and funny) books ever written on the way vacuum tube function. Ritter's mastery of analogs common to radio makes the book especially useful to those who want to learn about vacuum tubes.
Code No. 1840 £14.95 + £2.50 P&P (UK)

The LP is back by Audio Amateurs
Your comprehensive guide to LP care and maintenance designed to offer everything useful for those who love and enjoy this older music medium. This covers the theory and care of LPs and the electronics and mechanics of LP players.
158pp, Paperback, Code No. 1620 £8.50 + £2.00 P&P (UK)

Understanding Hi-Fi Circuits by N.H. Cremer
Originally published in 1957, Discusses aspects of amplifiers, pre-amplifiers and equalisation in a well-written easy to understand style. The author does concentrate on valve circuits and offers much information on the simple multicore cable designs contain a special printed circuit, drawing of which are given in an appendix.
Paperback, 214pp, Code No. 1820 £13.95 + £2.00 P&P (UK)

Audio Reality by Bruce Rosenblit
Investigates cathode, signal path, input, interconnection, speaker cables, balanced lines, transmission lines, isolation transformers, tubes, tubes, tubes and much more. Also, includes 6 excellent detailed valve design projects. Bluetooth, OTR, DITRA, OTR, grounded grid preamp, 100Watt amp, 6550 SE amp and a grounded grid cascade push-pull, 128pp. Paperback, Code No. 1640 £18.00 + £2.50 P&P (UK)

Fundamentals of Radio-Valve Technique by J. Denker
This book contains all the phono technical series written in 1947. It was one of the most authoritative and comprehensive treatments of the nature and function of the vacuum tube. 538pp, Paperback, Code No. 1630 £21.50 + £2.50 P&P (UK)

The Williamson Amplifier by D.N. Williams
This book contains all the phono technical series written in 1947. It was one of the most authoritative and comprehensive treatments of the nature and function of the vacuum tube. 538pp, Paperback, Code No. 1630 £21.50 + £2.50 P&P (UK)

The Beginner's Guide to Tube Design by Bruce Rosenblit
This book takes a comprehensive look at tube audio design. It explains how vacuum tubes work and how to design with them. Rosenblit's careful detail and building a description of 13 famous and classic amplifiers and preamps and how to work effectively as a designer. Hand-out guide to construction techniques, tools and building components and tubes is provided. 1977. 133pp. Paperback, Code No. 1340 £16.50 + £3.50 P&P (UK)

Fundamentals of Radio-Valve Technique
This book contains all the phono technical series written in 1947. It was one of the most authoritative and comprehensive treatments of the nature and function of the vacuum tube. 538pp, Paperback, Code No. 1630 £21.50 + £2.50 P&P (UK)

The Joy of Audio Electronics by Charles Hansen
This is a full-service guide to the pleasures of hand-on electronic construction. This book covers test and measurement projects, how to build simple kits, safety issues, devices, theory and resources. A must for the beginner who plans to build more advanced electronic systems in the future.

The LP is back by Audio Amateurs
Your comprehensive guide to LP care and maintenance designed to offer everything useful for those who love and enjoy this older music medium. This covers the theory and care of LPs and the electronics and mechanics of LP players.
158pp, Paperback, Code No. 1620 £8.50 + £2.00 P&P (UK)

Understanding Hi-Fi Circuits by N.H. Cremer
Originally published in 1957, Discusses aspects of amplifiers, pre-amplifiers and equalisation in a well-written easy to understand style. The author does concentrate on valve circuits and offers much information on the simple multicore cable designs contain a special printed circuit, drawing of which are given in an appendix.
Paperback, 214pp, Code No. 1820 £13.95 + £2.00 P&P (UK)

Audio Measurements by Harman Kardon
Famous compendium of measurement and test techniques for audio reproduction equipment of the tube era includes discussion of all instruments needed. Covers transformers, transformers, tape recorders, cartridge, tape recorders, cartridge, tape recorders, etc.
Code No. 1830 £13.95 + £2.00 P&P (UK)
Please send Code No. (Switch/Solo only) Valid Date: Issue No. (Visa/Mastercard only) Security number - last three digits of number on signature strip.

ORDER FORM

Please return to: W.A.P. Ltd. 12A Spring Gardens, Newport Pagnell. Milton Keynes, MK16 0EE.

ENGLAND TEL/FAX: 01908 218836 ORDER ON LINE Website: www.worldaudiodesign.co.uk E-Mail: nick@worldaudiodesign.co.uk

Please contact us for overseas P&P charges. Allow 28 days for delivery.

All orders subject to availability. If further space is required please attach separate sheet.

Please enclose cheque/postal order for £ made payable to World Audio Publishing Ltd. I wish to pay by Mastercard / Visa / Switch/ Solo.

Please debit my account no: ____________________________ (Switch/Solo only) Valid Date: Issue No. (Visa/Mastercard only) Security number - last three digits of number on signature strip.

TICK BOX IF YOU HAVE ORDERED BEFORE

OCTOBER 2003 HI-FI WORLD & COMPUTER AUDIO 69
UK SUBSCRIPTION £27
VISIT OUR WEBSITE: www.hi-fiworld.co.uk

YES! I want to subscribe to Hi-Fi World for:-
☐ £27.00 for 12 months

Your Details
Title _____ Initial _____ Surname ______________________
Address

Post Code
Daytime Tel:
Start Issue

Delivery Address (if different)

I would like to pay by cheque made payable to Audio Publishing Ltd. ☐

Please debit my VISA ☐ MASTER ☐ SWITCH ☐ AMEX ☐

Security No: ___ ___ ___ (last three digits printed on the signature strip)
Switch card issue No: ___ Expiry Date: / 

Cardholder Signature: ______________________

Please choose service:-

Airmail
Middle East & South-East Asia £60 ☐
Airmail
Europe £50 ☐
Airmail
USA, Canada, Australia, Japan, Korea & China £70 ☐
Surface Mail £40 ☐

Send this form to:
Hi-Fi World, Freepost LON3478,
London, NW6 6YR

Get your issue of hi-fi world straight to your door!

Get to our amazing classified ads first and grab a bargain!!

› Run by dedicated hi-fi engineers and enthusiasts.
› Hi-Fi World has become famous for its informative reviews and radical kit designs.

Credit Card Hotline
+44 (0) 20 8841 8892
Monday - Friday 9.30am - 12.00 noon: Fax +44 (0) 20 8841 9144

MISSED AN ISSUE?
Back issues also available at a cost of £3.50 only (includes P&P), payment by cheque only -
OVERSEAS please contact subscriptions department for details.
Send cheque to: Hi-Fi World, Freepost LON3478, London, NW6 6YR.
ITRIp CANCELLED

A popular gadget in the US, which lets Apple iPod users transmit music to FM radios, has been banned in the UK because it contravenes the Wireless Telegraphy Act of 1949. AN Micro, the UK distributor of the iTrip, said use of the device was prohibited under the Act, which forbids the use of radio equipment without a license or an exemption. The $35 cylindrical device, made by Griffin Technology in the US, has won critical acclaim from fans of Apple’s digital music player. There are no restrictions on its use in the US, where people can use it to listen to songs stored on the iPod on a home or car stereo. But in Britain, using it is akin to setting up your own pirate radio station. According to reports, two other countries - Austria and Iceland - have also stopped sales of the iTrip because of problems with radio frequencies.

AE GOES MP3

Acoustic Energy’s AEGO2 sub/sat active speaker system has been reduced in price to target the computer audio market. Originally selling for £299.95, the system is now on sale for just £99.95. Claimed to be capable of producing true hi-fi quality sound from almost any source - TV, PC, games console or Walkman – it now sports subtle internal design changes and cost savings to target the massive growth in the MP3 jukebox/web download music market. Neil Truckell, AE’s UK Sales and Marketing Manager says, “In an audio world now dominated by home cinema, its great to see the youth market keeping music very much alive thanks to MP3 jukebox type ‘gadget-to-go’ products.” Click on www.acoustic-energy.co.uk for more details.

Kind of Blu

http://www.bluray.org/  
http://www.aviland.co.uk/sony/bdzs77/index.htm  
http://news.bbc.co.uk/1/hi/hi/technology/1829241.stm  
http://news.zdnet.co.uk/hardware/0,39020351,2133101,00.htm  
http://www.generally-bored.co.uk/bluray/sony/press.htm  
http://www.generally-bored.co.uk/bluray/home.htm

Have your say on Blu-ray!

www.blurzytalk.com/forums/viewforum.php?f=1

James Morrow, a knowledgeable correspondent to Hi-Fi World’s letter pages, is running an online poll on Blu-Ray and its associated HDMD technologies. He takes up the story. “Blu-ray is a new optical disk technology that uses blue lasers to read and write from the disc. High Density MiniDisc is physically much smaller than DVD and CD, but has five times the capacity of DVD and is four times faster. This means that it can record much better quality sound and video than any variant of DVD, and each topic at the web address below illustrates an aspect of its performance and provides a simple vote for you to take. Although all the enabling technologies are in place, the potential is so great that we need to better ascertain what people actually want from HDMD before we can release product. Hence the website includes a simple survey in the form of eight HDMD topics with polls for you to vote in. But first you need to register (using your name and a chosen password) and then login. Then, just click on the topic of your choice, read the blurb about it and take the survey. There’s just one poll for each, so it shouldn’t take too long. There are eight topics in all, each with its own poll – so ideally you could start at High Density MiniDisc and work your way up. Note that they’re deliberately brief so that the poll can quickly capture how you’re feeling about HDMD having just read about it. As you can probably gather, it is a digital versatile disk – just a lot smaller, with five times the capacity and four times the bandwidth of DVD/DVDA/SACD. So, for example, unlike DVD-Audio, it can support six channels of 192/24 audio - in fact, six channels of 384/24 audio!
The Emperor's new clothes

If you're serious about CD authoring, there's little to touch Ahead Software's Nero Burning ROM. While rivals like Roxio's Easy CD Creator may be less complex to use, Nero is an immensely powerful writing tool — and the latest v6.0 incarnation promises even more. David Price has a fiddle...

Nero is the CD authoring package the professionals use, but in today's ultra-competitive software market, that's no longer sufficient recommendation. It has been famously difficult to use, with fussy ergonomics and a Wizard that seemed a token afterthought. Only when you've got used to it does it fall easier to hand, and then you're ready to explore its countless advanced features.

The latest 6.0 release attempts to bring the package a little closer to everyday users, without losing its wealth of features and tremendous functionality. Indeed, some more have been added for this latest version. There's an improved Nero Burning ROM 6 and Nero Express 6 for burning and copying discs, plus NeroVision Express 2, Nero Wave Editor 2 and Nero SoundTrax for processing and generating video and audio content on CD and DVD, and Nero BackItUp for saving data. There are also some little tweaks, which really add value as far as computer audiophiles are concerned, such as the highly improved HE-AAC codec.

Here are the highlights as far as audio users are concerned:

START SMART
The first thing seasoned users will notice is the new StartSmart quick launch bar, which integrates the package's many parts more closely. It's a pain in the neck for Nero veterans, as it's just one additional layer to trawl through, but novices will doubtless appreciate it. I remember when I first tried Nero — it loaded up, presented me with a blank, Windows Explorer-style screen and I thought, "right — what do I do now?" There's also a switchable Advanced mode that displays more functions, plus a version management and software update notification system which automatically checks for updates from Ahead Software. You could say it's great having an auto-update, but then again it's a very convenient way for Ahead Software to sell you new code!

BURNING ROM
Nero Burning ROM is the core of the package, the bit that lets you burn CDs. The screen is slightly redesigned and is now usefully cleaner and crisper — which frankly isn't saying much! A definite improvement on the old one, but the old one reminded me of a computer machine code disassembler, so the less said the better... The new Windows XP look makes things more easily accessible than before, and the burning task dialogue has been reorganised for more usability. The actual burning process now lets...
users start pre-mastering new tasks for burning on more than one recordable drive – making it truly multi-tasking.

After loading up Nero you get a scrolling bar which lets you choose your compilation source, such as ‘Audio CD’. You can then click on the INFO tab to get useful information, like its size and number of tracks, and any CD Text present. The Windows Explorer-style Compilation Window lets you drag’n’drop the music files you want to record. Then click on the BURN button and Nero takes over. Details of your compilation are displayed in the upper pane of the window, and the phase which is currently running (and its result) is shown in the centre pane. Pretty comprehensive really, and it’s this feature that’s so useful if you run into problems. It’s a great program, and now thankfully a bit easier to use.

NERO WAVE EDITOR 2
This is a non-destructive editing and recording application, which means that your original music files will not be modified during the editing procedure, until they are saved. Different filters and sound optimisation methods are available, crossfades can be added and – usefully – there’s automatic track splitting which exports tracks to separate files. It supports recording and editing in 24 and 32bit sample formats; there’s automatic crash recovery and editing history and undo / redo information are saved. The Nero Audio Plug In Manager 6.0 permits the reading or writing to/from WAV, MP3, WMA or AIFF files. There’s support for DirectX Audio Filter Plug Ins, VST Plug Ins, and an internal effects library including Reverb, Chorus, Flanger, Delay, Wah-Wah, Phaser, Voice, Modification, Pitch Tuning, Band Extrapolation, Noise Reduction, Declicker, Filter-Toolbox, DC-Offset Correction, Stereo Processor, Dynamic Processor, Equaliser, Transpose, Time Stretching, Karaoke Filter. It’s nice to use, with lots of power and flexibility, but you can’t help thinking it’s a generation or two old by the way it looks and feels – which is as clunky as the old Nero 5.5 Burning ROM.

CONCLUSION
Overall then, the essence of Nero is the Burning ROM – the CD/DVD writing part of the package. This is superb, and remains the best around. No other authoring software offers such powerful copying and error handling capabilities as Nero. For the latest v6.0 incarnation, it’s substantially easier to use, thanks to the StartSmart Wizard and a better designed and crisper look. As for the extras, such as Nero Wave Editor and Media Player, well – I’ve seen better elsewhere. They’re perfectly good, but lack the brilliance of the core burning application. Nonetheless, it’s a great package, and one that can be confidently recommended to those serious about their disc authoring, above all others at or anywhere near the price.

SUPPORTED FORMATS:

FEATURES:
ISO UDF 1 + 2
Joliet with 2-byte characters
ISO Mode 1 and XA Mode 2
ISO ASCII and DOS character sets
User-selectable ISO Joliet requirement relaxation
Dynamic ISO Image conversion
Single-track ‘on-the-fly’ recording (up to 12X)
Small-like caching from disk and network
User-selectable file filters
MultImixer
Complex raid-error handling
Editable ISO structure and filenames
Multisession with track-linking
Full OVF support (hybrid file access speed)
Bootable CD creation (from floppy disk or hard drive partition)
Retrieving Disk/Info from free Internet CD Database (http://freedb.freedb.org)
Local database creation supported
Compatibility with user programs and CD databases
Read and write M3U title playlists
Add CD Text to CD backups
Expanded flavname store for stored audio tracks
Audio index display with miniwaveform oscilloscope display
Track-at-Once / Disc-at-Once / Session-at-Once recording
Extract multiple audio tracks
Fast digital audio extraction
User-selectable audio-extraction speed
Digital and analogue playback
“On the fly” format conversion
Variable pause length
ISRC (audio ID code) support
Graphical audio file display
Audio index (CD track index) support
Optional filter/CRC correction
Block / Noise filters
Wide stereo / normalise / crossfade / Karaoke filters
Multiple filters for each audio track
Test and apply all audio filters in real time (as you play the file)
Ding and drop files directly from other audio drives
Track-at-Once / Disc-at-Once / Session-at-Once recording
Disc Image creation/Importing
“On the fly” infectious-correcting copying
Complex read-error handling
Optional filter/CRC correction
CD Extra / MultiSession CD copying
Uptown burning engine with boost CPU load, more robust burn process
Track-at-Once, Disc-at-Once, and Session-at-Once recording
CD recorder buffer display
Useable recordable buffer size
Multiple overlay of same disc / image
Automatic performance testing
Automatic maximum-speed selection, burn simulation, and burning
Dynamically adaptive auto-insert notification
85- and 90-minute CD-R support
Overburning
Burn-Proof
Extra-long Joliet flavname support

VERDICT
The real deal – the best authoring package is better than ever, although some of its bolt on extras aren’t as impressive as the superb Burning ROM.

AHEAD SOFTWARE NERO
BURNING ROM 6.0
£39
www.nero.com

www.hi-fiworl.co.uk OCTOBER 2003 HI-FI WORLD & COMPUTER AUDIO 73
David Price tries four websites dedicated to cult eighties indie bands...

**THE SMITHS**
http://www.askmeaskmeaskme.com
As any skinny, daffodil wearing indie music fan will tell you, The Smiths were the greatest band of the 1980s. Messrs Steven Patrick Morrissey, Mike Joyce, Johnny Marr and Andy Rourke made the blueprint for guitar music for that decade and beyond - and without them, Indie Dance and Britpop could never have happened. In an intense five years between 1983 and 1987, they released almost twenty singles and seven albums, and life would never be the same again for the eighties generation...This site, called 'Ask Me Ask Me Ask Me.com', is a suitably exhaustive resource, packed with content, archive reviews and - appropriately enough given the purple-ness of Morrissey's prose - lyrics. Brilliant.

http://perso.vanadoo.fr/affectionate.bunch/home.html

**THE ASSOCIATES**
http://perso.vanadoo.fr/affectionate.bunch/home.html
On the 22nd of January 1997, the body of William MacArthur MacKenzie was found in a shed near his home at Auchterhouse, Dundee. It was a tragic end for one of the eighties’ most quirky and charismatic musical talents, Along with Alan Rankine, he was the creative force behind The Associates - responsible for some dazzlingly offbeat and inspired music to come from the post-punk era. His incredibly powerful, operatic singing style was unique. ‘The Affectionate Bunch’ is a fitting tribute, with huge amounts of background information on the musicians he worked with (spanning Shirley Bassey,Yello and Martha (of ‘and the Muffins’ fame!)), his releases and links. Essential for any eighties indie completist.

http://www.dosswerks.com/scc/

**SCRITTI POLITTI**
http://www.dosswerks.com/scc
‘The Scritti Crush Connection’ is but one of a surprisingly large number of online odes to Green Gartside (aka Scritti Politti), who famously began his musical career as a Marxist punk rocker, but achieved success with a saccharine mix of soul and funk, using (then) cutting-edge synthesiser technology. His penchant for post-Structuralism (who else would write a song about Jacques Derrida?) and designer clothes was a curious conjunction, but then again it was the eighties - and anything was possible! This site is a good starting point for budding Scritti-istas, with lots in info and discographies. It lacks the enigmatic appeal of the late, lamented ‘Archaeology of the Frivolous’, however — a fansite that was the internet at both its best and worst (a serious anorak zone)! This one, however, is simply a fine, no-frills resource.

http://www.trevor-horn.de

**TREVOR HORN**
http://www.trevor-horn.de
There is a small but vocal group of people who believe that the work of Trevor Horn is the closest humankind has yet come to genius. As such, ‘The Trevor Charles Horn Worship Hall’ is a suitably reverent place in cyberspace where disciples can go to exchange stories of his new adventures in 16bit, 44.1kHz ProTools-processed PCM! The site features a wealth of information on TCH’s (very) prolific career, including his exploits with The Buggles,Yes, Frankie Goes to Hollywood, Propaganda, Seal and the rest…. The navigation isn’t brilliant, and it’s pretty ‘dense’ (read: impenetrable) at times, but is well worth it if you’re a fan. And how appropriate that a French ISP hosts the artistry of Billy MacKenzie, whereas Trev’s technical brilliance has a German one…!
For The Record

Frustrated by the mediocre analogue to digital convertor on your soundcard? Then Xitel has the answer for you in the shape of its brand new INport, which gets high quality audio into your computer via USB. David Price listens in.

Acessories—don't you just love them? For yours truly, life wouldn't have been the same without Audio Technica's AT634 Electronic Stylus Cleaner, QED's Discoverer battery phono stage or Mobile Fidelity's GEODISC alignment protractor. Whilst they may not have been the mainstay of my system, they've given me useful extra functionality, and upped its performance in a way disproportionate to the cost. Think of the INport just like this—something you didn't really know you wanted but may now not be able to live without.

About eighteen months ago, I first tried out two curious creations by Xitel—the Analogue Link and the Digital Link. If you missed the original review, the idea behind both was to pull your PC apart, there is an inevitable—unless you have a notebook—your computer is a good way away from your hi-fi, assuming it's in the same room at all! Inside the box is the USB connection cable and a CD-ROM, complete with Xitel's own CFB software. This is a handy little application that lets you record directly onto your hard drive, automatically setting input levels for you and numbering songs track by track, so you can burn them to CD-R directly using a CD authoring package like Roxio's Easy CD Creator. It's not the most powerful bits of code I've come across, but is as simple to use as its writers intended. Installation with Windows XP was easy—simple plug in and wait for the 'pling' as Windows tells you it's found it! In the instruction manual, Xitel recommends doing a Restart for good measure, however.

The INport sounds very good. It is not—emphatically—an £1,100 Apogee studio ADC, nor does it equal the (rather fine) analogue-to-digital convertors in my Sony TCD-8 DAT Walkman. It does, however, improve dramatically on the convertors built into practically any bundled PC soundcard. Only when you pay serious money for a serious soundcard like Terratec's EWX 24/96 (£150) does it come under threat. Much like Xitel's Digital Hi-Fi Link USB DAC, it has a smooth and even sound with a decently lithe bass and sweet treble. There's a lot of midband detail, and a good degree of space and atmosphere. Most importantly, there's no harshness, hum, noise or other nasties—all of which are standard practice with cheapo £10 bundled soundcards!

With the INport, you can archive your analogue safe in the knowledge that you're getting a good hi-fi sound. Can't say fairer than that! Personally, I'd love to see Xitel do a serious, high end hi-fi version with expensive audiophile passive componentry (Black Gates, et al!)—the INport PRO, maybe. The INport caters for those looking for fine sound, but I'm sure loads of computer audiophiles would willingly pay the premium for a stunning one. And who knows, it could become another cult hi-fi product! As for the INport as it is, however, it's two large thumbs aloft.

VERDICT

£64.99

XITEL INPORT

www.xitel.com

www.hi-fiworld.co.uk OCTOBER 2003 HI-FI WORLD & COMPUTER AUDIO
75
a lot easier!
'My tubes are impossible to get hold of'

Visit The Tube Shop
www.tube-shop.com

Why choose Tube-Shop.Com
- Over 2,500 different tube types in stock at all times
- We offer you the best prices around, Guaranteed
- UK's first fully online tube ordering system
- Expert matching service by PM Valve Labs
- We sell only the world's BEST brands
- Next day delivery (if ordered before 3pm)
- Free delivery (on all orders over £50)
- MONEY BACK GUARANTEE
- Trade enquiries welcome

MANTRA AUDIO
Specialist Suppliers of Audio Accessories
www.mantra-audio.co.uk

CARTRIDGE SELECTION

<table>
<thead>
<tr>
<th>Stylus Type</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goldring</td>
<td>£76</td>
</tr>
<tr>
<td>1012 GX</td>
<td>£95</td>
</tr>
<tr>
<td>1022 GX</td>
<td>£124</td>
</tr>
<tr>
<td>1042</td>
<td>£143</td>
</tr>
<tr>
<td>1006</td>
<td>£133</td>
</tr>
<tr>
<td>1012 GEX</td>
<td>£232</td>
</tr>
<tr>
<td>1006 GEX</td>
<td>£62</td>
</tr>
</tbody>
</table>

REPLACEMENT STYLIX

<table>
<thead>
<tr>
<th>Stylus Type</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swiss Duality Diamond Styli</td>
<td>£16.00</td>
</tr>
<tr>
<td>ADC XLMMkiIl</td>
<td>£12.00</td>
</tr>
<tr>
<td>AN 2, AN 70</td>
<td>£16.00</td>
</tr>
<tr>
<td>Dual ON 145 E</td>
<td>£12.00</td>
</tr>
<tr>
<td>Goldring G800</td>
<td>£16.00</td>
</tr>
<tr>
<td>JVC DT 55, DT 60</td>
<td>£12.00</td>
</tr>
<tr>
<td>National EPS 24 CS</td>
<td>£12.00</td>
</tr>
<tr>
<td>Pioneer PM 210, PM 220, PN 240</td>
<td>£12.00</td>
</tr>
<tr>
<td>Shure M 97 XE</td>
<td>£98.00</td>
</tr>
<tr>
<td>V 15 V XMR</td>
<td>£304.00</td>
</tr>
</tbody>
</table>

HEADPHONE SELECTION

<table>
<thead>
<tr>
<th>Stylus Type</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grado Prestige Series SR-60</td>
<td>£85.00</td>
</tr>
<tr>
<td>SR-80</td>
<td>£104.00</td>
</tr>
<tr>
<td>SR-125</td>
<td>£152.00</td>
</tr>
<tr>
<td>SR-225</td>
<td>£199.00</td>
</tr>
<tr>
<td>SR-325</td>
<td>£264.00</td>
</tr>
</tbody>
</table>

All items guaranteed authentic new originals
see our website for full selection of accessories
order direct from our secure online catalogue

MAIL ORDER (1-10 DAYS) PRICES (INC P&P) + INSURANCE FOR UK DELIVERY - £5 FOR EUROPE DELIVERY & £12 FOR UIWORLDWIDE DELIVERY TO COVER INSURANCE ON ORDERS OVER £50 VALUE

Tel/Fax (01757) 286652 e-mail: enquiry@mantra-audio.co.uk

MANTRA AUDIO (HEW), 22 GARTH AVENUE, NORTH DUFFIELD, SELBY, NORTH YORKS Y08 8RP
At one time or another we've all dreamed of using something ultimate, like a big horn loaded Tannoy Westminster. I'd love a pair, but first I would have to swap my standard issue house for a mansion — as they're enormous! Still, sometimes I'd still crave something a bit gentler in another room. Loudspeakers are so confusingly different that I couldn't hand on heart pick one I would want to live with to the exclusion of all others.

Knowing the drawbacks and weaknesses of even the best, though, means I'm fairly happy to accept the least. Small loudspeakers aren't half bad; in fact they're very good. The box of a box loudspeaker is concerned mainly with reproducing only bass, and I've sort of de-tuned myself from the need to have something going boom, boom, boom in the room. This the box does very well - large, rigid boxes deliver a peculiar whoomph back at you if you shout into them - and this is exactly what the rear of a cone does.

I tend to take an engineering view of loudspeakers, which is analytical and mechanistic. There are other ways of viewing the same beast, in terms of emotional impact or in cognitive impact — how the loudspeaker interacts with our auditory mechanism.

Emotional impact is a difficult and controversial one, but it's real enough. Emphasis and clarity of beat gives a strong sense of timing and in a lot of Rock, especially Rap and music based on it, a loudspeaker that apparently times well seemingly handles this sort of music best. But as studio engineers will often add in some emphasis at 60Hz to add rhythmic life, so a loudspeaker tuned to this frequency emphasises the effect. Loudspeakers like this sound lively, that's for sure, but it is an effect. Taken too far it will compromise accuracy to an obvious degree that may start to interfere with other instruments, like electric bass which will go one-note.

Emphasising treble can also add a useful edge to transients and sharpen timing too, but again if this is taken too far it starts to become intrusive in other ways. Cymbals will start to sizzle noticeably and, as with all such emphasises the effect may be tolerable until you try and play a recording that itself is strong in high frequency energy. Then, where an accurate loudspeaker conveys what's on the disc, the tuned one blows it out of proportion.

You can heighten emotional impact in this manner but you will be forsaking accuracy. It's hard to listen to two different loudspeakers and pick the one that sound least exciting. But that's what I did when I heard Quad electrostatics and that's what I continue to do, albeit with care. It makes no sense to take the excitement out of music, but what provides the excitement is worth scrutinising. If it again comes down to beat and timing, or maintaining rhythm then I'd contend that's a narrow view of excitement.

Excitement can come from hearing right into a performance in a way we haven't done before. Or it may come from a singer that magically appears in front of us, so close and well defined as to be real. It should come from all these things, but then a balance must be struck — less excitement in one area for more in another.

Loudspeaker choice is intertwined with the system too. As mono demanded one large loudspeaker, often in a corner, stereo brought a pair out into the room. And suddenly they had to image.

Now we have surround-sound and it too is unique in certain ways. It better engages our ability to aurally locate objects around us and has more cognitive impact as a result. Placing sounds all around helps remove spacial muddle and compression.

We can locate singers and instruments more readily. Stereo utilises little of these abilities; in truth it warps reality by directing rear information into front channels to give an artificial sense of spaciousness. It might be pleasing and even satisfying, but so was mono. I've been surprised and intrigued at the way surround-sound can improve clarity by expanding a performance out and back in the room, pulling it away form the front loudspeakers.

Factor in other surround-sound benefits such as improved image resolution, smoother and better dynamics from multiple loudspeakers and a less one-dimensional sound stage dependent upon loudspeaker position, and you end up with a good argument for surround-sound over stereo I feel.

There's a lot to be said for moving to surround-sound with small high quality loudspeakers instead of stereo with large monitors. So if you are dreaming of owning a loudspeaker like the Westminster take heart from the fact that you can get a pretty vivid sound from something a lot smaller - and you won't have to move house.

Stereo utilises little of these abilities; in truth it warps reality.
Here's an unmissable chance to win one of the very best sounding Digital Radio tuners from the world's largest manufacturer of this technology. This clever hybrid tuner offers FM and AM analogue in addition to DAB, and features the latest DAB processor from Frontier Silicon in addition to multi-language support and dual-band reception for use throughout Europe. In Hi-Fi World's exhaustive group test of tuners back in August, Simon Pope was positively effusive. Here's what he wrote:

"Crammed with features, you get analogue auto tune (very handy) and selection by station name, plus naming of non-RDS FM stations. There's USB connectivity for software upgrading and future DAB data access; configurable DAB station programming, ninety nine presets each for DAB, FM and AM; RDS capability and full signal strength and aerial diagnostics. This machine works well on analogue FM. Radio 3 had a decent amount of warmth and depth...Voices were natural with just a tad of chestiness. Moving to Radio 3 on DAB, and contrary to popular journalistic belief, it sounded better! This is down to PURE's own Psycho-Acoustic Compensation-II technology (PAC-II), which appears to add a smidgen of EQ at the frequency extremes to liven up what is usually quite a dead sound. It works very well indeed, making digital Radio 3 a force to be reckoned with.

Again the PURE delivered a slightly better response in DAB than analogue with local commercial and BBC stations, the digital side of the machine did a much better job with pop music than many rivals do in analogue...The 702 is an interesting and brilliantly well equipped bit of kit, which can't be bettered when it comes to facilities and features...It's an easy 'one box' solution for those wishing to solve their analogue versus digital dilemma. Twice as nice!"

You can get more detailed information on the superb PURE DIGITAL DRX-702ES by calling 01923 260511 or by going online and pointing your web browser at www.videologic.com. If you'd like to win this superb hybrid Digital Radio/analogue tuner, then all you have to do is answer the following four easy questions. Send your entries to: October Competition, Hi-Fi World magazine, Unit G4, Argo House, The Park Business Centre, Kilburn Park Road, London NW6 5LF.
If ever there was or is an amplifier of the decade award, then the A-400 would probably be up on the podium.
The widest selection in the country, in a unique no-pressure hi-fi.

- VPI
- Rockport
- Quadraspire
- Primare
- Mark Levinson
- Lutron
- Gryphon
- Chord
- Boulder
- Cary
- C.A.T.
- Clear Audio
- Denon
- Electrogas
- Electrograph Delphi
- Gryphon
- Graham
- Integra
- M Lab
- Kreafem
- Lavardin
- Linn
- Loewe
- Lyndon
- Magico
- Michell Eng.
- MBL
- Naim
- NEC
- Nordost
- Oracle
- Ortofon
- Plinius
- PM C.
- Primare
- Project
- Quadraspire
- REL
- Roksan
- Rotel
- Ruark
- Seleco
- SME
- Smith Wire
- Sugden
- Tara Labs
- Tec
- Tetons
- Transfiguration
- Trichord
- Triode
- Van den Hul
- VPI
- Wilson Audio
- Wilson Research
- YBA

**Choice this month**

**NEW**

- Primare P30 Processor
- Plinius 8200P
- Cary SLpx 1 (MEM with Phono)
- Linn Bass Active Card
- Plinius SA50
- Krell KSA 80B
- Bel Canto 280DR
- Cello Performance 2 Monoblocks
- Primare Diavolo (Active)
- Quadraspire D303
- VPI Streamline 250 mk II
- Krell KSA 250
- Cello Performance 2 Monoblocks
- Primare Diavolo (Active)
- Quadraspire D303
- VPI Streamline 250 mk II
- **New**

**Home Cinema**

- Exposure VPR pre + X10 pre
- Audio Research LS1
- Audio Research LS7
- Musical Fidelity F22
- Audio Research LS1
- Audio Research LS7
- Musical Fidelity F22
- Audio Research LS1
- Audio Research LS7

**SPEAKERS**

- Martin Logan ESL
- Linn 3000 LFR
- Krell KSA 250
- Plinius 8200P
- Linn Bass Active Card
- Plinius SA50
- Krell KSA 80B
- Bel Canto 280DR
- Cello Performance 2 Monoblocks
- Primare Diavolo (Active)
- Quadraspire D303
- VPI Streamline 250 mk II

**Power Amplifiers**

- Krell KSP 2249
- Krell KSP 2249
- Krell KSP 2249
- **New**

**DACs**

- Taramond Reference Phono
- Audio Research LS1
- Audio Research LS7
- Musical Fidelity F22
- Audio Research LS1
- Audio Research LS7
- Musical Fidelity F22
- Audio Research LS1
- Audio Research LS7

**Audio Components**

- Primare P30 Processor
- Plinius 8200P
- Cary SLpx 1 (MEM with Phono)
- Linn Bass Active Card
- Plinius SA50
- Krell KSA 80B
- Bel Canto 280DR
- Cello Performance 2 Monoblocks
- Primare Diavolo (Active)
- Quadraspire D303
- VPI Streamline 250 mk II

**Audio Components**

- Plinius 250 mk II
- Linn Classic
- Mark Levinson No 27
- Linn Classic
- Mark Levinson No 27
- Linn Classic
- Mark Levinson No 27
- Linn Classic
- Mark Levinson No 27
- Linn Classic
- Mark Levinson No 27
- Linn Classic
- Mark Levinson No 27

**AV Components**

- Exposure VPR pre + X10 pre
- Audio Research LS1
- Audio Research LS7
- Musical Fidelity F22
- Audio Research LS1
- Audio Research LS7
- Musical Fidelity F22
- Audio Research LS1
- Audio Research LS7

**PLASMA/LED/PROJECTORS**

- Sony VPL-AW10
- Sony VPL-AW10
- Sony VPL-AW10
- Sony VPL-AW10
- Sony VPL-AW10
- Sony VPL-AW10

**Myth TV**

- Sony VPL-AW10
- Sony VPL-AW10
- Sony VPL-AW10
- Sony VPL-AW10
- Sony VPL-AW10
- Sony VPL-AW10

**Miscellaneous**

- Exposure VPR pre + X10 pre
- Audio Research LS1
- Audio Research LS7
- Musical Fidelity F22
- Audio Research LS1
- Audio Research LS7
- Musical Fidelity F22
- Audio Research LS1
- Audio Research LS7

**Shopping List**

- Exposure VPR pre + X10 pre
- Audio Research LS1
- Audio Research LS7
- Musical Fidelity F22
- Audio Research LS1
- Audio Research LS7
- Musical Fidelity F22
- Audio Research LS1
- Audio Research LS7

**Contact Information**

- Tel: 020 8392 1959
- Fax: 020 8392 1963
- info@choice-hifi.com

Open from 10am to 6pm Mon-Sat and other times by appointment.
Buy, sell, exchange quality hi-fi equipment.
We accept all major credit cards. Finance available subject to status.
My own personal favourite Roxy Music album is 'Avalon'. It's an unfashionable choice - lacking as it does the redoubtable talents of Brian Eno, it's by no means as innovative, edgy or experimental as the likes of 'Roxy Music', 'For Your Pleasure' or 'Stranded'. Released in May 1982, the band's eighth studio album is actually quite significant, inasmuch as it proved the band's closure in the studio during recording, with the band pulling away from the record company to attend the launch party of the new SACD pressing of 'Avalon'. Not only did it offer the chance to hob-nob with the three band members at Soho's swanky Groucho club, but I'd have a chance to speak to producer Rhett Davies about how he achieved that brilliant sound. After thinking about the offer for all of three tenths of a second, I graciously accepted.

On a baking June afternoon, yours truly braved the London heat to get over to the Groucho. Upstairs I had a chance to drink beer and chat with the people behind the new Super Audio Compact Disc release. It was an impressive event, all done in the best possible taste and with no small measure of style. However, when I finally got the chance to 'interrogate' Rhett on the precise details of the new superbly packaged, shiny new SACD, things went swiftly downhill...

I started by saying how nice I thought the original vinyl pressing sounded, and he agreed. I then said that SACD would be an ideal vehicle for the re-release, with its nicely warm and detailed sonics well able to capture the delicacy of the original analogue master tapes. Instead of nodding emphatically, he dropped a bombshell. "Err, you know that this SACD is taken from DAT masters, don't you...?"

Suddenly, the room started spinning. It wasn't through an excess of ice-cold Budvar (which I'd been drinking for purely medicinal reasons), but Rhett's revelation that the SACD would be an ideal vehicle for the theoretical benefits of Direct Stream Digital coding - multichannel mixes notwithstanding. Why?

Because it had come straight from an old 16bit, 48kHz PCM digital tape recording! Whilst the PR blurb had taken great pains to point out the sonic benefits of SACD, the album's producer had just told me that they'd cut it from a second generation digital copy made sometime in the late nineteen eighties!

Apparently, the masters had been recorded onto a faulty batch of Ampex 560 which had been stored incorrectly, and its poor adhesive quality caused it to start shedding oxide. Then the engineers noticed the SACD, the album's producer had just told me that they'd cut it from a second generation digital copy made sometime in the late nineteen eighties!

In an adjoining room at the Groucho Club, the new multichannel mix was being played through £50,000 of monitoring equipment, including five top B&W studio monitors. It sounded deeply mediocre. I told Rhett that I'd heard far better from my old Rega Planar 3, NAD 3020 and Tannoy Mercury system on which I'd originally played the album back in 1982. He didn't look surprised - an early eighties vinyl pressing is, after all, far closer to the original (now tragically defunct) analogue master tapes...

All I can say is that - if this is what's going on behind the scenes of most 'high resolution' digital reissues - then heaven help hi-fi.
This is a comprehensive directory of Hi-Fi Dealers throughout the United Kingdom and Ireland.
A reference guide to Britain's manufacturers and distributors

AUDIO SYNTHESIS Manufacturers of the outstanding DAX digital to analogue converter, comes DAX-2, a new Hi-End reference converter able to digitize music at 24-bits and 192kHz into the digital source than ever before! A new addition to the superb PASSION series of all Viskay converters has just been introduced in the form of PASSION 3 & 4, a fully remote controlled uniquely transparent passive preamplifiers, the perfect match for DESIRE. By word of mouth our DESIRE power amplifier is rapidly convincing listeners, whether passive or active! New for 1997 is TRANSCEND a state of art CD transport with AES, coaxial, AT&T link and TDI link outputs. Audio Synthesis, PO BOX 50, Nottingham, NG9 1DZ, Tel: (+44) (0)115 922 4138, Fax: (+44) (0)115 922 9701.

BORDER PATROL 63 Berriadele Avenue Hove BN2 4JD Tel/Fax 01273 276716. Manufacturers of Power Supply Units for Valve amplifiers, Single-Ended Power Amplifiers and high quality Transformers. The Border Patrol PSU valve rectified choke input filter power supply units which dramatically improves the sound of valve amplifiers. Models available to suit Audioline, Audio Innovations, Audion, Art Audio, Cary, Unison Research, World Audio Designs. The Border Patrol 300B SE single-ended valve amplifier featuring interstate driver transformers and valve rectified choke input filter power supplies. Border Patrol transformers; high quality output, input, interstage and pre-amp output transformers and high value inductors.

CREEK AUDIO LTD 12 Averbury Court, Mark Road, Hemel Hampstead, Herts, HP2 7TA. Tel: 01442 260146. Email info@creekaudio.co.uk Internet:www.creekaudio.co.uk - Creek Audio builds stylish Hi-Fi products in the UK, combining state of the art electronic design, with full bodied, accurate and musically rewarding sound. Our standard size products come in two award-winning ranges, the entry level 43 series and higher priced 53 series. These include C343 Mk2, CD player with 24 bit resolution DAC, T43 AFG/MFM Tuner, Integrated Amps - 830, 830SE and 430 Mk2 (described by Stereophile Magazine as the best amp under £1,000). Our A43 Mk2 and A53 Power Amps range from 50 to 250 Watts and both P43 and P53 Pre-Amps offer passive and active operation with remote control. In addition to this we have an award winning OBH range of small products, OBH/8/SIE MM and OBH/9 MC Phono Pre-Amplifiers, OBH/11 and OBH SE Headphone Amplifiers, OBH/10-1 and 12 Remote Control Passive Pre-Amps and OBH/14 - 24 bit DAC. See our home page for further details or call us for leaflets.

DIFS AUDIO, PO BOX 91, Bury St Edmunds, Suffolk, IP32 7JP. Phone: 01284 729393 Fax: 01284 729333. Supplying Precision, Electro-Acoustic, measuring equipment and CAD software to the audio industry NEW: Claro win and Claro win Lite, the latest Windows versions of the Globally-established Claro Electro-Acoustic measuring system, used for loudspeaker design, Quality Control and electronics testing by many major audio companies. Claro win is the攨nt of the Claro series and Claro win Lite a lower-cost version for smaller companies and serious hobbyists. Both use the same purpose-built Claro HR200 ISA card, with its in-built mic, preamp and software for acoustical crossover design. Also available: Bxocular and Boxdrake bass optimisation packages and Outline speaker measuring turntable. Write or E-mail us and we will send fuller information and prices. Also, visit Audiomatica's new Website at: www.audiomatica.com.

EPOS ACOUSTICS 2 Averbury Court, Mark Road, Hemel Hampstead, Herts, HP2 7TA. Tel: 01442 260146. Email info@epos-acoustics.com Website: www.epos-acoustics.com Innovative design and superior sound distinguish EPOS speakers from other brands in a similar price range. Adhering to the EPOS tradition of musicality and communication, the new M12 follows closely the style of the successful E512, and was awarded five gold stars in the March 2001 edition of What Hi-Fi? for more information about the M12 or the new M13 please see our home page or call us for leaflets.

FALCON ACOUSTICS LTD Tabor House, Norwich Road, Mulbarton, Norwich, Norfolk NR14 1BT. Tel: (01493) 376772. UK distributors of FOCAL drive units and SOLENI (Chateauroux) polypropylene capacitors and the largest importer manufacturer in the UK. Comprehensive range of DIY Speaker Parts and Kits, Sub-Bass and Electronic Filters. "Everything but the wood" Enquiries should be accompanied by a 4p stamped addressed envelope.

LANGREX SUPPLIES LTD 1 Mayo Road, Croydon, Surrey, CR0 2QT. Tel: 020 8848 1166 Fax: 020 8848 3056. One of the largest distributors of electronic tubes, valves and semi-conductors to the UK, and USA manufacturers. We specialise in obsolete types including original UK, and USA made audio valves. Telephone or fax for an immediate quotation.

NORTON TECHNOLOGIES LTD Manufacturers of the acclaimed Audiofier LP12 Power Supply, 14 Rothesay Avenue, Chelmsford CM2 9BU. (01245) 283125

PLATFORM 7 High density marble ISOLATION PLATFORMS for all makes of equipment RACKSTANDS. An elegant way to upgrade your gear. Beautifully made, clearer, better. Available in a wide range of styles. Platform 7, 3 Abbotts Drive, North Wembley, London, NW10 6BY. Tel: 020 8904 2646. Also NEALGAR DISTRIBUTION Tel/Fax 01296 404088 email info@jesugden.co.uk.

PMC/BRYSTON Emmy award winning manufacturers of the highest quality loudspeakers and amplification. Industry standard in Mastering, Film Scoring, Broadcast and Post Productions. (5.1 & Stereo) PMC Products: Compact, Floorstanders, and Larger Monitor & active monitors. Prices range from £500 to £2,000,000. Finished in a large selection of exquisite real wood veneers, all PMC loudspeakers are available in horizonally paired, centre channels and complementary subs for 5.1 surround systems. Bryston's balanced range of products includes A/B (lab) system and Integrated, Amp modules for all the PMC range, Monor, Stereo 150W to 800w per ch, 3 Ch, 4 Ch and 5 channel THX amplifiers, Surround processors, all up to distortion figures and bass response to die for. Every product is available in silver backed by a 20 year warranty. PMC Ltd 43-45 Crawley Green Road, Luton, LU2 0KA. Tel: 01582 411044 Fax 01582 411045 Email: sales@promotorex.co.uk Web: www.pmc-speakers.com

REL ACOUSTICS North Road, Bridgend Ind Est, Bridgend, Mid Glamorgan, CF31 3TP UK. Tel: 01656 786 777, international (+44) 656 786 093. Email contact@rel.co.uk http://rel.net The UK's only specialist sub-bass speaker manufacturer. The only one that understands and manufactured a home demo and find out what the fuss is all about.

RDE TANDBERG HI-FI SERVICES Holly Tree House, The Green, Full Sutton,YORK YO4 1HW. Tel: 01759 372795. The service, overhaul and reconditioning of all Tandberg hi-fi products regardless of age.

SOUND IMAGE UK LTD. 52 Milton Road. London SW14 6R. Tel: 020 - 8255-6888. Importers and distributors of the finest audio equipment, featuring the stunning Bösendorfer 2000 series and the complete range from Norwegian manufacturer Electrocompaniet.

SUGDEN AUDIO PRODUCTS Designed and manufactured in the UK each Sugden product is hand-built by one highly skilled technician. A full range of pure class A amplifiers are available including integrated, stereo power and the incredible Masterclass balanced monoblocks. Our stunning Biaso system now comes with a single-ended pure class A Power Amplifier with optional integral stand. Two analogue tuners have joined our range, the A35, the Cinemaster and B, Biaso series, offering a digital user interface with excellent facilities. Each amplifier series has a matching CD player with a class A output stage heavily modified transport. The class A HeadMaster offers a pre-amp with three inputs a fixed and variable output with remote control. The HeadMaster can be used as a control unit in a high quality audio system and excels with headphones. Please contact us for product information, dealer list and brochures. 01924 404088 email info@tagmclarenaudio.com.

TALK ELECTRONICS Unit 12, Farnborough Business Centre, Eelmoor Road, Farnborough, Hampshire, GU14 7XA. Tel: 01252 370383. Please ring for details.

TAG McLAREN AUDIO - The Summit, 11 Latham Road, Huntington, Cambs, PE1 8EU. Tel: 0144 (4) 1400 415600 Fax (++4) 1400 52159. Combining science and technology with distinct style, TAG McLaren Audio's complete range of audio and audio-visual products are designed to bring maximum pleasure to the discerning listener. To find out more visit our website at www.tagmclarenaudio.com or call us on HelpDesk@tagmclarenaudio.com or contact our helpdesk on freephone 0800 783 8007.

techlink distributes some of the best performing hi-fi and av accessories currently available in the UK. These include: Puresonic, best admired for its range of high performance interconnects and connectors, and cable adapters for a wide variety of hi-fi and av applications in its range; techlink's own brand of high quality interconnects and connectors - digital compatible, 24k gold plated metal connectors; and hi-fi furniture - a selection of high quality speaker stands, AV racks, and a range of cable management and cable racks. For more information, contact techlink International, Unit 8, Bat and Ball Enterprise Centre, Bat and Ball Road, Sevenoaks, Kent, TN14 7GD. Tel: (+44) (0)1732 779400 Fax: (++4) 1732 4934.

To advertise in Meet Your Maker please call Amanda Sweeney on 0208 864 4760

manufacturers
specialist hi-fi dealers

LONDON

THE INNOVATIVE HIFI, HOME CINEMA, AND MULTI ROOM RETAILER/INSTALLER

ORANGES & LEMONS

Friendly and efficient service
0% finance
JUICY FRUIT FROM LONDON'S FRESHEST RETAILER

Stowmarket (01449) 675060

We aim to provide a well chosen selection of quality hi-fi and accessories including:

FMG, ARCAM, B&W, NAUTIUS,
DYNAVOX, LINK, LOEWE, MERRIDIAN,
M&K, NAIM, PIONEER, PROCEED,
NEAT, REGA, ROTEL, SANMINAN
TAMARA + more

www.infidelity.co.uk

Infidelity
INDECENTLY GOOD HI-FI

9 High Street, Hampton Wick,
Kingsford Upon Thames, Surrey KT1 4DA
Tel: 020 8943 1530

SOUTH

WORTING AUDIO

27 BOND STREET, EALING
LONDON W5 5AS
TEL. 081 - 567 8703
Audio Analogue, Art Glass, Ash Designs, Avik, B&O,
B&W, Cabasse, Chord Company, Creek, Denon, Epos,
Harman Kardon, Infinity, KRF, Lati, Merantzi, Musical
Pikery, NAD, Naim, Nordost, Ortofon, Onkyo,
Primare, Quad, Roksan, Rotel, Ruark, Semhreiser,
Sound King, Sound Style, Stands Unique, Straightwire,
Supre, Tag McAlans, Tanger, Teac, Thorens, van den Hum

20 Tufnel Gate, W. Sussex BN1 4UA
(01903) 212133
The friendly shop with the best sound system in the South.

Valve & Transistor Amplifiers

Tubecraft, GARRARD - PROJECT - ORTOFON -
Control Hybrid Integrated Valve Amplifier CROFT -
VOODOO Isolation platforms/Loudspeakers,
Equipment Stands and 7/Turntable lift off Perspex Covers.

Front End Problem?

SOUTH WEST

SOUTH WEST ANALOGUE

TEL: (0117) 969 3899
South West Analogue - Services & Repairs

SME - MICHELL - NOTTINGHAM ANALOGUE -
LORICRAFT GARRARD - PROJECT - ORTOFON -
TUBE TECHNOLOGY 64bit Valve CD Player, Remote
Control Hybrid Integrated Valve Amplifier CROFT

Valve & Tubes

CVC

Chelmer Valve Company

www.chelmervalvecompany.co.uk

Buy CVC. PREMIUM HI - Fi valves direct from us.
All valves processed for improved performance.
We also have stock of MAJOR BRAND types Inc.
MULLARD, GEC, BRIMAR, RCA, GE, PHILLIPS, etc.

www.directdisc.demon.co.uk

MAIL ORDER

there's something new going on at Russ Andrews...
rumours are circulating about a brand new range of equipment that looks as good as it sounds... all will be revealed in the Stansted Room at the Hi-Fi Show and AV Expo, Renaissance Hotel, Heathrow.


pre-order your copy of the NEW Equipment brochure by calling UK Freephone 0800 373467 quoting AH103

www.chelmervalvecompany.co.uk

MAIL ORDER

there's something new going on at Russ Andrews...
rumours are circulating about a brand new range of equipment that looks as good as it sounds... all will be revealed in the Stansted Room at the Hi-Fi Show and AV Expo, Renaissance Hotel, Heathrow.


pre-order your copy of the NEW Equipment brochure by calling UK Freephone 0800 373467 quoting AH103

discover a new sound

Russ Andrews Accessories Ltd.
FREEPOST NW8818, KENDAL LA8 9ZA
Tel: 0044 1539 825500 Fax: 0044 1539 825540
E-mail: AH103@russandrews.com

Services & Consultants

Front End Problem?

The Cartridge Man

It doesn’t have to cost an arm and a leg to get the best - listen to my Koetsu - and Decca - eater.

Also agents for Croft, Hadcock, E.A.R., Michell & Mods.

plus cartridge re-tipping service

020 8688 6565
Website: www.thecartridgeman.com

atv

ATV SERVICES

LEATHERHEAD

01372 456921

VINYL

THE DIRECT DISC

Vinyl Vinyl Vinyl

Thousands of records always in stock.
+ a full range of sought after compact discs.
Extensive search service for wanted albums.
Comprehensive 96 page full catalogue available at £1.50
Telephone / Fax 01992 447764
Or visit our web site on www.directdisc.demon.co.uk

atv

Service & Repairs

Valve & transistor amplifiers

Vinyl Valve Radios

Hi-fi VCR’s

Valves tested
your ideal system from the best sound, about choosing dreams. Quality hi-fi is not just
Choice

- Wilson Research
- VPI
- Transfiguration
- Totem
- Sugden
- REL
- Quad raspire
- Project
- Musical Fidelity
- J M Lab
- Egglaston Works
- DNM
- Egglaston Works
- Electrograph Delphi
- Genelec
- Gryphon
- Audible Illusions
- Audio Physic
- B.A.T.
- Boulder
- Bryston
- Can
- C.A.T.
- Chord
- Clear Audio
- Denon
- Egglaston Works
- Naxos
- NEC
- Nordost
- Oracle
- Ortofon
- P.M.C.
- Primare
- Project
- Quadraspire
- REL
- Rockport
- Roksan
- Rotel
- SELECO
- SME
- Straight Wire
- Sudden
- Tara Labs
- Teac
- Totem
- Transfiguration
- Trichord
- Trilogy
- Van Den Hul
- VPI
- Wilson Audio
- Wilson Research
- YBA
world classics

In this heavily revised section, you'll find the great and the good from audio's glorious past. Most are seminal designs which have earned their place in hi-fi history, but you'll also see some oddities which aren't classic as such, but are great used buys. The year of introduction is given, alongside the original UK launch price. Think we've overlooked something? Then write in and let us know!

DIGITAL

CAMBRIDGE AUDIO CD11986 [£1500]
Inspired Stan Curtis redesign of Philips CD1104, complete with switchable digital filter. Lean but tight and musical performer.

CAMBRIDGE AUDIO CD 4SE 1998 [£200]
A touch soft in the treble and tonally light, but outstanding in every other respect.

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

MARANTZ CD73 1993 [£700]
A riot of gold brushed aluminium and LEDs, this distinctive machine squeezed every last ounce from its 14x4 DAC—super musical.

MARANTZ SA-i 2000 (£5,000)
The greatest argument for SACD. This sublime Ken Ishiwata design is utterly musically convincing with both CD and SACD, beating some 'classics' that succeeded it.

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

COMPACT DISC TRANSPORTS

ESOTERIC P0 1997 (£6,000)
The best CD drive bar none; TEAC's Tokyo boys pushed the boat out in style. Brilliantly inclusive, ridiculously over engineered.

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

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

DACs

CAMBRIDGE-AUDIO DACHIGI 1995 (£499)
Good value upgrade for budget CD players with extensive facilities and detailed sonics.

DCS ELGAR 1997 (£6500)
Extremely open and natural performer, albeit extremely pricey - superb.

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

PINKTRIANGLE DAPACPO 1993 (£600)
Exquisite; the warmest and most lyrical 16bit digital audio we have ever heard. Clever plug-in digital filter modules really worked!

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

TURNTABLES

ARISTON RD11S 1972 (£99)
Modern evolution of Thorens' original belt drive paradigm. Scotland's original super-deck was warm and musical, albeit soft. Still capable of fine results today.

DIJAL C550S 1982 (£75)
Simple high quality engineering and a respectable low mass tonearm made for a brilliant budget buy. Polished, smooth and slightly bland sound.

GARRARD 301/401 1953 (£19)
Heavy metal - tremendously strong and articulate with only a veiled treble to let it down. In many respects, better than the seventies 'superdecks' that succeeded it.

GOLDRING LENCO 88/89 1963 (£15.65)
Simple, well engineered lightweight with soft, sweet sound and reasonable tonearms. Good spares and servicing support even today from specialists.

LINN AXIS 1987 (£253)
Simplified cut-price version of the Sondek complete with LVX arm. Elegant and decently performing mid-price package. Later version with Akito tonearm better.

LINN SONDEK LP12 1973 (£46)
For many, the Brit superdeck; constant mods meant that early ones sound warmer and more lyrical than modern versions. Beguilingly musical but now off the pace.

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

MICHELL GYRODEC 1981 (£599)
Thanks to its stunning visuals, this bold design wasn't accorded the respect it deserved until recently. Early examples sound cold and mechanical, but now right on the pace. Clean, solid and architectural sound.

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

ROKSAN XERXES 1984 (£550)
Supposedly the first to 'better' the LP12. Super tight and clean sound, with excellent transients. Less musical than the Sondek, but more neutral. Sagging plinth top-plates make them a dubious used buy.

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

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

TOWNSHEND ROCK 1979 (£N/A)
The product of academic research by the Cranfield Institute, this novel machine has an extremely clean and fluid sound. Substantially modified through the years, and capable of superb results even today.

TRIO LO-7D 1978 (£600)
The best 'all-in-one' turntable package ever made. Trio/Kenwood threw their 'engineering best practice' book at this one with startling results. Clean, powerful and three-dimension-al sound, ultimately limited by the tonearm.

MERIDIAN MCD 1984 (£600)
The first British 'audiophile' machine was a sweeter, more detailed Philips CD101. 16x4 never sounded so good, until the MCD Pro arrived a year later.

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

NAIM CD5 1990 (£N/A)
Classic Philips 16x4 chipset with serious attention to power supplies equals grin-inducing sonics.

SONY CDP-101 1992 (£600)
The first Japanese CD player was powerful and involving. Brilliant transport more than compensated for 16x2 DAC, and you even got remote control!
"My tubes are impossible to get hold of!"

Why choose Tube-Shop.com
- Over 2,500 different tube types in stock at all times
- We offer you the best prices around, Guaranteed
- UK's first fully online tube ordering system
- Expert matching service by PM Valve Labs
- We sell only the world's BEST brands
- Next day delivery (if ordered before 3pm)
- Free delivery (on all orders over £50)
- MONEY BACK GUARANTEE
- Trade enquirers welcome

Visit The Tube Shop
www.tube-shop.com

You can even telephone your order
0870 9220404

MANTRA AUDIO
Specialist Suppliers of Audio Accessories
www.mantra-audio.co.uk

CARTRIDGE SELECTION

<table>
<thead>
<tr>
<th>Model</th>
<th>Single Price</th>
<th>Double Price</th>
<th>EX Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio Technic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AT-97</td>
<td>£39</td>
<td>£42</td>
<td>£55</td>
</tr>
<tr>
<td>AT-110E</td>
<td>£44</td>
<td>£48</td>
<td>£65</td>
</tr>
<tr>
<td>AT-110 MKII</td>
<td>£39</td>
<td>£42</td>
<td>£55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Single Price</th>
<th>Double Price</th>
<th>EX Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grado</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prestige Black</td>
<td>£40</td>
<td>£44</td>
<td>£60</td>
</tr>
<tr>
<td>Prestige Gold</td>
<td>£49</td>
<td>£54</td>
<td>£74</td>
</tr>
<tr>
<td>Prestige Gold</td>
<td>£49</td>
<td>£54</td>
<td>£74</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Single Price</th>
<th>Double Price</th>
<th>EX Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goldring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G800</td>
<td>£22</td>
<td>£25</td>
<td>£32</td>
</tr>
<tr>
<td>JVC DT 55, DT 60</td>
<td>£24</td>
<td>£28</td>
<td>£38</td>
</tr>
<tr>
<td>Nabonal EPS 24 CS, P 30 D, E 33 D</td>
<td>£28</td>
<td>£30</td>
<td>£40</td>
</tr>
<tr>
<td>Chilton FF 15 E II, VMS 20 E 11, OM 20</td>
<td>£30</td>
<td>£33</td>
<td>£43</td>
</tr>
<tr>
<td>Pioneer PN 210, PN 220, PN 240</td>
<td>£32</td>
<td>£37</td>
<td>£50</td>
</tr>
<tr>
<td>Shure N 75C SC 35 C</td>
<td>£34</td>
<td>£38</td>
<td>£50</td>
</tr>
<tr>
<td>Sony ND 142 G, ND 155 G, CN234</td>
<td>£36</td>
<td>£40</td>
<td>£50</td>
</tr>
<tr>
<td>Sony ND 143 G, ND 150 G, ND 200 G</td>
<td>£38</td>
<td>£42</td>
<td>£52</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Single Price</th>
<th>Double Price</th>
<th>EX Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kontrapunkt B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rohmann</td>
<td>£42</td>
<td>£47</td>
<td>£65</td>
</tr>
<tr>
<td>Shure M 97 XE</td>
<td>£59</td>
<td>£63</td>
<td>£85</td>
</tr>
<tr>
<td>V 15 V XMR</td>
<td>£67</td>
<td>£74</td>
<td>£97</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Single Price</th>
<th>Double Price</th>
<th>EX Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sumiko</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue Point Special</td>
<td>£250</td>
<td>£277</td>
<td>£375</td>
</tr>
</tbody>
</table>

REPLACEMENT STYLI

<table>
<thead>
<tr>
<th>Model</th>
<th>Single Price</th>
<th>Double Price</th>
<th>EX Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADC X1M Mk III</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ake AN 5 AN 60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AN2, AN 70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goldring G800</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JVC DT 55, DT 60</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nabonal EPS 24 CS, P 30 D, E 33 D</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chilton FF 15 E II, VMS 20 E 11, OM 20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pioneer PN 210, PN 220, PN 240</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shure N 75C SC 35 C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sony ND 142 G, ND 155 G, CN234</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sony ND 143 G, ND 150 G, ND 200 G</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Single Price</th>
<th>Double Price</th>
<th>EX Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kontrapunkt B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rohmann</td>
<td>£42</td>
<td>£47</td>
<td>£65</td>
</tr>
<tr>
<td>Shure M 97 XE</td>
<td>£59</td>
<td>£63</td>
<td>£85</td>
</tr>
<tr>
<td>V 15 V XMR</td>
<td>£67</td>
<td>£74</td>
<td>£97</td>
</tr>
</tbody>
</table>

HEADPHONE SELECTION

<table>
<thead>
<tr>
<th>Model</th>
<th>Single Price</th>
<th>Double Price</th>
<th>EX Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRADO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prestige Series</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SR-60</td>
<td>£85</td>
<td>£91</td>
<td>£120</td>
</tr>
<tr>
<td>SR-80</td>
<td>£104</td>
<td>£111</td>
<td>£150</td>
</tr>
<tr>
<td>SR-125</td>
<td>£152</td>
<td>£160</td>
<td>£220</td>
</tr>
<tr>
<td>SR-225</td>
<td>£199</td>
<td>£210</td>
<td>£300</td>
</tr>
<tr>
<td>SR-325</td>
<td>£294</td>
<td>£310</td>
<td>£450</td>
</tr>
<tr>
<td>RS-1</td>
<td>£641</td>
<td>£690</td>
<td>£1000</td>
</tr>
<tr>
<td>RS-2 (new)</td>
<td>£495</td>
<td>£530</td>
<td>£750</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Single Price</th>
<th>Double Price</th>
<th>EX Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference Series</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SR-5</td>
<td>£18</td>
<td>£20</td>
<td>£30</td>
</tr>
<tr>
<td>SR-2 (new)</td>
<td>£18</td>
<td>£20</td>
<td>£30</td>
</tr>
</tbody>
</table>

FREE – Exchange price for MC from above companies

MAIL ORDER (1-10 DAYS) PRICES (INC P&P) + INSURANCE FOR UK DELIVERY - £5 FOR EUROPE DELIVERY & £12 FOR US WORLDWIDE DELIVERY. TO COVER INSURANCE ON ORDERS OVER £50 VALUE

Tel/Fax (01757) 288652 e-mail: enquiry@mantra-audio.co.uk

MANTRA AUDIO (HQ) 72 GARTH AVENUE, NORTH DUFFIELD, SELBY, NORTH YORKS YO8 5RP

01235 511166 www.henleydesigns.co.uk
SOUND SYSTEMS

allowances against the new UNIDISK 1.1 and control products, and spend.

and its cheaper RB250 brother better still. Absolute terms. Responds well to tweaking, the pace now, though.

This early Japanese example of the tonearm art has a smooth, lyrical sound. Imported by Linn, fitted to early LP12s. Sonically way off the pace now, though.

HADDOCK GH228 1976 [£446]

Evergreen unipivot with lovely sweet, fluid sound — although bass and dynamics are limited. Excellent service backup.

LINN ITTOK LVII 1978 [£253]

Arguably the first 'superarm'; Japanese design to Linn specs made for a muscular, rhythmic sound with real dynamics. Now off the pace, but the final VIII version worth seeking out.

NAIM ARO 1986 [£875]

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

REGA RB100 1983 [£68]

Inspired budget esoterica. Detailed, tight, neutral sound but tonally grey sounding in absolute terms. Responds well to tweaking, and its cheaper RB250 brother better still.

SME 3009 1959 [£168]

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

SME SERIES III 1979 [£113]

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

TECHNICS EPA-501 1979 (£N/A)

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

INTEGRATED AMPLIFIERS

A&R A60 1977 [£115]

Sweet and musical feature-packed integrated; the Audiolab 8000A used its blueprint to great effect.

AUDIOLAB 8000A 1985 (£4955)

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

CREEK CAS4040 1993 [£1505]

More musical than any budget amp before it; CAS410 loses tone controls, gains grip.

MCINTOSH MA680 1995 [£3735]

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

MISSION CYRUS 2 1984 [£2995]

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

MUSICAL FIDELITY A1 1985 [£3505]

Beguiling Class A integrated with exquisite styling. Questionable reliability.

MYS TMA3 1983 [£3005]

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

NAD 3020 1979 [£695]

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

NAIM NAIT 1984 [£3505]

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

ROGERS CADET III 1985 [£340]

Sweet sounding valve integrated, uses ECL86 output valves, even has a half useable phono stage, sweet, warm a good introduction to valves.

ROTEL RA-820BX 1983 [£1195]

Lively and clean budget integrated that arguably started the move to minimalism.

SUGDEN A2 1969 (£N/A)

Class A transistor integrated with an eminently likeable smoothness and musicality. Limited inputs via DIN sockets.

PREAMPLIFIERS

AUDIOLAB 8000C 1991 (£4995)

Tонаly grey but fine phono input and great facilities make it an excellent general purpose tool.

CROFT MICRO 1986 [£1150]

Budget valve pre-amp with exceptionally transparent performance.

LEAK POINT ONE STEREO 1958 (£N/A)

Good for their time, but way off the pace these days. Use of E86 pentode valve for high gain rules out ultra performance. Not the highest-fi.

LEACON AC-I 1973 (£N/A)

Amazing styling courtesy of Allan Boothroyd can't disguise its rather cloudy sound, but a design classic nonetheless.

The Linn Annual summer promotion offers existing customers who own selected Linn source and control products, generous trade-in allowances against the new UNIDISK 1.1 and KISTO.

Offer Closes 30/9/03.

Now is a great time to upgrade your system! From now until September we are offering a special trade-in value for: Mimik, Genki, Karik, Ikemi and AV5103 owners.

We have added extra value to the Linn guaranteed trade in making this a very special summer promotion indeed. Call sales to find out more and book your audition now!
The Salisbury company came of age with this, tweaking/rebuilding though...

The partner to the much vaunted Quad II pre isn’t outstanding. Responds well to QUAD 33 1968 [C43]
it’s for anacrophiles only.

Better than the 22, but Quad’s first tranny working.

Overhauling is de rigeur before use, using Early classics that are getting expensive.

Authentic reproduction monoblocks still more with decent power and drive. Surprisingly 'tower of power' pretensions, but it wasn't.

It couldn't match the Japanese.

Another of the serious classic solid-staters.

Brilliant affordable digital tuner has a smooth, detailed musical sound plus sensible real-world facilities.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The very best sounding Nakamichi ever - but lacks the visual drama of a Dragon.

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

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

Reputedly the best of the classic Jap analogues, this combines sleek ergonomics, high sensitivity and an explicit, detailed sound.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

Another of the serious classic solid-staters.

Brilliant affordable digital tuner has a smooth, detailed musical sound plus sensible real-world facilities.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.

The warm, atmospheric sound is further proof of Naims proficiency with tuners.
PIONEER C7F-950 1978 [£400]
Not up to modern standards sonically, but a great symbol of the cassette deck art nonetheless.

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

Yamaha TC-800GL 1977 [£179]
Early classic with ski-slope styling courtesy of Mario Bellini. Middling sonics by modern standards, but cool nonetheless!

DIGITAL RECORDERS
KENWOOD DM-9090 1997 [£500]
Serious and sophisticated sound thanks to well-implemented ATRAC 4.5; surprisingly musical MD recorder.

MARANTZ DR-17 1999 [£1100]
This seminal full-range driver is still manufactured. High sensitivity, as fitted to many classic horn designs.

SONY MDS-JE555ES 2000 [£1900]
The best sounding MD deck ever, thanks to awesome build and heroic ATRAC-DSP Type R coding.

LOUDSPEAKERS
JR 149 1977 [£120]
Infamous cylindrical speaker that was ignored for decades but now back in fashion! Based on classic KEF T27 / B110 combo as seen in the BIC L535s. Doesn't play loud, needs a powerful transistor amplifier, but rewards with fine clarity in imaging.

LOWHER PM6A 1957 [£18 EACH]
This seminal full-range driver is still manufactured. High sensitivity, as fitted to many classic horn designs.

MAGNEPLANAR SMGA198X [£800]
Technological loudspeaker with genuinely musical abilities; fast, smooth, open, dry.

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

MISSION 770 1980 [£1375]
Back in its day, it was an innovative product and one of the first of the polypropylene designs. Warm, smooth, clean and powerful sound.

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

QUAD ESL57 1956 [£45 EACH]
Wonderfully open and neutral sound puts box loudspeakers to shame. Properly serviced they give superb midband performance, although frequency extremes less impressive. Ideally use in stacked pairs or with subwoofers and super-tweeters.

QUAD ESL43 1980 [£1200]
An update of the ESL57, with stiffer cabinets. Until the 989, the best of the Quad electrostatics.

YAMAHA NS1000 1977 [£532]
High tech Beryllium midband and tweeter domes and brash 12" woofers in massive sealed mirror image cabs equals stunning transients, speed and wallapa added to superb transparency and ultra low distortion. Partner carefully!

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

EXCELLENT VALUE PRE - OWNED BARGAINS
SECONDHAND UNITS WITH WARRANTY 24HR DEL ONLY £5. CHECK AVAILABILITY BEFORE ORDERING
CALL SALES: (020) 8318 5755 or 8852 1321 - 248 Lee High Road, London, SE13 5PL
0% APR is available on purchases of more than £560. Please call for details. Prices set at time of press. E&OE
These are the best products we've heard that are currently on sale in the UK, complete with the date they were originally launched and their current retail prices. Watch out for regular updates...!

**TURNTABLES**

**AN TT/ARM ONE/1Q** 1998 £735
Redesigned Systemdek IX now off the pace, but the arm and cartridge are both star performers.

**LINN LP12/ LINGO** 1973 £2100
The quintessential belt drive superdeck offers a beguilingly musical midband at the expense of lumpy bass and nebulous imaging. Latest Lingo brings a new lease of life, with even more punch and polish.

**MICHELL TECHNODEC** 2003 £575
Superb introduction to Michell turntables on a budget. Top quality build and elegant design make it the class of the mid-price field right now.

**MICHELL GYRODEC SE** 2002 £870
Its beauty is more than skin deep - superbly finished arm and cartridge are both star performers, but a fine system upgrade is required. This fully developed and expertly fettled machine.

**MICHELL ORBE SE** 2002 £1916
Cost-no-object evolution of the Gyro adds a classy counterweight and end stub, plus Cardas cable. The result is a near perfect system, with a near perfect price.

**PRO-JECT DEBUT II**

**PHONO SB** 2002 £170
Fuss-free all in one starter turntable, complete with built in phono stage. Nice a star performer, but a fine system upgrade is required.

**REGA P3** 2000 £298
Great entry level audiophile deck with fine tonal colouring. Exquisite. Origo Live counterweight modification, and rewiring.

**REGA P35** 2001 £619
Until the TecnoDec, the best mid-price turntable package. Fine build and elegant styling. Clean, open sound but limited at frequency extremes in absolute terms.

**SME MODEL 10A** 1995 £3333
Exquisitely engineered deck and arm combo, but dry and clinical sounding compared to rivals. Accomplished performer with classical music, nonetheless.

**TECHNICS SL-1200III** 1973 £195
Stick build makes it a respectable performer, although the cheapo arm limits it - fit a Rega RB250 and it's suddenly a serious mid-price machine.

**TONEARMS**

**HADCOCK 242 SE** 2000 £649
Latest of this long line of unipivots, with added mass, revised geometry and better finish. Musical like few others at or near the price, but poor frequency extremes.

**LINN EKOS** 1987 £1700
Subtle mods over the years, including revised bearings and the current new wiring has kept it a serious contender in the superarm stakes. Lacks the IV's pace and precision.

**MICHELL TECHNOARM** 2003 £346
John Michell's brilliant reworking of Rega's classic adds a classy counterweight and end stub, plus Cardas cable. The result is a near perfect system, with a near perfect price.

**NAIM ARIO** 1987 £1425
Charismatic performer with rhythm aplenty, but poor frequency extremes. Goth-like bass with incredible detail.

**ORIGIN LIVE SILVER 2502001** £625
A modern superarm with battleship build. Extremely strong, even and open sound in the mould of the classic Ultona 10X, this has warmth and sweetness in spades, allied to a punchy bass. Beats GI042 comfortably.

**ORIGIN LIVE ILLUSTRIOUS** 2002 £1570
A modern superarm with battleship build. Extremely strong, even and open sound in the mould of the classic Ultona 10X, this has warmth and sweetness in spades, allied to a punchy bass. Beats GI042 comfortably.

**REGA RB250** 1984 £112
Sold through Mosh Marketing, this is capable for beyond its price point, with a tight, lean and detailed sound. Responds brilliantly to Origin Live counterweight modification, and well to rewiring.

**SME 309** 1989 £767
Entry level SME complete with cost-cut aluminium armsbase and detachable headshell. Tight, neutral sound with good tonality, but lacks the IV's pace and precision.

**SME SERIES IV** 1988 £1127
Features nine tungsten of the SME V's magic at just over half price. Exquisitely built and finished, and a design classic. Faces stiff competition these days, but lovely nevertheless.

**SME SERIES V** 1987 £1614
The so-called Best Pickup Arm in the World, but comes close. Vice-like bass with incredible detail, but lacks the IV's pace and precision.

**CARTRIDGES**

**AUDIO TECHNICA AT-30** 1984 £29
Great starter cartridge that's refined, detailed and musical beyond its price.

**DYNACOM VD10X5** 2003 £250
A distant descendent of the classic Ultona 10X, this has warmth and sweetness in spades, allied to a punchy bass. Beats GI042 comfortably.

**DYNACOM VD20XK-H** 2003 £299
The best modern budget MC combines deliciously sweet sound with fantastic get-up-and-go. High output version works as a treat with valve phono stages too.

**GOLDRING GI042** 1994 £135
One of the best MMs going, with sweet and extended treble and punchy, muscular bass.

**LYRIA LYDIAN BETA** 1998 £600
An altogether more beguiling listen than the MC30, although not quite as incisive. superb all rounder, nonetheless.

**LYRA PARNSUS DCT** 1997 £1695
Jonathan Carr's masterpiece is a brilliantly musical turntable. Fine build and elegant design.

**NAIM ARIO** 1995 £625
A distant descendent of the classic Ultona 10X, this has warmth and sweetness in spades, allied to a punchy bass. Beats GI042 comfortably.

**ORTOFON MC25FL** 1994 £285
Strong budget MC with a cleaner and more detailed sound than the Dynacomp, more sterile and less emotive, however.

**ORTOFON MC30 SUPR'** 1995 £550
Beautifully clean and detailed device with real finesse, albeit a tad mechanical sounding.

**ORTOFON KONTRA' B** 1999 £720
Surprisingly articulate performer by Ortofon standards. All the brand's usual polish and detail allied to real verve. Loves making music!
DIGITAL DISC PLAYERS

ARCAM DIVA CD82T 2002 £600
Oodles of finesse, but not the most gripping performer at the price. A fine all rounder in the classic Arcam mould.

CAMBRIDGE AUDIO DVD57 2003 £220
Crisp, lively DVD-A sound makes this superb value for money, but 16bit playback is way behind similarly priced CD spinners.

CREEK CD50 2003 £699
Lyrical and musically engaging mid-price machine, but lacks its Marantz rival’s tonal exuberance.

CYRUS CD8 2003 £1000
Highly incisive, engaging, gritty and dynamic sound, but needs careful matching to smooth ancillaries. Optional PSX-R adds bass and dimensionality.

DENON DVD-A1 2002 £2350
Middling CD performance, but a genuinely strong DVD-A sound with masses of space and detail. Excellent pictures, too!

DIGITAL RECORDERS

PIONEER PDR-609 2001 £200
Brilliant value CD recorder that makes excellent recordings from its digital inputs. Half decent digital converters, too.

PHILIPS DVPD880 2003 £370
Poor CD audio playback, but makes great DVD video recordings and boasts fine ergonomics. Top AV value.

SONY RCD-W3 2002 £230
Usual superb Sony ergonomics make for no-nonsense design. Fine direct digital copies, but analogue input poor. Middling sonics, but there’s a digital output!

TRICHORD DELPHINI 2003 £995
The very latest ‘Never Connected’ variant is easily the best, bringing velvety smoothness to an already refined and engaging performer. Neutral to a fault - some will mourn the passing of the charismatic ISO.

AMPLIFIERS

ARCAM DIVA A65 PLUS 2002 £370
Classic budget Arcam fare - decently sweet and open with sensible facilities and plenty of power.

ARCAM FJ M32 2001 £1150
For those who value serious power and labyrinthine features over outright clarity or grip. A very impressive all rounder with an unusually muscular power amp at this price.

AUDIOTECHNICA CD 2000 £945
Brilliant value mid-pricer is a real step up from budget designs. Smooth, fluid, natural sound with adequate power and no nasties. Fine phono stage too!

AUDIO ANALOGUE PUCINNI 1999 £945
This baby tuber is beautifully sweet and creamy, but lacks solid-state’s clarity, detail and incision. Low, low power means speaker choice critical.

AUDIO NOTE SOR0 SE 2000 £1699
Wonderfully out-of-the-box sounding tube is all about sweetness and fluidity. Limited power and loose bass, but little the worse for it.

CYRUS 6 2003 £600
Cracking do-it-all mid price design, bringing svelte sound, good connectivity and upgradeability and stunning style and build.

CYRUS 8 2003 £800
Unusually warm and lyrical for a solid-state, with decent power and punch. PSX-R adds dynamics, detail and dimensionality.

PHONO STAGES

CREEK OH4-210E 2003 £250
Musically enjoyable yet highly refined for the price - a superb buy. Gives the Dino a real hard time.

EAR 834P 1993 £400
Classic tube design with a deliciously warm and expansive sound - shame about the loose bass and veiled treble!

LINN LINTO 2000 £900
A musical and incisive performer, with more speed than the Delphinus at the expense of detail and tonal colour.

MUSICAL FIDELITY X-1P 1999 £149
Clarity and detail allied to decent smoothness make it a solid first phonostage. MMAPIC.

QED DISC SAVER 1995 £135
Rhythmic, bouncy sound via battery, although it’s bright and forward. Great value, but £100 more on the XLP is well worth it!
LOUDSPEAKERS

B&W COMI NT 2002 £750
Fine clarity and imaging allied to pleasing warmth and great rhythmic cohesion make these standmounters an essential audition.

CASTLE CONWAY 3 2003 £930
Superbly smooth and crisp performers, with a big hearted musical sound. Ultimately coloured though, with a slow, plummy bass.

CYRUS CL570 2001 £800
Charismatic performer with a fast, tight and open midband, but lacks cohesion and scale.

EPOS ELS-3 2003 £200
Plenty of brio and a decent degree of refinement makes this budget baby a fine value contender.

NAIM AALAE 2002 £1990
Taut and grippy like few others, this speaker majors on transient speed. Surprisingly smooth for a Naim box, with nicely etched bass weight. The right room and ancillaries are needed to bring them an involving listen. Reasonably refined, too - but tonally disappointing.

KEF Q1 2003 £250
Highly polished and articulate standmounters at the price, but demand good ancillaries for best results.

KLIPSCH HERESY II 1997 £1100
An outstanding high sensitivity loudspeaker with midrange and treble horns coupled with infinite baffle 12" bass driver. Effortless, fast and accurate.

LIND NINKA 2001 £995
Major on rhythms and dynamics, making them an involving listen. Reasonably refined, too - but tonally disappointing.

MISSION 782SE 2003 £900
Bright and tight design capable of brilliant extension, bass lacks weight - although the price 989 answers the latter resoundingly.

PETRIESE FK-1L 2002 £5000
Charismatic Aussie ribbon design with deliciously open mid and treble, allied to fine bass weight. The right room and ancillaries essential. Engaging, musical and powerful sound. Superb.

W'DALE DIAMOND 8.1 2001 £120
Still the best baby budget standmounters around. Tight and grapy thanks to Kevlar drivers, but invariably limited in the frequency extremes.

PREAMPLIFIERS

CREEK OBH-12 2000 £220
Brilliant value budget passive, giving little away in sonics to far more expensive designs. Connectivity and build aren't great, but what do you expect at this price!

MF AUDIO PASSIVE PRE 2003 £1010
Novel and effective pre with swichable gain via a transformer, and balanced operation. Open and incisive sound, yet makes most active rivals sound edgy by comparison.

NAIM NACI12 2002 £660
Affordable admission ticket to the Salisbury high end experience. Detailed and dynamic, if tonally rather lacklustre.

POWER AMPLIFIERS

LINN LK140 2000 £800
Dry and grey sounding, but decently dynamic and musically engaging all the same. A worthy worker in a budget Linn system.

NAIM NAP150 2002 £795
Driven by a decent source and a NAC I 12, this gives highly enjoyable results - providing you like the Naim sound! Taut, fast and feisty despite its relative lack of power.

MARANTZ SM-17 2001 £700
Useful budget power amp with plenty of clean transistor power. Not the most transparent, but sweet and clean all the same. Fine build completes a great value package.

MUSICAL FIDELITY

A308 CR 2003 £2400
Superb transistor behemoth, worth partnering with any high end CD player or preamp.oudles of grunt served up with poise and purpose.

QUAD 909 2001 £900
The latest current-dumper has a smooth and expansive character with enough wallop to drive most loads. Not the most musical, but super value all the same. Lovely build, finish and Quad's legendary service are nice.

QUAD ESL-988 2001 £3400
Wondrously neutral and self-effacing with sublime imaging and projection. Treble lacks extension, bass lacks weight - although the price 989 answers the latter resoundingly.

LOUDSPEAKERS

B&W COMI NT 2002 £750
Fine clarity and imaging allied to pleasing warmth and great rhythmic cohesion make these standmounters an essential audition.

CASTLE CONWAY 3 2003 £930
Superbly smooth and crisp performers, with a big hearted musical sound. Ultimately coloured though, with a slow, plummy bass.

CYRUS CL570 2001 £800
Charismatic performer with a fast, tight and open midband, but lacks cohesion and scale.

EPOS ELS-3 2003 £200
Plenty of brio and a decent degree of refinement makes this budget baby a fine value contender.

NAIM AALAE 2002 £1990
Taut and grippy like few others, this speaker majors on transient speed. Surprisingly smooth for a Naim box, with nicely etched bass weight. The right room and ancillaries are needed to bring them an involving listen. Reasonably refined, too - but tonally disappointing.

KEF Q1 2003 £250
Highly polished and articulate standmounters at the price, but demand good ancillaries for best results.

KLIPSCH HERESY II 1997 £1100
An outstanding high sensitivity loudspeaker with midrange and treble horns coupled with infinite baffle 12" bass driver. Effortless, fast and accurate.

LIND NINKA 2001 £995
Major on rhythms and dynamics, making them an involving listen. Reasonably refined, too - but tonally disappointing.

MISSION 782SE 2003 £900
Bright and tight design capable of brilliant extension, bass lacks weight - although the price 989 answers the latter resoundingly.

PETRIESE FK-1L 2002 £5000
Charismatic Aussie ribbon design with deliciously open mid and treble, allied to fine bass weight. The right room and ancillaries essential. Engaging, musical and powerful sound. Superb.

W'DALE DIAMOND 8.1 2001 £120
Still the best baby budget standmounters around. Tight and grapy thanks to Kevlar drivers, but invariably limited in the frequency extremes.

PREAMPLIFIERS

CREEK OBH-12 2000 £220
Brilliant value budget passive, giving little away in sonics to far more expensive designs. Connectivity and build aren't great, but what do you expect at this price!

MF AUDIO PASSIVE PRE 2003 £1010
Novel and effective pre with swichable gain via a transformer, and balanced operation. Open and incisive sound, yet makes most active rivals sound edgy by comparison.

NAIM NACI12 2002 £660
Affordable admission ticket to the Salisbury high end experience. Detailed and dynamic, if tonally rather lacklustre.

POWER AMPLIFIERS

LINN LK140 2000 £800
Dry and grey sounding, but decently dynamic and musically engaging all the same. A worthy worker in a budget Linn system.

NAIM NAP150 2002 £795
Driven by a decent source and a NAC I 12, this gives highly enjoyable results - providing you like the Naim sound! Taut, fast and feisty despite its relative lack of power.

MARANTZ SM-17 2001 £700
Useful budget power amp with plenty of clean transistor power. Not the most transparent, but sweet and clean all the same. Fine build completes a great value package.

MUSICAL FIDELITY

A308 CR 2003 £2400
Superb transistor behemoth, worth partnering with any high end CD player or preamp.oudles of grunt served up with poise and purpose.

QUAD 909 2001 £900
The latest current-dumper has a smooth and expansive character with enough wallop to drive most loads. Not the most musical, but super value all the same. Lovely build, finish and Quad's legendary service are nice.

QUAD ESL-988 2001 £3400
Wondrously neutral and self-effacing with sublime imaging and projection. Treble lacks extension, bass lacks weight - although the price 989 answers the latter resoundingly.

LOUDSPEAKERS

B&W COMI NT 2002 £750
Fine clarity and imaging allied to pleasing warmth and great rhythmic cohesion make these standmounters an essential audition.

CASTLE CONWAY 3 2003 £930
Superbly smooth and crisp performers, with a big hearted musical sound. Ultimately coloured though, with a slow, plummy bass.

CYRUS CL570 2001 £800
Charismatic performer with a fast, tight and open midband, but lacks cohesion and scale.

EPOS ELS-3 2003 £200
Plenty of brio and a decent degree of refinement makes this budget baby a fine value contender.

NAIM AALAE 2002 £1990
Taut and grippy like few others, this speaker majors on transient speed. Surprisingly smooth for a Naim box, with nicely etched bass weight. The right room and ancillaries are needed to bring them an involving listen. Reasonably refined, too - but tonally disappointing.

KEF Q1 2003 £250
Highly polished and articulate standmounters at the price, but demand good ancillaries for best results.

KLIPSCH HERESY II 1997 £1100
An outstanding high sensitivity loudspeaker with midrange and treble horns coupled with infinite baffle 12" bass driver. Effortless, fast and accurate.

LIND NINKA 2001 £995
Major on rhythms and dynamics, making them an involving listen. Reasonably refined, too - but tonally disappointing.

MISSION 782SE 2003 £900
Bright and tight design capable of brilliant extension, bass lacks weight - although the price 989 answers the latter resoundingly.

PETRIESE FK-1L 2002 £5000
Charismatic Aussie ribbon design with deliciously open mid and treble, allied to fine bass weight. The right room and ancillaries essential. Engaging, musical and powerful sound. Superb.

W'DALE DIAMOND 8.1 2001 £120
Still the best baby budget standmounters around. Tight and grapy thanks to Kevlar drivers, but invariably limited in the frequency extremes.
DIY supplement contents

NEWS 97
All the latest from the weird and wonderful world of DIY hi-fi.

PANEL POWER 98
Ed Swift unwraps an Electrostatic speaker kit from Australia

CAN YOU HEAR IT 101
Clive Meakins puts the Stevens & Billington TX-102 transformer attenuators through their paces

UPGRADING THE UPGRADE 106
Neville Roberts installs Origin Live’s revised DC motor kit
Falcon Acoustics Ltd

Falcon Electronics, Basically Sound
http://www.falcon-acoustics.co.uk

Full Price List and Focal details on Web Site

DRIVE UNITS: by FOCAL & SUS, and a pick of the best from other manufacturers.

100+ CROSSOVER NETWORKS: - Active & Passive, Components, Accessories,
   New LS3/5A type Crossovers

COMPONENTS

SOLEN Polypropylene capacitors. 0.1mFd. to 100mFd.
Polyester and Mylar Film Capacitors. 0.1mFd. to 10mF.

ALCAP Reversible electrolytic Capacitors (Non-Polar). 50v, 100v & Low Loss. 2mFd. to 60mFd.

FALCON Custom-wound Inductors.

FERRITE:- Standard, High Power, Super Power, Super-Super Power

AIRCORED 0.56 - 1.25mm wire; IRON DUST. 1mm wire

TAPPED INDUCTORS:- 0-10mH in 1mH steps & 0-1mH in 0.1mH steps

AUDIO AMATEUR PUBLICATIONS

Back year sets of Speaker Builder, Audio Amateur & Glass Audio, plus the Audio Anthology Set.

Altogether 50+ books and Audio Amateur’s magazine year sets.

2001 & 2002 sets on CD- R only

STATE OF THE ART” Units & Kit Designs”

Focal Unit Range

as pioneered in the Utopia range of systems.

Price List & Unit Specs FREE on Web site - available in .pdf format

5W4211 6W4311 7W4411 8W5411 10W6411

Plus: Audiom 6 WM

7K6411 (replacement for Audiom 7K/-7K2)

TC120TD5 - TC90TD5 & TC90TD5B

All normal stock items

SUPPLIERS TO THE TRADE SINCE 1972

Send for our FREE price list PL31: Just send a large S.A.E. (46p stamp) or US$2 bill overseas, Europe US$1 bill or 3 International Reply Coupons (IRC) to:-

(Dept HFW) Unit 12 Damgate Lane Industrial Estate, Damgate Lane

ACLE, Norwich, Norfolk, NR13 3DJ Tel: 01493 751100

audioXpress... It Just Sounds Better

Your Favorite Audio –
One New Magazine!

- PROJECTS
- REVIEWS
- THE NEWEST TECHNOLOGIES
- AUDIO CLASSROOM

- and Much More!

Subscribe To This
Great Monthly
Publication Today!

Only $59.95 US
for 12 Issues!

audioXpress • PO Box 876 • Peterborough, NH
03458-0876 USA • Phone: 603-924-9464
Fax: 603-924-9467 • E-mail: custserv@audioXpress.com

www.audioXpress.com

WHITE NOISE

AUDIO KITS, MODULES, COMPONENTS

PRODUCTS INCLUDE:- Power Amplifiers 30-
250W, Preamplifiers, Phono stages, Active
Crossovers, Power Supplies, Buffer Amplifiers,
Balanced line drivers / receivers, Stepped attenua-
tors, Gold plated connectors, Cables, Capacitors,
Resistors, Semiconductors, Transformers,
Subwoofers, Loudspeaker drive units

WHITE NOISE

II STATION ROAD
BEARSDEN
GLASGOW
G61-4AW

Web:- http://www.wnaudio.com
Email:- david.white38@ntlworld.com
Tel:- 0141-942-2460 (until 9pm)
Fax:- 0141-587-7377
DATA GALORE
If you have a look at some of these database sites it is amazing how much information they have for you to download freely. A web pdf file is normally 250kByte plus, say you have a hundred of these sitting on your site. A site has 200 visitors a week - a below average rating, each visitor has a look at five of these pdfs that works out at over 1 Gigabyte bandwidth a month. A normal web host package will give you 2 - 4 Gigabytes bandwidth a month, over this and you get charged for it. So you can imagine the bandwidth of really popular database sites - we are talking 20Gbytes easily. Anyway I am waffling. One-Electron, lists hundreds of circuit diagrams of valve amplifiers, test equipment, radios. They also offer a design service, for circuits and printed circuit boards. A good clean site.

GIGANTIC
This is the mother of all database sites, simply titled Frank's Electron Tube Pages. So large it sits on 5 different servers dotted around the world the Netherlands, Poland, the USA, Germany and China. This site has hundreds of valve data files, he seems to have the whole Universal Vade- Mecum (valve characteristic bible) on his system with a useful English translation table for all the symbols that appear in the book. He also has Tube bases database, valve substitution tables and an explanation of the numbering system of valves. This one must be put into your favourites.

VIRTUAL VALVE MUSEUM
If you have ever read or heard about a valve, and wanted to know a bit more about - what it looks like, basic uses etc... then look no further. www.valve-museum.org is the site for you with over 3200 valves on their database. The site in a clean and easy to use format. The valves are categorised by manufacturer, all 82 of them. Click on one and you get a listing of their valves - brilliant. Also available on the site are Museum listings, plus private collections you can visit. Yes, the site is English so no plane trips required. They also list old valve equipment. This is a really great site with lots to see.

FROM SCRATCH BUILDS
With a header - 'Do It Yourself audio from around the world', you know that there are going to be some weird and wonderful creations from around the globe. Mostly single ended / parallel single ended amplifiers featuring directly heated triodes, like the 300B, 845s etc...

Pictures are available of them all, some have schematics to peruse and e-mail addresses so you can contact the constructors. You can also purchase vintage hi-fi from this site, though where they are based is unclear and I would guess ordering would be via e-mail as no shop is present. There are a few bad-links on the site but it's still worth a visit.

212E S.E. amp, S.E. 300B mono. amp, S.E. 50 stereo amp, and 6C33 OTL amp, by Mick Maloney.
Ed Swift unwraps an Electrostatic speaker kit from Australia

This foray into the dark art of DIY electrostatics came after the disappointment of chasing 2 pairs of QUAD 63s on Ebay, only to find they had faults when I arrived to pick them up. This was to be the realisation of a long held dream for me so failure was very frustrating. Having read Roger Sanders superb book on the subject I was convinced that building was a possibility and immediately started searching for materials. However, the cost and specific nature of the parts looked like a risk area, so when I discovered the kit from ER Audio in Australia, the answer seemed at hand.

We are now venturing into the little charted waters of specialist DIY so I may already have chased away half the audience. DIY will always be a bit scary, especially if you don't have a local friend who has trodden this path before. "But", I hear you cry, "DIY hi-fi will usually produce products of inconsistent spec and quality which is, after all, what a good kit should try to overcome. My credentials for this task are strictly amateur, having been an avid hi-fi fan for 30 years and dabbling in cabinet construction as a hobby during most of this time. I'm sure I can pass on some encouragement to many would-be constructors.

WHAT YOU GET FOR YOUR MONEY

The kit itself is very comprehensive, containing all the electronics and all the necessary parts for constructing the electrostatic panels. Comprehensive means all the minor things like glue, gloves, wires and clips. These are things that some kit producers seem to think people keep in their cupboards. However, the kit does not include any materials for the cabinets, although plans are included for two suggested cabinet frames. The construction manual is equally comprehensive and runs to 50 pages including numerous, very helpful photographs and diagrams.

CONSTRUCTION

The speakers themselves are intended to be arranged as vertical 4 feet panels, two 8 inch bass panels positioned either side of a 3 inch high frequency panel.

Following the instructions gives a low-pain route to the finished product but, I emphasise this is not a doddle, and care and attention, together with a degree of precision are required. Preparation is crucial here and space and patience are primary requirements. It is necessary to have a solid work surface at least 5 feet by 2 feet 6 inches with access all around. In addition it is necessary to cut some MDF panels to use as pressure pads for the weights while gluing; I used car batteries (9 of them!) as weights, but anything heavy will suffice. All panels are produced in two halves with the all-important diaphragm being attached to only one half and then being sandwiched between the pair.

Producing the panel halves is a matter of gluing thin plastic spacers around the edge of a half inch thick plastic mesh frame (The mesh frame is identical to the light diffusers which can be seen underneath fluorescent light fittings). Plastic coated metal grids (stator panels) are then glued to the mesh frame, within the border made by the spacers. This procedure is not technical but is very time-consuming. Each gluing operation takes 24 hours to cure, and if producing 1 panel half at each session means 8 days to glue the
Contents of the kit.

Panel spacers and grids; 4 days for the spacers and 4 days for the grids.

Once the metal stators are glued in place, the diaphragm is fitted to one half of each pair of panels. This panel half is the one that faces the front of the finished speakers. To the other half of the panel pair, a strip of copper conductive tape is fitted around the plastic spacer. This tape carries the charge to the diaphragm and is in contact with it when the two panel halves are brought together.

Fitting the diaphragm was the most exacting task of the whole assembly. It involved laying the polyester film (diaphragm material) onto the construction table and then tensioning and taping all around the perimeter of the film. Once tensioned the panel half is glued (super glue) and laid on top of the film. This process is exact, as the panel must be laid precisely onto the film so that the glue corresponds to a track of primer which has been applied previously. Once attached to the panel, blobs of silicone bath sealer have to be applied to the diaphragm at strategic points so that it is attached to the stator grids. The designer states that this gives a D’Appolito array effect.

Before assembling the panel halves, the diaphragm has to be coated with a conductive paint which allows the bias charge to be held by the diaphragm. Again, attention is paid in detail here because the ‘paint’ must be applied in a temperature above 20 degrees in order to cure correctly. Assembly is simply a matter of joining the panel halves with plastic channel clips. Very simple and very effective and it does mean that panels can be easily dismantled if errors are detected.

Wiring is straightforward. After soldering terminals to the supplied wire they are attached to the grids with small brass nuts.

The cabinet shown in the photograph is based on the suggested plan in the instruction manual, however I have reduced the height to satisfy what the designer calls “WAF” (Wife Acceptance Factor). Height is important with electrostats and I was aware that reducing the height might have needed compensation by introducing a slight upward tilt. I have used 1 sheet of good quality 18mm ply and cut down some pine into strips 6mm thick for the front edges. The edges are necessary to hold the panels inside the cabinets. The only other additional item is 3 meters of medium duty speaker cloth, Maplins or similar will suffice. Cloth is needed front and back to prevent dust from entering.

The cabinets can be constructed with minimum wood working skills but abilities with table saw and router are necessary. The whole cabinet is constructed as box sides with internal shelves, and jointing is all by routed grooves. The quality of finish will obviously be based on proficiency here. I am fortunate to have a friend in the motor trade who kindly finished my cabinets in car lacquer. Any more detail here, I feel, would belong in a woodworking magazine.

Wiring the panels into the cabinet is, again, straightforward and all connections are achieved using standard connector blocks. The wiring diagram is foolproof and I experienced no problems following it. There is no mention of quality where the audio signal wire is concerned but I elected to join the gold plated banana terminals to the step-up transformer with 1mm solid mains wire.

The only other modification that was found necessary was to replace the 9v power supply for the diaphragm bias power. This came as an integral unit with an Australian plug which was connected to the voltage adjuster circuit. I elected to dismantle the power supply and rehouse it in a new box together with the voltage adjuster. This looks more elegant and is perfectly functional.
THE SOUND.
Switch on was a nail-biting moment. The manual gives comprehensive advice for a number of possible problem areas and I was beginning to think 'what if this' and 'what if that'. I had been building for 3 weeks, surely during this time I must have made some mistake. So, after waiting the prescribed hour for the diaphragms to charge up, and adjusting the bias voltage for optimum level (all fully detailed in the instructions), I connected to the amp, my trusted Meridian modular prepower which has been with me for 20 years. Without being too melodramatic, I was totally unprepared for the experience. This happening inside the head. The introduction of vocals, bringing invisible people into the middle of the room is still a bit disquieting. There is no doubt whatsoever that the system is singing as I am now discovering rhythms that I hadn't even noticed before, presumably as previously unheard instruments become visible. Every subsequent disc produced the same result and my whole record collection now contains new experiences.

During the first hour of playing, the volume increased noticeably, and I had to back the volume down from 11 o'clock to 9 o'clock. This is the same listening level that the previous speakers had (KEF Carlton III), so I am assuming they may have similar efficiencies. This is presumably the diaphragms bedding in.

One idiosyncrasy that I had read about being present in most electrostats was the beaming phenomena. When moving from the favoured location the sound appears to leave ones head and just be present in the room. At the same time the volume appears to diminish. The down side here is that inviting friends round to listen may result in rough stuff as everybody fights for the sweet spot. There is bass, contrary to some articles I have read about electrostats in general.

I cannot detect any deficiency and my own recordin gs produced in my home studio produce the same bass as was present on the studio monitors.

CONCLUSION
I am in no doubt that this is a high end product although I am in no position to compare it with exotics like Apogee etc. The kit is priced at AUD 1700 which converts to approximately £650. In addition there is £160 for shipping and £160 for import duty to be considered. In total, the finished speakers cost just over £1000. A bargain? I think so. The backup and advice from Rob Mackinlay at ER Audio has been faultless and I can thoroughly recommend the kit. I am now glad I didn't find that immaculate pair of Quad 63s, the disappointment was well worthwhile.

THE ELECTROSTATIC LOUDSPEAKER COOKBOOK
ROGER R. SANDERS
ISBN 1-882580-00-1

Panels made up.

Internal view of the speaker.

Internal view of speaker (No.2)
Can you hear it?

Clive Meakins puts the Stevens & Billington TX-102 transformer attenuators through their paces

I've heard it said that a passive preamp is an oxymoron, as a simple passive volume control cannot amplify. A more accurate description might be a "passive pre". Here we have a passive preamp that lives up to its billing.

The TX-102 is the basis for building a passive preamp that can provide 6db of passive gain. Produced by Stevens & Billington, these multi-tapped transformers have a primary with 0db and +6db options for gain. There are 23 secondary taps to be switched. The TX-102 transformers are available on their own or part of complete kits, some of which are also available fully assembled.

Will the TX-102 work in your system? Most power amps have an input impedance of 50k or more. This is fine though less will work best; it's hard to be definitive. Power amp sensitivity should not be an issue and is dealt with later in this article. There's lot of information on the S&B website about compatibility, if you need extreme detail. Bandwidth is said to extend well over 100kHz, useful for SACD. The price for a pair uses OCC copper wire from Neotech in Japan. The silver version uses Audio Note silver wire with OCC silver wire leadouts. When purchasing from the UK or Europe, check with the vendors as S&B say they can ship direct from the UK.

BUILDING A TX-102 PASSIVE PREAMP

Various kits using the TX-102 are available, Bent Audio and DIYhifisupply being two suppliers. I chose to build a purist version using WAD's own passive pre enclosure. This provides a great visual match for anyone using a WAD power amp. As I primarily use a single source I decided not to implement an input selector. I've found in the past with high transparency preamps that any additional contacts and wiring can have a sonically detrimental effect. Why bother if you don't need the extra inputs?

The TX-102s are totally mu-metal enclosed, one "can" per channel. There are lots of wires, 0db, +6db and ground for the primaries and 23 secondaries plus a screen wire that goes to ground.

The WAD switched attenuator happens to use a 23 way 2-pole switch, which is ideal. Secondary taps start at -52db then go to -46db, -43db, -40db, -37db, -34db and then run in -2db steps to 0db. Each wire is labelled with its attenuation in db.

To mount the two transformers I drilled eight holes in the WAD case to allow me to use two tie-wraps per transformer.

Now for the wiring. The length of the leadout wires is perfect with
**kit & component suppliers**

**CLASSIC TURNTABLES**

**Technical & General**

PO. Box 53, Crowborough, East Sussex TN6 2BY.

Tel: 01892 65 45 34.

The original specialist source of spares, replacements and expertise for the classic turntables. Years of actual experience and comprehensive range of parts (originals and re-manufactures), manuals, ancillaries.

**COMPONENT SUPPLIERS**

**"A" Audio Solutions**

63 Love Lane
Pontefract
West Yorkshire
WF8 4EG

Tel: 01977 798844

Email: audio@audio-solutions.co.uk

A wide range of specialist audiophile components for valve and solid state enthusiasts. Supplier of the largest range of high-end audio volume controls in Europe. 30 page catalogue - Free via e-mail or £3.00 posted.

**Audio Link**

7 Fairmont Crescent, Scunthorpe, North Lincolnshire DN16 1EL

Tel: 01724 870432
Fax: 01724 875340

Email: au@audiolink.co.uk

Extensive stock of specialist audioophile components for valve and solid state enthusiasts. Supplier of the largest range of high-end audio volume controls in Europe. 30 page catalogue - Free via e-mail or £3.00 posted.

**Audio Note (UK Ltd)**

Unit C, Peacock Ind. Est. 125-127 Davyrod Road
Howe, East Sussex BN13 1SG

Tel: 01273 220511
Fax: 01273 731298

Suppliers of a large amount of components for the Audiophile Kit builder. Valley amplification data and vintage circuits also available. See the double page spread in the back section of the main extra for more detailed information.

**Audio Note (UK Ltd)**

7 Fairmont Crescent, Scunthorpe, North Lincolnshire DN16 1EL

Tel: 01724 870432
Fax: 01724 875340

Email: au@audiolink.co.uk

Extensive stock of specialist audioophile components for valve and solid state enthusiasts. Supplier of the largest range of high-end audio volume controls in Europe. 30 page catalogue - Free via e-mail or £3.00 posted.

**Falcon DIY Speakers**

Falcon Acoustics Ltd., Tabor House, Norwich Road, Mulbarton, Norfolk NR14 8JT.

Tel: 01508 579272

UK distributors of FOCAL drive units & kits, and ETON loudspeakers, plus SOLON (SCR-Chateauaux) polypropylene capacitors. We are the largest specialist Audio Industries manufacturer in the UK. We also stock Audio Amateur Publications and Audio Computer Software and a comprehensive range of D.I.Y. speaker kits, parts, accessories and books. Please send large SAE (Mpo) for free price list. "Everything but the wood".

**IPL Acoustics**

IPL Acoustics, Chelsea Villa, Torr Park, Ifieldstone, North Devon, EX34 8AY

Tel/Fax: 01271 867 439

Website: www.iplacoustics.co.uk

IPL Acoustics supply a range of 7 transmission line, 3 conventional, speaker kits, and kits for centre speakers and active subwoofers. We also supply a full range of drive units from Audax, SEAS, Morel and Legend Acoustics (Ribbon Tweeters) as well as custom built metal cone drivers. Also included is a range of capacitors, inductors and quality cabinet accessories as well as Silver Plated PTFE insulated cables.

**Specialist Upgrade Services**

AudioCom (UK), Unit 14 Pier Road Pembroke Dock Pembroke SA72 6TR

Tel: 01646 685601
Fax: 01646 685602

Website: www.audiocom-uk.com

E-Mail: enquiries@audiocom-uk.com

Release the full potential of your digital source with CD/DVD upgrades from audiocom. Available is the highly acclaimed SUPERLOCK main clock oscillator. (Dave Berninan fits the S-Clock to the Teac VRDS-1006 and comments...."there was not one area of music reproduction which didn't improve") SUPERLOCK super low noise power supply, Q-power ultra-low noise discrete regulators. Why not contact us to see how this service can be adapted to suit your requirements?

**Valve and Output Transformer Suppliers**

Wilson Valves, 28 Banks Avenue, Golcar, Huddersfield, West Yorks HD7 4LZ

Tel: 01484 654650/844554
Fax: 01484 655699

E-mail: wilsonv@zoo.co.uk

We stock over 2,500 different types of valves, N.O.S. and New Please send a S.A.E. for full list. No charge for matching. Most major credit cards accepted.

**Watford Valves**

3 Ryall Close, Brickett Wood, St.Albans, Herts AL2 3TS

Tel: 01923 893270
Fax: 01923 679207

Specialist in new old stock and current production valves, tubes. Also CRT for audio, hi-fi (as well as industrial uses). A vast archive of vintage and obsolete types including limited quantities of Mullard, GEC, Sylvania, Philips, Brimar, Telefunken, RCA and others. Large stocks of Chinese, Russian, EI and Tesla etc. A 50-page valve catalogue is available on request. Major stockists of the excellent Billington Golden brand. Contact us for quotations - attractive price on larger orders.

**Billington Valve Limited**

1 Mayo Road, Craydon, Surrey CRO 2QP

Tel: 020 86841166
Fax: 020 86843056

One of the largest distributors of electronic valves, tubes and semi-conductors in the UK. By original UK and USA manufacturers. Obsolete types are a specialty. Telephone or fax for an immediate quotation.

**Billington Export Limited**

1E Gilmans Trading Estate, Billington, West Sussex RH14 9EZ

Visitors by appointment only please.

Fax: 01403 783519
E-Mail: sales@bel-tubes.co.uk
Website: www.bel-tubes.co.uk

Specialists in guaranteed new/old stock, current production valves & tubes. Also CRT for audio, hi-fi (as well as industrial uses). A vast archive of vintage and obsolete types including limited quantities of Mullard, GEC, Sylvania, Philips, Brimar, Telefunken, RCA and others. Large stocks of Chinese, Russian, EI and Tesla etc. A 50-page valve catalogue is available on request. Major stockists of the excellent Billington Golden brand. Contact us for quotations - attractive price on larger orders.

**TO ADVERTISE IN THE KIT & COMPONENT SUPPLIERS PAGE PLEASE CALL**

020 8866 4760
Email: diyadvertising@hi-fiworld.co.uk
Close up view of stepped attenuator and unused Elma selector switch.

no shortening being required. When stripping TX-102 wires be careful not to pull them, you could cause internal damage. I gripped them with pliers whilst stripping the ends. There are a lot of wires to solder but construction is really very easy.

I used some Kimber wire between the switch and output phonos. Solid core cable was used to connect the grounds of the #6db and Odb inputs together. No other wire other than the transformer leadouts was needed.

The next task is to burn-in the transformers before forming a valid view of their sonic performance. Transformers do need to burn-in for a while, maybe around 50 to 100 hours. John Chapman of Bent Audio advises loading the output with 300 ohms resistors, winder up the volume control and leaving a source playing, no power amp should be connected. I used 1k resistors as I didn't have any 300 ohms. By the way, check the Bent Audio website for building instructions and circuit diagrams. The only other advice I have is to not take this unit through airport security control. Internally it looks very much like a bomb!

On hooking up the TX-102 I checked the noise at my speakers with my DMM on the AC setting. The Grounded Grid and Passion both have very low noise levels. The TX-102 isolates the source due to transformer coupling and adds no noise of its own. Now I have only 0.2mV of noise, an excellent result, due in no small part to the KaT34 as well as the TX-102.

TIME TO LISTEN
To properly evaluate the TX-102 transformers I used two power amps, the Billie 300B SETs reviewed in DIY supplement No. 63 and a WAD KaT34. I also used an Audio Synthesis Passion shunt-type attenuator. This is a good example of its type, resistors are from Vishay. Finally, I compared the Grounded Grid preamp reviewed in DIY supplement no 69. For the source I mainly used a Meridian 588 CD player. This has a specified output of 2V and an output impedance of 47 ohms. Speakers were Mordaunt Short Performance 860 floorstanders and Adire Audio HE10.1.

I started with my KaT34, which needs 300mV for full output, and the TX-102 using the Odb input. Initial impressions were of a very unconstrained sound that seemed to appear from a very silent background, possibly due to a very low noise floor. More extended listening confirmed this initial impression. Bass proved to be tight and extended without being dry. Mid is faithful with no harsh undertones. The top-end is very well extended and very free of any coarseness.

Time to compare the TX-102, Grounded Grid and Passion. I listened to many types of music which ranged between Mary Chapin Carpenter, Beth Orton, Chris Rea, Genesis, Diana Krall, Glenn Miller, Vivaldi, Smetana and many others.

The Grounded Grid was slightly softer sounding and less detailed. It also seemed as though the musicians were trying a little too hard with the Grounded Grid. The TX-102 had tighter bass, was more detailed and extended. I felt it was a more composed performer. It was almost impossible to choose between the soundstaging capabilities of these two preamps. Installing the Passion showed detail to be good but not as good as the TX-102, treble seemed to be similarly extended. The Passion lost out in the rhythmic drive department, it did most things very well but ultimately had less soul. Soundstaging was of the left/centre/right type. Any resistive passive attenuator is going to be more finicky about matching with cables, source and amplifier so this is maybe why it lost out. I should add that at low volume settings the TX-102 retained it's qualities but the competition sounded a touch thin and less convincing.

On very extended listening with the TX-102 I can only describe it as deeply satisfying. I had no inclination to tinker with it or swap it out. From when I first used it, the TX-102 had a feeling of complete "rightness" about it.

Time to move onto the Billie...
**LANGREX SUPPLIES LTD**  
DISTRIBUTORS OF ELECTRONIC VALVES, TUBES AND SEMI-CONDUCTORS AND I.C.S.  
I MAYO ROAD • CROYDON • SURREY • CRO 2QP  
24 HOURS EXPRESS MAIL ORDER SERVICE ON STOCK ITEMS  
E-MAIL LANGREX@AOL.COM

A selection of our stocks of **New Original Valves/Tubes**. Many other brands available.

<table>
<thead>
<tr>
<th>STANDARD TYPES</th>
<th>SPECIAL QUALITY TYPES</th>
<th>AMERICAN TYPES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECC83 E1</td>
<td>A2900/CV6091 GEC</td>
<td>5R4GY</td>
</tr>
<tr>
<td>ECC85 RFT</td>
<td>E82CC SIEMENS</td>
<td>5U4GB</td>
</tr>
<tr>
<td>ECC88 BRIMAR</td>
<td>E833 ECC</td>
<td>SYLVANIA</td>
</tr>
<tr>
<td>ECC88 MULLARD</td>
<td>ECC88/CV2492 BRIMAR</td>
<td>5Y3GT</td>
</tr>
<tr>
<td>ECC88 MULLARD</td>
<td>ECC81/CV4024 MULLARD</td>
<td>6BIX7GT</td>
</tr>
<tr>
<td>ECC88 MULLARD</td>
<td>ECC81/M8162 MULLARD</td>
<td>6B4G</td>
</tr>
<tr>
<td>EL36 MULLARD</td>
<td>ECC82/CV4003 MULLARD</td>
<td>6FQ7</td>
</tr>
<tr>
<td>EL37 MULLARD</td>
<td>ECC82/M8136 MULLARD</td>
<td>6L6GC</td>
</tr>
<tr>
<td>EZ81 MULLARD</td>
<td>ECC83/CV4004 MULLARD</td>
<td>6L6WGB</td>
</tr>
<tr>
<td>EZ80 MULLARD</td>
<td></td>
<td>12AX7A</td>
</tr>
<tr>
<td>GZ33/37 MULLARD</td>
<td></td>
<td>SYLVANIA</td>
</tr>
<tr>
<td>GZ32 MULLARD</td>
<td></td>
<td>SYLVANIA</td>
</tr>
<tr>
<td>5Z4G BRIMAR</td>
<td></td>
<td>SYLVANIA</td>
</tr>
<tr>
<td>6V4GT BRIMAR</td>
<td></td>
<td>SYLVANIA</td>
</tr>
<tr>
<td>12BHT7 BRIMAR</td>
<td></td>
<td>SYLVANIA</td>
</tr>
<tr>
<td>12E1 STC</td>
<td></td>
<td>SYLVANIA</td>
</tr>
<tr>
<td>13E1 STC</td>
<td></td>
<td>SYLVANIA</td>
</tr>
<tr>
<td>82C1 HYTRON</td>
<td></td>
<td>SYLVANIA</td>
</tr>
<tr>
<td>811A RCA</td>
<td></td>
<td>SYLVANIA</td>
</tr>
<tr>
<td>6080 MULLARD</td>
<td></td>
<td>SYLVANIA</td>
</tr>
<tr>
<td></td>
<td>40.00</td>
<td>7.50</td>
</tr>
<tr>
<td></td>
<td>12.00</td>
<td>5.00</td>
</tr>
<tr>
<td></td>
<td>12.00</td>
<td>4.00</td>
</tr>
<tr>
<td></td>
<td>12.00</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>12.00</td>
<td>2.00</td>
</tr>
</tbody>
</table>

**OTHER TYPES**

| ECC88C | E88CC | TESLA  | 4.00  |
| ECC81  | ECC81 | RFT    | 3.00  |
| ECC82  | ECC83 | RFT    | 8.00  |
| ECC83  | ECC83 | RFT    | 8.00  |
| ECC84  | ECC86 | USSR   | 5.00  |
| ECC84  | EL34  | SVETLANA | 7.50  |
| ECC86  | EL34  | E1     | 6.00  |
| ECC86  | 657GT | USA    | 7.50  |
| ECC86  | 657GT | USA    | 7.50  |

**QUOTATION ON ANY TYPES NOT LISTED. WE ARE ONE OF THE LARGEST DISTRIBUTORS OF VALVES IN THE UK. SAME DAY DESPATCH VIAS/ACCESS ACCEPTABLE. DISCOLUTE TYPES A SPECIALTY. CREDIT CARD MIN ORDER £100. OPEN TO CALLERS MON - FRI, 9AM - 4PM, CLOSED SATURDAY. U.K., P&P 1-3 VALVES £2.00, 4-6 VALVES £3.00 ADD 17.5% VAT TO TOTAL INC P+P O'SEAS P&P PLEASE ENQUIRY.**

---

**Wwatford Valves**

7 DAYS A WEEK 9AM - 9PM The Audiophiles Choice  
All output valves multi-tested and digitally matched  
Full no quibble guarantee. Expert advice on all valve amps

**SVETLANA EL34R SUMMER SPECIAL OFFER**

This new tube uses a unique grid block construction, which gives higher output whilst eliminating odd order harmonies, resulting in deeper tighter bass and more high end definition. All tested and matched by Watford Valves at only £8.51 each.

**WORLD AUDIO DESIGN UPGRADES**

<table>
<thead>
<tr>
<th>Kit 6550 &amp; KAT 6550 Upgrade</th>
<th>Kit 34 &amp; KAT 34 Upgrade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kit 4500</td>
<td>Kit 4500</td>
</tr>
<tr>
<td>4 x 6550C Sovtana matched</td>
<td>4 x 6L34 Sovtana matched</td>
</tr>
<tr>
<td>2 x ECC80 GE</td>
<td>2 x ECC80 GE</td>
</tr>
</tbody>
</table>

---

**WATFORD VALVES** 3 Ryall Close, Bricket Wood, St Albans, Herts AL2 3TS

Fast mail order/next day delivery/World Wide shipping  
1000's more valves stocked. Prices exclude VAT and carriage.

Fax: 01923 679207  
www.watfordvalves.com
300B Single-Ended Triodes from Doiyhifsupply. These require around 2V for a full output of around 9W, input impedance is 100k. Clearly the TX-102 would need to be configured for 6db of gain and I expected the Passion to struggle.

I started with the TX-102 on the 0db gainless setting. I listened to Jennifer Warnes/Famous Blue Raincoat, a very unfair, low digital level recording. On the maximum volume setting the album was quite loud with the 95db Adires but not achieving full output from the Billies. The 6db lift of the TX-102 recovered the situation. The Passion with its 15k resistor in the signal path barely made an acceptable volume level, there was nothing in reserve. Of course, the Grounded Grid provided plenty of voltage drive.

Using more typical digital signal levels helped the Passion but in reality this type of preamp is not an option with a low sensitivity power amp, unless your DAC puts out a prodigious voltage, probably around 4V would be required.

Sound pressure levels aside, the comparison between the preamps turned out much the same as it did with the KaT34. Ultimately the TX-102 had the most precise, extended and smoothest sound. Whilst smooth it was also the most exiting sounding.

I've yet to hear a resistive attenuator with such drive and depth as the TX-102. The transformers then go on to exhibit the detail associated with the best switched attenuators. Bass is very musical, tight and textured. There is great presence and detail whilst there is no hint of the TX-102 being in anyway clinical.

Is there a downside? The transformers cost rather more than the handful of resistors they replace in a switched attenuator. Then again the overall cost of a TX-102 preamp is around the same price as the very fine sounding Grounded Grid kit. Am I convinced by the transformer volume control approach? Absolutely! Flexibility in system matching is almost as good as an active preamp. The TX-102 delivers the best of a passive attenuator and adds the best that an active preamp can do for good measure.

The PAS II, (World Audio Design's passive pre-amplifier) chassis, with 2 chrome knobs, front plate and chassis lid and base can be purchased at a cost of £100.00 inc. VAT+p&p, the stepped attenuator is also available at a price of £70.00 inc. VAT+p&p. Call 01990 218836 for further information.
Upgrading the upgrade

Neville Roberts installs Origin Live’s revised DC motor kit

In DIY Supplement 65 published with the May 2002 issue of Hi-Fi World, I described my experience of upgrading my turntable using the Origin Live (http://www.originlive.com) kit of parts. This was an extremely successful project that transformed the sound of my vinyl collection. However, the only criticism made of the turntable since then has been that a slight motor noise can be heard if you place your ear close to the motor. Being a DC motor, the noise was a purely mechanical ‘whirr’, but it did not seem to be transmitted to the cartridge. However, I was delighted to read in the June 2003 issue of Hi-Fi World that Origin Live has revised their DC motor kit with a new motor that runs silently and gives significantly better performance than the previous motor.

The motor is available as a separate item for £79 and has identical fastening holes, which makes it very straightforward to replace. It was a relatively simple exercise to remove the old motor from my turntable. The two motors can be seen together in Figure 1, the new motor being on the right.

While the motors were out of the turntable plinth, I powered them up to see if there was any discernable difference in motor noise. Noise from the old motor was very evident, to my ears, but the new motor was hardly audible at all. Of course, this is a very subjective assessment, so I thought it might be useful if I could somehow quantify the noise produced. In order to do this, I made use of my PC, a microphone and some freeware oscilloscope software that is available on the web. The software, “Oscilloscope 2.51″, is bundled with a package called Audio Test Bench which is available from http://www.HigherFi.com and also, incidentally, includes a very useful tone generator.

Armed with the above software, I took some measurements of the two motors. Obviously, the same oscilloscope timebase and gain settings were used for each motor. With reference to Figures 2 and 3, the reduction in noise level with the new motor can clearly be seen.

This useful little program also has the capability to display Fast Fourier Transforms and this feature was used to analyse the frequency spectrum of the noise produced. Figure 4 shows a comparison of the old and new motors. From here, it can be seen that the old motor produces measurable noise to over 4kHz, while the new motor produces noise up to about 1.5kHz.

I should point out that these simple programs can really only be used for comparison purposes and are not for accurate absolute measurements. There are also the limitations of using a computer sound card, but it does serve to illustrate the different behaviour of the two motors.

Having taken all the measurements, the new motor was fitted into the turntable. The measurements have clearly justified the claim of lower noise, but the most important test was yet to be made! How would it sound in practice?

The sub-platter was re-assembled, having first added a couple of extra drops of the special oil into the bearing. The belt tension was then carefully set, having been cleaned with some methylated spirit. The speed of the turntable was then checked with a stroboscope to see if there were any differences with the newly installed motor.

It was quite clear that, despite being very similar physically, the electrical characteristics of the two motors are quite different. The new motor rotated at about half the speed with the speed adjusters still calibrated for the old motor.

Having re-calibrated the motor speeds with the preset adjusters on the motor control board, I settled down to listen to my set of test LPs, starting with an excellent recording of Vivaldi’s Concerto in A minor for Oboe and Strings EVIII5 (Telefunken 6.42355 AW). This recording has a solo instrument with strings and harpsichord and is very good for checking image placement and clarity.

The clarity was superb and I concluded that there was indeed an improvement in imaging and depth, when compared with the effect produced by the old motor.

In conclusion, I would say that the new motor is well worth the investment. It is easy to fit and has effectively eliminated the motor noise issue and gives a discernible improvement in sound quality.
Sound Investment

If you have invested expertise and money in building up a sound system to your own unique specifications, then why compromise with indifferent housing units?

Fi-Rax offers a new dimension in audio visual racking - from a range of standard designs to the flexibility to custom create a unit to suit your particular sound system and lifestyle.

*High quality aluminium construction.
*Finishes available to your choice.
*Fully adjustable 6mm glass shelving.
*Sound isolation on shelving/feet.
*Custom created to suit your system.
*Free delivery throughout the UK.

Fi-Rax - a sound investment for those who want the best from their equipment.

New web address: www.retroreproduction.com
28a Haddington Place Edinburgh EH7 4AF Phone/Fax 0131 558 9989
Open 11.00am - 5.30pm - closed Monday & Sunday

Now offering Sonneteer's new Bronte product range including digital amp from £80 and matching CD player

FOR A LIMITED PERIOD ONLY**

We are proud to announce the new Beaumborn B21 horn loudspeakers ideal for low powered single ended valve amplifiers.

Also demonstrating the new Graham Slee projects range of high performance transformers.

For more details please contact JEM Distribution, Springfield Mills, Spa Street, Ossett Wakefield WF5 0HW

Tel: 01924 277626 Fax: 01924 270759
Vinyl Replay

DUNLOP Systemdeck 3 / Box / LKX / KS5750 £249
LINC LP12 (Black) + Inok (Black) £895
LINC LP12 (Alford) / Inok / Brand New £1195
LINC LP12 / Aixo / K9 £440
MICHEL Girodrec £740
MICHEL ISD HR Phone Stage Ex-don £895 £646
MICHEL ISD/PERA Phone Stage £895 £448
PROJECT 6 ¥ £300
REGA 25 / Rega cartridge - As new £895
SME 10A with 309 Tone Arm Ex-don £3410 £2896
YOHO Reference Inter arm £14,955 £5000

Amplifiers / Trans

BAT V40 £4950 £1950
BYRSTON 79SR Monoblocks £5000 £2490
CHORD SPORRO £500 £1950
CONRAD JOHNSON PV 10L Pre £1640 £950
CONRAD JOHNSON PV 10 Pre £1670 £950
COPLAND CD 14 £750
CYPRESS £700 £489
CYPRESS Power £750 £358
DENON AVR-410 Digital Pre-amp £250 £900
DEVA 250 Integrated + Matching Power £1000 £269
ELECTROCOMPANY Ex-don £1200 £1188
EXPOSURE 7 FRP / Pre & Power £1100 £800
EXPOSURE 18 / ZI Pre & Power £2000 £1099
HARMON KARDON AVR 56 £1000 £800
HARMON KARDON Clarion CD 10 £750 £729
HARMON KARDON Clarion £1200 £249
KRELL K1500 £1898
KRELL K150 £1898
KRELL P7650 Mono’s. 3 available (£14,000) each £8000
LFD LS Pre-amp £1990 £1299
LINN K1 £450 £319
LINN L1 £350 £299
LINN Koon Pre £1700 £1098
MARK LEVINSON 27.5 £600 £299
MERIDIAN 356 £1300 £698
MUSICAL FIDELITY The Pre-Amp £350
NAIM NAP 20 £600 £378
NAIM NAP 100 £400 £299
QUAD 34 £194
QUAD 36 £218
ROKSAN CASPIAN Pre £498
SCHIIT £1498
SOPHY £1495
TAG McLaren F3 Pre £748
TAG McLaren F300 Pre £598

Amplifiers / Valve

TALK ELECTRONICS Strom (Ingrid) £500 £299
TASSERAC Pre £1500 £798
VERTAS FP4 Power £3000 £2496
ARION Electro Integrated £1200 £748
AUDIO INNOVATIONS 800 MKII £1750 £748
AURIND Silver Knight 2000 Mono’s £2725 £1390
AUDIOLOGUE M2 £1000 £600
AUDIO PRISM Deb (Red Rose) £2800 £700
AUDIO PRISM Mattress (Red Rose) £3000 £1800
AUDIO RESEARCH LS20 MK2 pre £550 £498
AUDIO RESEARCH VT100 MK1 £550 £498
CARY CD-305SE monoblocks (As new) £500 £398
CLASSE CA200 + CA6 £750 £300
CONRAD JOHNSON Premier 12 £8750 £2500
CONRAD JOHNSON Prime 8 Monos £16,000 £9750
CR DEVELOPMENTS Cortez (Pre) £900 £428
GRAF 12.5 Pre £2188
GRAF GA400 + £1898
JADAS 0A30 Integrated £3500 £2246
JADAS 0A30 Lonly Power £2900 £1098
PAWPORT V40 £2350 £2495
PATHOS Two Towers £1900 £350

Guarantee

Full Manufacturers Warranty on new and ex-dim products. 30 days to days after purchase to all used items.

World Radio History
## STOCK CLEARANCE OF EX-DEMONSTRATION COMPONENTS AND MANY BRAND NEW ITEMS

We work closely with several high-end retailers and can offer you great savings on their top quality ex-demonstration and display items. All stock listed here is offered in ‘as new’ condition unless otherwise stated, complete with boxes, instructions and full manufacturers warranties. Some excess stock items are new in unopened boxes.

<table>
<thead>
<tr>
<th>Component</th>
<th>Old Price</th>
<th>New Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARHEL ACoustics Mod 8 + Stands</td>
<td>£250</td>
<td>£1349</td>
</tr>
<tr>
<td>AUDIO ANALOGUE Marantz EX-DHM</td>
<td>£2000</td>
<td>£1349</td>
</tr>
<tr>
<td>AUDIO Goldmund Speaker stand</td>
<td>£475</td>
<td>£2698</td>
</tr>
<tr>
<td>AUDIO Research V1100/3 PWR EX-DHM</td>
<td>£4000</td>
<td>£2998</td>
</tr>
<tr>
<td>AUDIO Research 1516 Pre-amp EX-DHM</td>
<td>£2999</td>
<td>£2398</td>
</tr>
<tr>
<td>AUDION Silver Knight 300B Intgrtd EX-DHM</td>
<td>£1998</td>
<td>£1349</td>
</tr>
<tr>
<td>AUDIO RESEARCH 1564 EX-DHM</td>
<td>£2999</td>
<td>£1349</td>
</tr>
<tr>
<td>B&amp;W TTX System EX-DHM</td>
<td>£475</td>
<td>£2698</td>
</tr>
<tr>
<td>GOLDMUND Memphis 6 Amp EX-DHM</td>
<td>£2999</td>
<td>£2398</td>
</tr>
<tr>
<td>GOLDMUND Memphis 5 Tuner EX-DHM</td>
<td>£1998</td>
<td>£1349</td>
</tr>
<tr>
<td>HARRETH Compact 75S EX-DHM</td>
<td>£1998</td>
<td>£1349</td>
</tr>
<tr>
<td>HARRETH ULP-35 EX-DHM</td>
<td>£749</td>
<td>£426</td>
</tr>
<tr>
<td>KRELL KPS20 CD Player EX-DHM</td>
<td>£9999</td>
<td>£5999</td>
</tr>
<tr>
<td>KRELL KA700 EX-DHM</td>
<td>£3950</td>
<td>£2745</td>
</tr>
<tr>
<td>KRELL FP300 EX-DHM</td>
<td>£9998</td>
<td>£5999</td>
</tr>
<tr>
<td>KRELL KCT Pre-comp EX-DHM</td>
<td>£9999</td>
<td>£5999</td>
</tr>
<tr>
<td>MAK V1000 Sub EX-DHM</td>
<td>£1998</td>
<td>£1349</td>
</tr>
<tr>
<td>MAK V1012 Sub EX-DHM</td>
<td>£1998</td>
<td>£1349</td>
</tr>
<tr>
<td>MERIDIAN 594 DVD Player EX-DHM</td>
<td>£2500</td>
<td>£1349</td>
</tr>
<tr>
<td>MERIDIAN 563 EX-DHM</td>
<td>£7100</td>
<td>£426</td>
</tr>
<tr>
<td>MICHELL F50 HR Phono Stg EX-DHM</td>
<td>£3950</td>
<td>£2745</td>
</tr>
<tr>
<td>MICHELL Gypo SE EX-DHM</td>
<td>£749</td>
<td>£426</td>
</tr>
<tr>
<td>MICHELL Delphiino Phono LPSI EX-DHM</td>
<td>£895</td>
<td>£5999</td>
</tr>
<tr>
<td>MICHELL Delphiino Phono LPSI EX-DHM</td>
<td>£895</td>
<td>£5999</td>
</tr>
<tr>
<td>MONROI MP2 135S 5 X NEW</td>
<td>£2500</td>
<td>£1349</td>
</tr>
<tr>
<td>MONROI MP2 135S X NEW</td>
<td>£2500</td>
<td>£1349</td>
</tr>
<tr>
<td>MONROI MP3 135S X NEW</td>
<td>£2500</td>
<td>£1349</td>
</tr>
<tr>
<td>MONROI MP4 135S X NEW</td>
<td>£2500</td>
<td>£1349</td>
</tr>
<tr>
<td>MONROI Any CD Plr NEW in BOX</td>
<td>£750</td>
<td>£426</td>
</tr>
<tr>
<td>MONROI 1882 DAC EX-DHM</td>
<td>£600</td>
<td>£3999</td>
</tr>
<tr>
<td>NAGRA AI Pre-EX DFM</td>
<td>£5395</td>
<td>£3999</td>
</tr>
<tr>
<td>NAGRA AI Pre-EX DFM</td>
<td>£5395</td>
<td>£3999</td>
</tr>
<tr>
<td>NAGRA 45 Pre-EX DFM</td>
<td>£5395</td>
<td>£3999</td>
</tr>
<tr>
<td>NAGRA 130/200REX DFM</td>
<td>£950</td>
<td>£426</td>
</tr>
<tr>
<td>NAIM M10 Pre EX-DFM</td>
<td>£1998</td>
<td>£1349</td>
</tr>
<tr>
<td>NAIM CD102 Pre EX-DFM</td>
<td>£2100</td>
<td>£1349</td>
</tr>
<tr>
<td>NAIM CD102 Pre EX-DFM</td>
<td>£2100</td>
<td>£1349</td>
</tr>
<tr>
<td>NAIM CDX-35 EX-DHM</td>
<td>£2745</td>
<td>£1349</td>
</tr>
<tr>
<td>NAIM CDX-35 EX-DHM</td>
<td>£2745</td>
<td>£1349</td>
</tr>
<tr>
<td>NAIM CDX-35 EX-DHM</td>
<td>£2745</td>
<td>£1349</td>
</tr>
<tr>
<td>MERIDIAN DSP33C Centre EX-DHM</td>
<td>£1355</td>
<td>£848</td>
</tr>
<tr>
<td>MERIDIAN DSP5500 (20 bit) EX-DHM</td>
<td>£6995</td>
<td>£426</td>
</tr>
<tr>
<td>MERIDIAN DSP5000C (Dig Centre) EX-DHM</td>
<td>£1995</td>
<td>£1349</td>
</tr>
<tr>
<td>MISSION 783 (Book) EX-DHM</td>
<td>£999</td>
<td>£5999</td>
</tr>
</tbody>
</table>

**Ex-Demonstration and New Stock items can be made available to view by appointment but are otherwise supplied by carrier.**

We’ve a newly refurbished store where customers are very welcome to inspect any item of ‘Previously Owned’ stock. Please check availability before travelling.

Visitors and callers please note The Trading Station is open from Tuesday to Saturday 10.00 am - 5.30 pm CLOSED MONDAYS

Ex-Demonstration and New Stock items can be made available to view by appointment but are otherwise supplied by carrier.

Our ‘Fail-Safe’ mail order service promises ‘Next day’ delivery for all credit and debit card purchases. In the unlikely event that any item fails to meet our description an immediate refund will be made on return of goods in the same condition as supplied.

All items, both used and new, are fully guaranteed. Specific details at time of purchase.

QUALITY HI-FI URGENTLY REQUIRED FOR RE-SALE OR PART-EXCHANGE
### CD players DACs & Transports

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Was</th>
<th>Now</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pink Triangle DaCapo DAC 24 Bit S/H</td>
<td>1800</td>
<td>799</td>
</tr>
<tr>
<td>Pink Triangle Cardinal Transport S/H</td>
<td>1499</td>
<td>599</td>
</tr>
<tr>
<td>Pink Triangle Ordinal 1307 DAC S/H</td>
<td>749</td>
<td>399</td>
</tr>
<tr>
<td>Primare D30.2 CD Player S/H</td>
<td>1500</td>
<td>899</td>
</tr>
<tr>
<td>Wadia 830CD Player S/H</td>
<td>3295</td>
<td>1899</td>
</tr>
</tbody>
</table>

### Turntables Tonearms & Cartridges

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Was</th>
<th>Now</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Tangent 1C with Wisa Pump X-demo</td>
<td>5800</td>
<td>3999</td>
</tr>
<tr>
<td>Benz Micro LP New&amp;Boxed</td>
<td>2200</td>
<td>1799</td>
</tr>
<tr>
<td>Kuzma Stabi/Stogi S Turntable New&amp;Boxed</td>
<td>1295</td>
<td>1099</td>
</tr>
<tr>
<td>Lehmann Audio Black Cube SE New&amp;Boxed</td>
<td>650</td>
<td>449</td>
</tr>
<tr>
<td>Lyra Lydian Beta New&amp;Boxed</td>
<td>599</td>
<td>499</td>
</tr>
<tr>
<td>Michell ISO Phono Stage S/H</td>
<td>549</td>
<td>250</td>
</tr>
<tr>
<td>McCormack Phono Stage New and Boxed</td>
<td>650</td>
<td>399</td>
</tr>
<tr>
<td>Rega RB300 Tone arm S/H</td>
<td>188</td>
<td>119</td>
</tr>
</tbody>
</table>

### Preamplifiers

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Was</th>
<th>Now</th>
</tr>
</thead>
<tbody>
<tr>
<td>Einstein &quot;The Tube&quot; Preamplifier x-demo</td>
<td>6000</td>
<td>3999</td>
</tr>
<tr>
<td>Musical Fidelity A3 Preamplifier S/H</td>
<td>899</td>
<td>499</td>
</tr>
<tr>
<td>Graaf GM13 5BII Valve Preamplifier x-demo S/H</td>
<td>4000</td>
<td>2999</td>
</tr>
<tr>
<td>Krell K2L 2 Signature Analog Series with KPE Phono Board Fitted S/H</td>
<td>1850</td>
<td></td>
</tr>
<tr>
<td>Krell KAV-S Processor/Preamplifier DTS/AC3/Pro Logic S/H</td>
<td>1295</td>
<td>399</td>
</tr>
<tr>
<td>Spectral DMC12 s Phono x-demo</td>
<td>4750</td>
<td>3299</td>
</tr>
<tr>
<td>Spectral DMC30 Remote x-demo</td>
<td>8500</td>
<td>6500</td>
</tr>
</tbody>
</table>

### Amplifiers

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Was</th>
<th>Now</th>
</tr>
</thead>
<tbody>
<tr>
<td>47 Labs Gain Card 25w / Humpty S/H</td>
<td>3250</td>
<td>1899</td>
</tr>
<tr>
<td>Audio Analogue Maestro Integrated x-demo</td>
<td>2700</td>
<td>1899</td>
</tr>
<tr>
<td>Electrocompaniet AW120Dbm S/H</td>
<td>2395</td>
<td>1599</td>
</tr>
<tr>
<td>Gamut D200 Bk with Handles S/H</td>
<td>3295</td>
<td>1795</td>
</tr>
<tr>
<td>Krell FPB600c Power Amplifier S/H</td>
<td>1400</td>
<td>8500</td>
</tr>
<tr>
<td>Krell KSA 150 Power Amplifier S/H</td>
<td>6898</td>
<td>2199</td>
</tr>
<tr>
<td>Unison Research SZK Remote x-demo</td>
<td>1295</td>
<td>995</td>
</tr>
<tr>
<td>Rea Eliot Integrated with Phono Stage S/H</td>
<td>698</td>
<td>275</td>
</tr>
</tbody>
</table>

### Loudspeakers

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Was</th>
<th>Now</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avalon Eclipse Maple x-demo</td>
<td>9800</td>
<td>7249</td>
</tr>
<tr>
<td>ATC Model10 R/W xdemo</td>
<td>1200</td>
<td>749</td>
</tr>
<tr>
<td>Indigo Model Two Centre Channel Cherry x-demo</td>
<td>199</td>
<td>129</td>
</tr>
<tr>
<td>Living Voice Auditoriums Cherry x-demo</td>
<td>1600</td>
<td>1199</td>
</tr>
<tr>
<td>Living Voice Avalors Maple x-demo</td>
<td>2700</td>
<td>1995</td>
</tr>
<tr>
<td>Living Voice Avalors OBX-R Ebony x-demo</td>
<td>4000</td>
<td>2999</td>
</tr>
<tr>
<td>Martin Logan Quest Hybrid Electrostatics Oak S/H</td>
<td>5940</td>
<td>1899</td>
</tr>
<tr>
<td>Rega Xel Rose wood Footstanders S/H</td>
<td>1295</td>
<td>399</td>
</tr>
</tbody>
</table>

### Cables & Accessories

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Was</th>
<th>Now</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Ped size 1 x3 S/H</td>
<td>210</td>
<td>99</td>
</tr>
<tr>
<td>Audi Note AN-V 2m Silver Interconnect S/H</td>
<td>450</td>
<td>199</td>
</tr>
<tr>
<td>Acoustic Zen Silver Signature Balanced 12ft</td>
<td>2700</td>
<td>1499</td>
</tr>
<tr>
<td>Cogan Hall EM-D 0.6m S/H</td>
<td>199</td>
<td>99</td>
</tr>
</tbody>
</table>

### Suppliers and installers of High Quality Audio Systems

- Graff
- Gryphon
- Lavardin
- Mark Levinson
- Martin Logan
- Michell
- Nagra
- Primare
- ProAc
- Rega
- Resolution Audio
- DCS
- Sonus Faber
- Spectral
- T+A
- UKD
- Elektra

WE HAVE MOVED

New address:-

www.midlandaudiox-change.co.uk

call John Roberts Tel 01562 731100

or fax on 01562 730228

The Old Chapel, Forge Lane, Belprethorne

Worcestershire, DY9 9TD

e-mail sales@midlandaudiox-change.co.uk

Mobile 07721 605966
**Connoisseur Audio**

**Autumn Bargains!**

Look At These Prices – Ex-Dem And Pre-Owned Stock!! Call or Email Now For Details and Part Exchange Deals

Tel/Fax: 01436-670-928 Email: connoisseuraudio@btopenworld.com

<table>
<thead>
<tr>
<th>Amps</th>
<th>Price</th>
<th>Amps</th>
<th>Price</th>
<th>Speakers</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Logos</td>
<td>£2189Ex</td>
<td>EAR 861 Power</td>
<td>£899Ex</td>
<td>Triangle Celeus 202 120w</td>
<td>£899Ex</td>
</tr>
<tr>
<td>TT-RR Integ.</td>
<td>£2899Ex</td>
<td>EAR V20 Integrated</td>
<td>£2499Ex</td>
<td>Opera SP3</td>
<td>£1499Ex</td>
</tr>
<tr>
<td>Unison Research S8</td>
<td>£2499P</td>
<td>EAR 864 Pre</td>
<td>£1199Ex</td>
<td>RedRose Music</td>
<td>£975Ex</td>
</tr>
<tr>
<td>Croft Twinstar Power</td>
<td>£899Ex</td>
<td>Unison Research Unico I</td>
<td>£750</td>
<td>Biuenote A6 Piano Lacquer Black</td>
<td>£699Ex</td>
</tr>
<tr>
<td>Croft Epoch Elite Pre</td>
<td>£795Ex</td>
<td>Plinius SA102</td>
<td>£3495</td>
<td>Diapason Adamantes LE &amp; Stands</td>
<td>£2995Ex</td>
</tr>
<tr>
<td>Audio A/log Donizetti Mono</td>
<td>£1395Ex</td>
<td>Plinius 8200 Integrated</td>
<td>£1699P</td>
<td>Triangle Lyrr 222 150w</td>
<td>£1299</td>
</tr>
<tr>
<td>Pink Tri-Angle Integral</td>
<td>£2999P</td>
<td></td>
<td></td>
<td>CD/ADC</td>
<td></td>
</tr>
</tbody>
</table>

**Cartridges**

<table>
<thead>
<tr>
<th>Price</th>
<th>Price</th>
<th>Price</th>
<th>Price</th>
<th>Price</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynavector DV20H</td>
<td>£325P</td>
<td>Michell Gyro/RB 300</td>
<td>£997</td>
<td>Audio Analogue Maestro CD</td>
<td>£1395Ex</td>
</tr>
<tr>
<td>Sumiko Blue Point Spec.</td>
<td>£259</td>
<td>Origin Live Aurora TT</td>
<td>£1979</td>
<td>Unico CD</td>
<td>£959</td>
</tr>
<tr>
<td>Lyra Argo MC</td>
<td>£795</td>
<td>Origin Live Resolution</td>
<td>£1099P</td>
<td>Krell KAV300</td>
<td>£1799P</td>
</tr>
<tr>
<td>Benz LP</td>
<td>£1599</td>
<td>Record Cleaners etc</td>
<td>£699P</td>
<td>Monito ASTY Player</td>
<td>£599</td>
</tr>
</tbody>
</table>

**Mains Power**

<table>
<thead>
<tr>
<th>Price</th>
<th>Price</th>
<th>Price</th>
<th>Price</th>
<th>Price</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS Audio P300 MWW</td>
<td>£1499</td>
<td>Loracraft PRC 3</td>
<td>£1399</td>
<td>New Valves Svetlana etc</td>
<td>£48</td>
</tr>
<tr>
<td>PS Audio P500</td>
<td>£1000</td>
<td>RDC Aspekt 4 shelf Black/Cherry</td>
<td>£499Ex</td>
<td>Call ! Motor Kit Ultra DC</td>
<td>£725</td>
</tr>
<tr>
<td>PS Multwave II</td>
<td>£220</td>
<td>Clight Aspekt 3 Shelf Black</td>
<td>£429Ex</td>
<td>Advanced VTA</td>
<td>£950</td>
</tr>
<tr>
<td>Isotek Qube 2Kva</td>
<td>£1295</td>
<td></td>
<td></td>
<td></td>
<td>various</td>
</tr>
</tbody>
</table>

**INCREDIBLE PERPETUAL TECHNOLOGIES PACKAGES • FULL SIGNATURE VERSION • £1995**

Comprises Full Sig. P3A DAC, Full Sig Monolithic PSU & P1A Digital Correction Engine

[www.connoisseuraudio.co.uk](http://www.connoisseuraudio.co.uk)

---

**GRAND M25 AUDIOJUMBLE**

**SUNDAY 2ND NOVEMBER 2003**

**10.30AM - 2.30PM**

**LEATHERHEAD LEISURE CENTRE**

**LEATHERHEAD M25 JUNCTION 9**

ALL VINTAGE & MODERN HI-FI PARAPHERNALIA

INCLUDING: VINYL, DISC ETC

FOR STALL BOOKINGS/DETAILS CALL 07730 134973

**National Vintage Communications Fair**

**N.E.C. Birmingham • UK**

**Sunday 28th September 2003**

Now in our 11th Year!

10.30am to 4.00pm • £5 admission (early entry c.8.30am @ £15)

VINTAGE VALVE AMPLIFIERS

PRE-AMPS • TUNERS • LOUDSPEAKERS

RECORD DECKS • RECORDS (78s to CDs)

GRAMOPHONES • VALVES • SPARES

VINTAGE RADIOS • TVs • TELEPHONES

plus all MECHANICAL and ELECTRICAL ANTIQUES & COLLECTABLES

• 300 STALLHOLDERS •

Stall Bookings/Details

N.V.C.F., 122B Cannon Street Road

London E1 2LH

Tel: 07947 460161

http://www.bvws.org.uk
### SUSSEX SURPLUS

Oak Farm, Goose Green Lane, Thakeham, West Sussex, RH20 2LW  
Telephone: 01798 817496  Fax: 01798 817560

<table>
<thead>
<tr>
<th>Part Numbers</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>E625 MALLARD</td>
<td>6V6G USA</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>6V6G BRIMAR UK</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>ECC81 MULLARD</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>ECC82 MULLARD</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>ECC31 MALLARD</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>ECC32 MAURO</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>E181 MALLARD</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>0/80 MALLARD</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>ECC35 MALLARD</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>KT66 CLEAR GEC</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>ECL86 TESA</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>6132 MALLARD</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>6734 MALLARD</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>MO MALLARD</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>6731 MALLARD</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>E88CC MALLARD</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>EL37 MALLARD</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>EL34 MULLARD</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>EF86 NULLARD</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>EF37A MALLARD</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>MLA DEC</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>ML4 DEC</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>FW4-500 MALLARD</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>U18/20 DEC</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>E1156 TELEFUNKEN</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>6561 RIMAR</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>504G DEC</td>
<td>1</td>
</tr>
<tr>
<td>E625 MALLARD</td>
<td>12AX WAGE</td>
<td>1</td>
</tr>
</tbody>
</table>

**Contents**

- Hi-Fi & Computer Audio World on a regular basis, commencing with the next issue, until further notice.

**Telephone/P&P**

- Telephone: 01798 817496  Fax: 01798 817560

**Address**

- Oak Farm, Goose Green Lane, Thakeham, West Sussex, RH20 2LW

**Price List**

<table>
<thead>
<tr>
<th>Component</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>10uf 600v</td>
<td>£10</td>
</tr>
<tr>
<td>20uf 600v</td>
<td>£12</td>
</tr>
<tr>
<td>30uf 600v</td>
<td>£15</td>
</tr>
<tr>
<td>40uf 600v</td>
<td>£20</td>
</tr>
<tr>
<td>60uf 600v</td>
<td>£30</td>
</tr>
<tr>
<td>80uf 1500v</td>
<td>£50</td>
</tr>
<tr>
<td>1uf 1000v</td>
<td>£50</td>
</tr>
<tr>
<td>2uf 1000v</td>
<td>£75</td>
</tr>
<tr>
<td>4uf 1000v</td>
<td>£100</td>
</tr>
<tr>
<td>10uf 600v</td>
<td>£125</td>
</tr>
<tr>
<td>20uf 600v</td>
<td>£150</td>
</tr>
<tr>
<td>30uf 600v</td>
<td>£175</td>
</tr>
<tr>
<td>50uf 600v</td>
<td>£500</td>
</tr>
</tbody>
</table>

**Comes to order**

- Distributors and Overseas Postage at Cost

**Available from**

- Sussex Surplus
  - Telephone: 01798 817496  Fax: 01798 817560

**All items subject to availability**

---

**RESERVE YOUR COPY TODAY!**

Complete this form and hand to your local newsagent.

Please reserve/deliver (delete as appropriate) Hi-Fi & Computer Audio World on a regular basis, commencing with the next issue, until further notice.

<table>
<thead>
<tr>
<th>Name</th>
<th>Address</th>
</tr>
</thead>
</table>

Signed  Date

---

**Distributed to the newstrade by**

**COMAG**

**MAGAZINE MARKETING**

---

**www.hi-fiworld.co.uk**

**OCTOBER 2003**

**HI-FI WORLD & COMPUTER AUDIO**

113
NEW STOCK ITEMS

1. Brand new AVI S21 MC CD Player (£1300) to match the S21 MI Laboratory series integrated (£1400) so well reviewed - see Hi-Fi Choice, May 2003.

2. Alan Lotus Elite floorstanding speaker, see rave review, Hi-Fi Plus, issue 25, Aug/Sept 03, a bargain at £4k.

3. Alan Thunderbolt superb subwoofer at £1800, for both Hi-Fi and Home Cinema.

4. Eslab DX-S8 300 w/ch digital power amp (£2500)

5. New SIM2 Domino DLP 16.9 projector at £3700, and the similar Infocus $700 at £3000, for those into Home Cinema.

SALE ITEMS TO MAKE WAY FOR ABOVE

A) Previous AVI 24 bit cd player £800

B) Eslab DX-S4 200 w/ch digital power (£2.5k) £1500

C) Alan Lotus, 15 ohm bass driver (£3k) £1900

D) ATC SPA2 -150 power amp (£3239)

E) ATC SCM 50 passive’s black ash (£5k) £2500

F) SME 20A MK II turntable/MC30 supreme as new (£5800)

G) Linn LP12/Lingo/Ekos/Circus/Trampline/ Lyra Beta £1600

H) Ruark Solstice speakers (£4k) £2000

V‘audio Hi-Fi Consultants
36 Druid Hill, Stoke Bishop, Bristol BS9 1EJ
Tel/Fax 0117 968 6005
SILVER SILVER - upgrade the cable with silver plated contacts on IEC and MK plug for £G. AUDUSA - Eupen and LAT AC-2 mains cable available with 16 amp IEC (for certain models of amps by Krell, MF, Levinson etc). Manufactured for export.

LAT International AC-2 AUDIO AC MAINS CABLE

SILVERFUSE is a near alloy of silver and copper. IT IS NOT SILVER PLATED OR SILVER CLAD. Plating (or clad, which is the same thing as plating) causes a dioding effect when the signal is passed through resulting in brightness and distortion. The Silverfuse process starts with seven nines OFHC copper wire with a diameter that is slightly larger than the required size. It is then pulled through a trough of molten silver. The wire with a silver deposit, and copper. IT IS NOT SILVER PLATED OR SILVER CLAD. Fitted as standard with IEC MK Tough plug, and high quality 13amp sockets. CE tested and approved mains distribution units manufactured of heavy gauge steel, finished in black and fitted with high quality 13amp sockets. It has no filters, circuit breakers, surge protection, transformers, resistors, capacitors, LED's, on/off switches, chokes, regulators, just fitted with 1m of AC-2 mains cable. From £166 for 4 way, £198, 6 way, £229 for 8 way.

LAT INTERNATIONAL Inc USA - Analogue, Digital and Video interconnects and Speaker cable better than most others at double the price.

SUNFIRE CORPORATION - Snohomish USA

New for 2003 Sunfire Ultimate - world’s most powerful home cinema Receiver. 7 x 200 watts, Cinema Seven power amps, 7 x 200 and 7 x 400 Signature True Sub Woofer 13 inch cube True Sub MKIV 11 inch cube and Junior Sub Woofer 9 inch cube - all with two drivers, to as low as 16hz, 116 SPL and 360 Cu ins of air movement, 1200 or 2700 watt patented amp technology. Solid state power amps 2 channel (2 x 300 and 2 x 600) and 5 channel (5 x 220 watts and 5 x 430 watts) patented amp technology (no heat sinks), Classic tube preamp and Theatre Grand III processor preamp.

www.audusa.com T: 020 8241 9826, 020 8264 0249 F: 020 8241 0999 E: sales@audusa.com
<table>
<thead>
<tr>
<th><strong>Valve Amps</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>VALVE AMPS</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
The Ultra Kit Modern offers the performance of a suspended sub-chassis turntable with beautifully cost. All OL turntable kits are supplied in various turntables I have ever heard regardless of make. Component quality is superb and the build process impressive... brilliant value for money...

 Origin Live: Recreating the Original Sound www.originlive.com

Ultra Kit Classic offering a truly high end-A Standard Kit of Parts to enable you to build your performance turntable at a fraction of the normal.

Now you can own a professionally built, high towards the floor with the solidity and transparency offered with a pre-drilled & finished plinth at £349

"One of the most enjoyable and musically involving...this vinyl front end had my jaw heading..."

Hi-Fi World on Structural modification

What Hi-Fi? gave this modification 5/5

For arm modifications we normally return your arm within 2 - 3 days

Hi-Fi World on turbocharging your rega arm

"I have to say the Rega modifications turn this humble arm into a real giant killer. Gone is the rather grey, sterile sound of the cooking humble arm into a real giant killer. Gone is the rather grey, sterile sound of the cooking humble arm into a real giant killer. Gone is the rather grey, sterile sound of the cooking...

Common Ground Magazine

Hi-Fi World on turbocharging your rega arm

"It's value is nothing short of tremendous." Listener Magazine

What are your current turntable, the results in upgrading to our DC motor & PS unit are simply astonishing. Designed as a drop in replacement for as: Rega, Systemdeck, Roksan, Rock, Oracle, Michelle, VPI, Clearaudio, Accoustic Signature, etc.

Hi-Fi World on turbocharging your rega arm

"The single most important upgrade you can ever make to any record deck concerns the motor drive...nothing can prepare you for the shock of going DC. In a word, gobsmacking."
Thanks for providing the image. Here is the text in a plain format:

**Hi-Fi World**: October 2003

### PRODUCT REVIEWS

- **Sound Therapy**: A range of treatments to rejuvenate the soul.

### ADVERTISEMENTS

- **New and Used Equipment**: A selection of electronics for sale.

### CLASSIC SOUND SYSTEMS (LEICESTER)

- **INC ONE THING**: A collection of must-have gadgets and accessories.

### VINTAGE HI-FI & VALVE SPECIALIST

- **WANTED**: Vintage and modern hi-fi equipment for sale.

### ELECTRICAL

- **Wiring and Maintenance**: Tips and advice on electrical work.

### LETTERS TO THE EDITOR

- **Reader Feedback**: Opinions and suggestions from readers.

### CLASSICAL MUSiC (LEICESTER)

- **INC ONE THING**: A selection of classical music for the month.

### NEW EARTH WORTHI EQUIPMENT

- **New Products**: A selection of new and innovative items.

### TRANSPARENT LIQUIDS

- **Translucent Pure Silver Wire**: Options for wire conductivity.

### ELECTRICAL WORKSHOP

- **Rewiring Services**: Professional rewiring services for homes and businesses.

Please check the details for any specific equipment or services you are interested in.
CD & SACD & DACS
MAD 0.2 monoblocks, $4000 net. MONITOR 0.2 monoblocks, $3500 net. MONITOR D100 speaker, $19995. MONITOR 0.2 monoblocks, $3500 net. MONITOR D100 speaker, $19995. MONITOR 0.2 monoblocks, $3500 net. MONITOR D100 speaker, $19995. MONITOR 0.2 monoblocks, $3500 net. MONITOR D100 speaker, $19995. MONITOR 0.2 monoblocks, $3500 net. MONITOR D100 speaker, $19995. MONITOR 0.2 monoblocks, $3500 net. MONITOR D100 speaker, $19995. MONITOR 0.2 monoblocks, $3500 net. MONITOR D100 speaker, $19995. MONITOR 0.2 monoblocks, $3500 net. MONITOR D100 speaker, $19995.

WORLDWIDE FIBER OPTIC SOURCE
FOUR WAY 4-WAY NETWORK INTEGRATOR
FOUR WAY 4-WAY NETWORK INTEGRATOR
FOUR WAY 4-WAY NETWORK INTEGRATOR
FOUR WAY 4-WAY NETWORK INTEGRATOR
FOUR WAY 4-WAY NETWORK INTEGRATOR
FOUR WAY 4-WAY NETWORK INTEGRATOR
FOUR WAY 4-WAY NETWORK INTEGRATOR
FOUR WAY 4-WAY NETWORK INTEGRATOR

AURALISTIC Sound Design
DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500.

FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net.

AURALISTIC Sound Design
DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500.

FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net.

AURALISTIC Sound Design
DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500.

FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net.

AURALISTIC Sound Design
DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500.

FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net.

AURALISTIC Sound Design
DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500. DUAL MONOPHONIC 5.1 speaker, $1500.

FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net. FUTURIST 2.1 speaker, $1000 net.
The Kec182 was created from a brief that demanded simplicity, ease of build and a super low cost. In order to achieve a reasonable power output we went for a push-pull amplifier.

We chose the ECL82, a triode/output pentode. This tube is readily available and has a good sound. In push-pull mode it delivers 8Watts. Realistically you need a speaker of around 89dB or above. This is possible at a budget price - try the smaller Triangle models, or a Tannoy mX3 or even one of the older Missions like the 773e, or if you like building your own speakers, try the Adire Audio HE 0.1, as reviewed in HFW October 2002 issue.

You will see that the front has only a volume control, and it is fed by one pair of phono sockets. A selector and tape/source switch were not used in this amplifier as they are tricky to wire up, and the aim was to make it easy to build. In fact, in many ways the Kec182 would be great powering a second system, using a CD player as a source, and will definitely give you a taster of what valves can offer. Measuring 30cm wide, 23.5cm deep and 11cm height with feet, it is entirely self-enclosed. The valves are visible through the four upper circular vent holes (one directly above each valve). We have kept the look simple with the minimalist front panel holding the volume potentiometer. The two-part chassis is constructed from 1.6mm mild steel with a durable black powder-coat finish. The whole unit is very sturdy, weighing in at 9kgs.

The signal input is in the form of a pair of gold plated RCA phono sockets that sit at the rear of the chassis. The speaker sockets accept 4mm banana plugs as well as bare wire. The mains switch is positioned at the rear of the amplifier, on the right hand corner for easy access. Mains power is received via an IEC lead. The Kec182 is based on a printed circuit board (PCB). The PCB is easy to follow with all component names, locations and orientations shown clearly. The amplifier requires no set up, you just turn it on. The kit will come with comprehensive instructions taking you through the build step-by-step.

**SOUND QUALITY BY SIMON POPE**

Purity is the key to this amplifier’s design and sound. Because there’s very little to get in the way of the signal what you get is an exceptionally sweet and simple sound that also has a superbly wholesome roundness to it. A high quality recording of Mahler’s Das Lied Von Der Erde on Reference Recordings showed that the Kec182 faithfully reproduced all the depth and space of a full symphonic orchestra without any problems. Violins were smooth and sweet, as was percussion (which virtually sparkled) and the woodwind section was especially impressive, with a spacious and airy sound.

A run through Miles Davis's Kind Of Blue saw the little integrated delivering a detailed and precise sound that highlighted the warmth of Coltrane’s tenor sax and the rich, deep sound of the upright bass. Rock and Pop records such as Radiohead's 'Lucky' demonstrated that the valves inside the amp, whilst small, are quite robust sounding, with commendable clout and bass depth for a humble budget 8W valve amp. This is a great introduction to the sonic art of the valve amp and a big upgrade for anybody with a mid-price solid-state amp that wishes to swap over to something more musically engaging, for a price that's virtually as cheap as chips!

**MEASUREMENT PERFORMANCE**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency response</td>
<td>+/−3dB 15Hz - 75kHz</td>
</tr>
<tr>
<td>Power output</td>
<td>8 watts into an 8 ohm load</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>850mV (suitable for CD)</td>
</tr>
<tr>
<td>Hum</td>
<td>0.5mV</td>
</tr>
</tbody>
</table>

The Kec182 amplifier kit is available from World Audio Design
Tel/fax: 00 44 (0) 1908 218836 or order on-line at www.worldaudiodesign.co.uk

Kec182 amplifier kit (UK price) £195.00 (inc. vat & carriage)

Kec182 amplifier kit (EU price) £195.00 (inc. vat, exc. carriage)

Kec182 amplifier kit (Overseas price) £170.00 (exc. carriage)
SALE LIST

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>PRICE NEW</th>
<th>SALE PRICE</th>
<th>S/H</th>
</tr>
</thead>
<tbody>
<tr>
<td>KRELL FPB 300c Power amp</td>
<td>£9,500.00</td>
<td>£5,595.00</td>
<td>D</td>
</tr>
<tr>
<td>KRELL KAV 500i Int Amp</td>
<td>£4,995.00</td>
<td>£2,499.00</td>
<td>D</td>
</tr>
<tr>
<td>KRELL KAV 250 CD</td>
<td>£5,999.00</td>
<td>£1,195.00</td>
<td>S/H</td>
</tr>
<tr>
<td>KRELL KAV 300 CD</td>
<td>£5,999.00</td>
<td>£1,195.00</td>
<td>S/H</td>
</tr>
<tr>
<td>KRELL KAV KRC-3</td>
<td>£1,495.00</td>
<td></td>
<td>S/H</td>
</tr>
<tr>
<td>CYRUS DVD7</td>
<td>£1,000.00</td>
<td>£599.00</td>
<td>D</td>
</tr>
<tr>
<td>CYRUS 5 AMPLIFIER</td>
<td>£599.00</td>
<td>£329.00</td>
<td>D + N</td>
</tr>
<tr>
<td>CYRUS 7 AMP</td>
<td>£799.00</td>
<td>£479.00</td>
<td>D + N</td>
</tr>
<tr>
<td>CYRUS AV MASTER - PROCESSOR</td>
<td>£100.00</td>
<td></td>
<td>D</td>
</tr>
<tr>
<td>AUDIO RESEARCH LS16 PRE AMP - BLK</td>
<td>£3,300.00</td>
<td>£2,195.00</td>
<td>D</td>
</tr>
<tr>
<td>ARCAM DVB8 DVD PLAYER</td>
<td>£1,000.00</td>
<td>£679.00</td>
<td>D</td>
</tr>
<tr>
<td>ARCAM DIVA CD92</td>
<td>£800.00</td>
<td>£579.00</td>
<td>D</td>
</tr>
<tr>
<td>ARCAM DIVA AT5 AMP</td>
<td>£470.00</td>
<td>£309.00</td>
<td>N</td>
</tr>
<tr>
<td>ARCAM ALPHA 7R AMP</td>
<td>£280.00</td>
<td>£189.00</td>
<td>D</td>
</tr>
<tr>
<td>ARCAM PMJ A22 AMP</td>
<td>£1,100.00</td>
<td>£679.00</td>
<td>D</td>
</tr>
<tr>
<td>ARCAM FM 422 Inc DAVE AC3/DTS processor</td>
<td>£1,850.00</td>
<td>£999.00</td>
<td>N</td>
</tr>
<tr>
<td>TAG MCLAREN AVR32BEX (NEW BOXED)</td>
<td>£2,994.00</td>
<td>£1,949.00</td>
<td>N</td>
</tr>
<tr>
<td>TAG MCLAREN AYR32</td>
<td>£2,500.00</td>
<td>£1,495.00</td>
<td>D</td>
</tr>
<tr>
<td>TAG MCLAREN DPAS32R (Digital pre inc DAB)</td>
<td>£1,990.00</td>
<td>£1,189.00</td>
<td>D</td>
</tr>
<tr>
<td>TAG MCLAREN SR - 5 CHANNEL POWER AMP</td>
<td>£2,995.00</td>
<td>£1,799.00</td>
<td>D</td>
</tr>
<tr>
<td>MARTIN LOGAN Aeon</td>
<td>£3,148.00</td>
<td>£2,195.00</td>
<td>D</td>
</tr>
<tr>
<td>MARTIN LOGAN ASCENT</td>
<td>£4,499.00</td>
<td>£2,895.00</td>
<td>D</td>
</tr>
<tr>
<td>MARTIN LOGAN SCENARIO</td>
<td>£2,498.00</td>
<td>£1,629.00</td>
<td>D</td>
</tr>
<tr>
<td>CELESTION C1 - Compact speakers</td>
<td>£199.00</td>
<td>£114.00</td>
<td>D</td>
</tr>
<tr>
<td>CELESTION - C2 - Floorstanders</td>
<td>£499.00</td>
<td>£299.00</td>
<td>D</td>
</tr>
<tr>
<td>LINN MAJIK - INT AMP</td>
<td>£650.00</td>
<td>£399.00</td>
<td>D</td>
</tr>
<tr>
<td>LINN KARIN - PRE AMP</td>
<td>£1,400.00</td>
<td>£595.00</td>
<td>D</td>
</tr>
<tr>
<td>LINN S410 - FLOORSTANDERapprox.</td>
<td>£2,400.00</td>
<td>£799.00</td>
<td>D</td>
</tr>
<tr>
<td>LINN KABERS - BLK</td>
<td>£395.00</td>
<td></td>
<td>D</td>
</tr>
<tr>
<td>MERIDIAN 500 CD TRANSPORT approx.</td>
<td>£1,100.00</td>
<td>£599.00</td>
<td>D</td>
</tr>
<tr>
<td>MERIDIAN 502 PRE AMP</td>
<td>£1,470.00</td>
<td>£849.00</td>
<td>D</td>
</tr>
<tr>
<td>MERIDIAN S56 - 2 CH POWER AMP</td>
<td>£995.00</td>
<td>£649.00</td>
<td>D</td>
</tr>
<tr>
<td>MERIDIAN DSP 5000 96/24 SPEAKERS (VGC)</td>
<td>£4,275.00</td>
<td>£2,300.00</td>
<td>D</td>
</tr>
<tr>
<td>MERIDIAN DSP 5500 96/24 SPEAKERS</td>
<td>£7,695.00</td>
<td>£3,599.00</td>
<td>D</td>
</tr>
<tr>
<td>MERIDIAN DSP 5000C 96/24 CENTRE SPEAKER</td>
<td>£2,150.00</td>
<td>£1,099.00</td>
<td>D</td>
</tr>
<tr>
<td>MERIDIAN 565 PROCESSOR</td>
<td>£995.00</td>
<td></td>
<td>D</td>
</tr>
<tr>
<td>MERIDIAN 559 - 300W 2 CH POWER AMP</td>
<td>£2,550.00</td>
<td>£1,895.00</td>
<td>N</td>
</tr>
<tr>
<td>PROCEED AMP PROCESSOR. VGC/LIGHT USE</td>
<td>£4,700.00</td>
<td>£2,579.00</td>
<td>D</td>
</tr>
<tr>
<td>PROCEED PMDT DVD PLAYER. VGC/LIGHT USE</td>
<td>£5,495.00</td>
<td>£2,995.00</td>
<td>D</td>
</tr>
<tr>
<td>MUSICAL FIDELITY XA100R - INT AMP</td>
<td>£900.00</td>
<td>£599.00</td>
<td>N</td>
</tr>
<tr>
<td>TRICHORD GENESIS CD PLAYER</td>
<td>£500.00</td>
<td>£150.00</td>
<td>D</td>
</tr>
<tr>
<td>MISSION 700 - ROSEWOOD</td>
<td>£300.00</td>
<td>£219.00</td>
<td>D</td>
</tr>
</tbody>
</table>

Hi-Fi Multiroom and home cinema
PLEASE SEE OUR WEBSITE FOR LATEST OFFERS!

THE LISTENING ROOMS LTD
161 OLD BROMPTON ROAD LONDON SW5 0LJ
TEL: 020- 7244 7750/59 FAX: 020 - 7370 0192
www.thelisteningrooms.com
E-mail: tlr@btclick.com

RESERVE YOUR COPY TODAY!

Complete this form and hand to your local newsagent

Please reserve/deliver*(delete as appropriate) Hi-Fi & Computer Audio World on a regular basis, commencing with the next issue, until further notice.

Name ____________________________
Address ___________________________

Signed ____________________________
Date _______________________________

Distributed to the newstrade by

COMAG MAGAZINE MARKETING
private ads

Dealers must not advertise in the Private Classified section. Monthly consecutive insertions will be considered Trade advertising. The Publisher reserves the right to judge submissions.

Special Internet offer see page 129 for details

LEAK STEREO 20, grey, £340. Quad ESL 57s bronze £395. Tel: 01744 755 434 (Oct(I)

MARK LEVINSON 380 pre, £331 pwr amps with box, manual, 1/2mm M.L. balanced cable, just about run in, getting married why selling (new £8880) £4500 may split. Tel: 020 8357 1264 work 07971 708041 mobile (Oct(I)

MUSICAL FIDELITY Tri-Vista 300 integrated Ltd Edition amplifier mint, boxed, etc £3000 Tel: 020 8311 5979 or 07903 265205 (Oct(I)

INSTRUCTION BOOK needed for Sony Stereo Music System HMK-70. Please phone Fisher: 020 8450 1779 (Oct(I)

WANTED LATE D.P.A. 2005 power amp must be in top condition cash waiting Tel: Rob 07813 702571 or Email: robert@higginson990.fsnet.co.uk (Birmingham) (Oct(I)

ADVANTAGE MONOBLOCKS M.300 x2, £2500. Advantage P1 preamp £1100. Rel Strata subwoofer black £250. Audio Alchemy V3 DAC Audio Alchemy Transport £650 with 0.5 lead all good condition with boxes Tel: 01395 275 698 (Oct(I)

REGA PLANAR 2 with RB200 arm, P2 motor spectradyamics mat. Wooden plinth. Tel: 01803 851630 (Torbay) (Oct(I)

LEAK KOLEKTOR preamp and DAX-2 D/A converter, Quad 508389 mint condition. Tel: 01179 521341 (Bristol) (Oct(I)

MAGNEPLANAR MG2.5R loudspeakers. Shahinian Arc loudspeakers, Meridian 500 transport CD player, Meridian 518 processor, Audiosynthesis DAX-2 D/A converter, Quad 606 power amplifier, Synn AP900 60wpc valve amplifier, excellent condition Tel: 01179 521341 (Bristol) (Oct(I)

MUSICAL FIDELITY M3 DAC A3 dual mono amplifier £400 boxed. Monitor Audio silver 8i loudspeakers £400 boxed. Tel: 01482 508389 mint condition. Tel: 01482 508 389 (Oct(I)

GRANITE PLINTH polished grey 20 x 16 x 2 inches £20. Target HJ24/2 speaker stands 24" tall £20. Tel: 01562 741301 (South Birmingham) (Oct(I)

ROBERTSON AUDIO 4010 power amplifier x2 for sale £1000 new, £950 for both. Willing to sell separately. Tel: 01535 654220 (Oct(I)

LEAK SANDWICH speakers real classics 25 3/4 high x 12" deep x 14 3/4 wide, teak wood finish cabinets perfect. still working. Offers welcome Tel: 020 8690 1939 (Oct(I)

SIMPLY THE best 300Bs? Unison Research Smart 300B. Mono Blocks S.E.T. 25 watts per channel new and boxed £4425 new. £2000 no offers. N-T-W please. Tel: 01562 827710 (Oct(I)

LEAK KASA50 £1000. Krell PAMS preamp £1000. Krell KASA50 Mk2 £1050. Sonus Faber Concertino £375. Naim Nac5 3 x 3 £75. All vgc Tel: 01905 764145 Worcs, evening 01684 278418 days, Email: scuritops@zoom.co.uk (Oct(I)

thumbs up at 123

MUSICAL FIDELITY M3 power amp £1250. All boxed, mint. Tel: 01256 461453 (Oct(I)

MARK LEVINSON 380 pre £5495 brand new, absolute bargain at £1995. Tel: 01508 499586 after 6.30 or leave message on answer machine. Oct(I)

MARK LEVINSON 380 pre £5495 brand new, absolute bargain at £1995. Tel: 01508 499586 after 6.30 or leave message on answer machine. Oct(I)

123
UK SUBSCRIPTION £27
VISIT OUR WEBSITE:  www.hi-fiworld.co.uk

YES! I want to subscribe to Hi-Fi World for:-

- £27.00 for 12 months

Your Details
Title       Initial    Surname
Address
Post Code
Daytime Tel:
Start Issue

Delivery Address (if different)

I would like to pay by cheque made payable to Audio Publishing Ltd.

Please debit my

- VISA
- MASTER
- SWITCH
- AMEX

Security No: 
(last three digits printed on the signature strip)

Switch card issue No: 
Expiry Date: /

Cardholder Signature:

Please choose service:-

Airmail
Middle East & South-East Asia
£60

Airmail
Europe
£50

Airmail
USA, Canada, Australia, Japan, Korea & China
£70

Surface Mail
£40

Send this form to:
Hi-Fi World, Freepost LON3478, London, NW6 6YR

Get your issue of Hi-Fi World straight to your door!

Get to our amazing classified ads first and grab a bargain!!

- Run by dedicated Hi-Fi engineers and enthusiasts.
- Hi-Fi World has become famous for its informative reviews and radical kit designs.

Credit Card Hotline
+44 (0) 20 8841 8892
Monday - Friday 9.30am - 12.00 noon: Fax +44 (0) 20 8841 9144

MISSED AN ISSUE?
Back issues also available at a cost of £3.50 only (includes P&P), payment by cheque only -

overseas please contact subscriptions department for details.
Send cheque to: Hi-Fi World, Freepost LON3478, London, NW6 6YR.
MICHIELL/TRICHORD Orca pre Alecto monoblocks Russ Andrews power cords as new £1950. Tel: 01288 361113 (Oct(I))

KRELL KAV300r integrated £1200 (£3500) Krell KAV150a power (£1100). Audiophile AN/JSP speakers £500 (£1800) CR Developments Romulus valve integrated £500 (£1800). Tel: Bill 01993 851508 (Oxford) (Oct(I))

REVOX TAPE recorders. G36 4-track with service book £100. C278, 8 channel unused with remote and service book £350. Tel: 01732 850574 (Oct)

QUAD 22L top of range loudspeakers in maple finish £680. Only 3 weeks old, genuine reason for sale. Also Arcam 6 CD player £75. Tel: Tony 02476 460729 or 07788 642632 (Oct(I))

CASTLE SEVERN 2SE floor-standing loudspeakers in cherrywood. 9 months old boxed £295 ono. Tel: 01246 274735 (Oct(I))

EAR 834P (phono) MM pre amp, black case, as new condition, original owner, invoice available, £195. Tel: 020 8654 2223 or Mobile: 07879 805 837 (Croydon) (Oct(I))

LONDON TAPE RECORDERS Open reel to reel specialists. established 30 years, machines bought, sold and exchanged. Akai, Sony, Pioneer, Teac, Tascam, Revox, Technics. Servicing on selected machines. Tel: 020 7603 0303 or 07950 400 005 (Oct(I))

AUDIOPUBLIC, 78 Otley Road, Headingley, Leeds, 0113 217 7294. Yorkshire's newest Hi-Fi retailer, representing Naim, Rega, Creek, Totem, Quads, Dynavector, Rogers, Teac and more. Used LP12's, Lingo's, Linto's stocked. Call for advice. Tel: 0113 217 7294 (Oct(I))

AMAZING CABLES! Silver hybrid and solid silver interconnects from £85, with world class plugs. Solid silver speaker cables from £220. Fantastic performance, refund guarantee. Details: 0115 982 5772 after 7pm, or E-mail: guyholdsworth@onetel.net.uk (Oct(I))

THE MISSING LINK - We Offer you Our Very Own High End Pure Silver Interconnects at Realistic Prices. Loan cables Available. Full Details from Mark on 0115 877 9089 or Email: the.missing.link@ntworld.com (Oct(I))

“AMPS” QUALITY Valve Amplifiers: Restored, upgraded. Custom designs commissioned. Kries assembled. Experienced Engineer; Free estimates and fair prices. Tel: 01525 755 535 http://www.dhaen.co.uk/amps Email: amps@dhaen.co.uk (Oct(I))

NEW VALVE Amps; powers £260; matching preamp £190; other valve related goodies at www.audioclassics.co.uk or telephone 01942 257525 for more information. Dealer enquiries welcome. (Oct(I)}
**AUDUSA EUPEN CSA 2.5 AUDIO AC MAINS CABLE**

**GNLM 05/04 and GNLM 05/2.5 (CSA 2.5) Cable with FERRITE TECHNOLOGY**

A polymer material mixed with a considerable quantity of homogeneously fine high quality ferrite powder is extruded around the copper conductors. As a ferromagnetic material, it will go through hysteresis loops whenever it is under influence of an alternating magnetic field. Consecutively magnetizing and demagnetizing the material will cause considerable losses of high frequency energy. This energy is absorbed in the ferrite grains and converted into heat. The GNLM cables which in addition to the above described ferrite technology is further protected with a foil shield and a drain wire and specifically manufactured for High End audio use. Said by some to be the most neutral sounding audio ac mains cable on the market.

Fitted with IEC (Martin Kayser) and MK Tough plug Cable can be supplied fitted to our all steel 4, 6 and 8 way distribution blocks. We can rewire the distribution blocks with Eupen cable as an extra cost option. Refer to our web site for details.

**AUDUSA - OOM Silverlink OCC balanced speaker cable** - stranded; silver on OFHC plus three strands of OCC (Ohno Continuous Casting - single crystal copper) for improved bass performance. Mylar infill and with designed in protection against RF and EMI. Silverfuse conductor of 3mm diameter (approx 8 gauge). Cable Overall Dimension: 14.72 mm.

**LAT International AC-2 AUDIO AC MAINS CABLE**

We have developed a cabling (weaving) pattern along with an unusual shielding/filtering system that gets rid of the noise that contaminates your components. The difference you hear with our cord is astounding. Our power cord takes advantage of silver in its design through use of our proprietary Silverfuse conductors. The conductors are 10 gauge and with PTFE; the best insulation available. Fitted as standard with IEC (Martin Kayser) and MK Tough plug Cable connectors with silver plate contacts and other audio and ac mains connectors.

**SILVER SILVER** - upgrade the cable with silver plated contacts on IEC and and MK plug for £6. AUDUSA - Eupen and LAT AC-2 mains cable available with 16 amp IEC (for certain models of amps by Krell, MF, Levinson etc), Marinco/Wattgate IEC 320, Figure of eight, Bulgin, Hubble, European Schuko, French, Australian, Swiss, Danish, Neutrik and other plugs see our web site for IEC's, MK plugs RCA and Banana connectors with silver plate contacts and other audio and ac mains connectors.

**SILVERFUSE** is a near alloy of silver and copper. IT IS NOT SILVER PLATED OR SILVER CLAD. Plating (or clad, which is the same thing as plating) causes a dioding effect when signal is passed through resulting in brightness and distortion. The Silverfuse process starts with seven nines OFHC copper wire with a diameter that is slightly larger than the required size. It is then pulled through a trough of molten silver. The wire with a silver deposit, whenever it is under influence of an alternating magnetic field, will cause considerable losses of high frequency energy. The GNLM cables which in addition to the above described ferrite technology is further protected with a foil shield and a drain wire and specifically manufactured for High End audio use. Said by some to be the most neutral sounding audio ac mains cable on the market.

**AUDUSA** - OOM Silverlink OCC balanced speaker cable - stranded; silver on OFHC plus three strands of OCC (Ohno Continuous Casting - single crystal copper) for improved bass performance. Mylar infill and with designed in protection against RF and EMI. Silverfuse conductor of 3mm diameter (approx 8 gauge). Cable Overall Dimension: 14.72 mm.

**LAT International AC-2 AUDIO AC MAINS CABLE**

We have developed a cabling (weaving) pattern along with an unusual shielding/filtering system that gets rid of the noise that contaminates your components. The difference you hear with our cord is astounding. Our power cord takes advantage of silver in its design through use of our proprietary Silverfuse conductors. The conductors are 10 gauge and with PTFE; the best insulation available. Fitted as standard with IEC (Martin Kayser) and MK Tough plug Cable connectors with silver plate contacts and other audio and ac mains connectors.

**SILVER SILVER** - upgrade the cable with silver plated contacts on IEC and and MK plug for £6. AUDUSA - Eupen and LAT AC-2 mains cable available with 16 amp IEC (for certain models of amps by Krell, MF, Levinson etc), Marinco/Wattgate IEC 320, Figure of eight, Bulgin, Hubble, European Schuko, French, Australian, Swiss, Danish, Neutrik and other plugs see our web site for IEC's, MK plugs RCA and Banana connectors with silver plate contacts and other audio and ac mains connectors.

**SILVERFUSE** is a near alloy of silver and copper. IT IS NOT SILVER PLATED OR SILVER CLAD. Plating (or clad, which is the same thing as plating) causes a dioding effect when signal is passed through resulting in brightness and distortion. The Silverfuse process starts with seven nines OFHC copper wire with a diameter that is slightly larger than the required size. It is then pulled through a trough of molten silver. The wire with a silver deposit, whenever it is under influence of an alternating magnetic field, will cause considerable losses of high frequency energy. The GNLM cables which in addition to the above described ferrite technology is further protected with a foil shield and a drain wire and specifically manufactured for High End audio use. Said by some to be the most neutral sounding audio ac mains cable on the market.

**GNLM 05/2 5 (CSA2.5)**

£48 for 1.0m, £58 for 1.5m, £68 for 2.0m. Off the reel £30 for 1st meter, £20 per m thereafter.

Eupen GNLM 05/2.5 (CSA 2.5) shown with Marinco IEC 320 will be fitted at extra cost.

**GNLM 05/04**

£58 for 1.0m, £72 for 1.5m, £86 for 2.0m. Also available of the reel.

Both GNLM cables are available for export.

**GNLM 05/04**

£58 for 1.0m, £72 for 1.5m, £86 for 2.0m. Also available of the reel.

Both GNLM cables are available for export.

New for 2003 Sunfire Ultimate - world’s most powerful home cinema Receiver. 7 x 200 watts, Cinema Seven power amps, 7 x 200 and 7 x 400 Signature True Sub Woofer 13 inch cube True Sub MKIV 11 inch cube and Junior Sub Woofer 9 inch cube -all with two drivers, to as low as 16hz, 116 SPL and 360 cu ins of air movement. 1200 or 2700 watt patented amp technology. Solid state power amps 2 channel (2 x 300 and 2 x 600) and 5 channel (5 x 220 watts and 5 x 430 watts patented amp technology (no heat sinks), Classic tube preamp and Theatre Grand III processor preamp.

www.audusa.com
T: 020 8241 9826, 020 8264 0249 F: 020 8241 0999 E: sales@audusa.com

**SUNFIRE CORPORATION** - Snohomish USA

New for 2003 Sunfire Ultimate - world’s most powerful home cinema Receiver. 7 x 200 watts, Cinema Seven power amps, 7 x 200 and 7 x 400 Signature True Sub Woofer 13 inch cube True Sub MKIV 11 inch cube and Junior Sub Woofer 9 inch cube -all with two drivers, to as low as 16hz, 116 SPL and 360 cu ins of air movement. 1200 or 2700 watt patented amp technology. Solid state power amps 2 channel (2 x 300 and 2 x 600) and 5 channel (5 x 220 watts and 5 x 430 watts patented amp technology (no heat sinks), Classic tube preamp and Theatre Grand III processor preamp.

www.audusa.com
T: 020 8241 9826, 020 8264 0249 F: 020 8241 0999 E: sales@audusa.com
WORTHING AUDIO True Soun Series Crossoverless monitors '96dB efficiency, single 8" drive, perfect for low powered tube (S.E.T.) and solid state. Dynaudio Crafts, immaculate, boxed, with Dynaudio stands £1250. Amphion Argon loud-speakers £599. Musica Collins loud-speakers by Bernard Thiel & Partners (German) £1000. Audionote AN-ESEC lacquered finish + stands £5200. (RRP £13,600). Tel: Worthing Audio 01903 212 133 or 07900 918 882 (Oct(I)

SAVE MONEY with direct sale ceramic cabinet speakers from Faraday Sound. High end sound for half the money. Also pair used Focal TC90K sweaters £40. Wimslow subwoofer £50. www.faradaysound.co.uk (Nov(I)

VINTAGE WIRELESS COMPANY LONDON Website: www. vintagewirelesslondon.co.uk Buy-Sell-Exchange. Vintage wireless- less and classical audio. Repairs, spares, restoration, modification to all valve equipment. Quad II, Leaks etc, shipped worldwide, best prices, call us at 17 Bell Street, London, NW1 5BY. Tel: 020 7258 3448 Fax 020 7258 3449 Email: vwirelesslondon@aol.com (Oct(I)

AUDIO RESEARCH LS25 Mk1, 4yrs, (£500) £3400. Audio Research M300 Mono Blocks MkII status (£12000) £4200. Tom Evans the Groove, phono stage, 2yrs, (£1800) £1350. Sonus Faber Extrema’s on stands (£7800) £3800 All mint, boxed. Telephone Jules on 01792 280061, Email: info@sounddrjuleshifi.co.uk Web: www.sounddrjuleshifi.co.uk (Oct(I)

QUAD 989 Brand new, cancelled order (£4600) £3900. Linn Karik , mint, (£1850) £550. Naim NAC 32.5 Dac, (£800) £350. Linn Kellidh’s, (£1000) £450. AudioTechnica OC9 cartridge brand new £270. Telephone Jules on 01792 280061, Email: info@sounddrjuleshifi.co.uk Web: www.sounddrjuleshifi.co.uk (Oct(I)

MISSION DAD 5 & DADS Dac, (£800) £350. LFD Mis stated CD player,stainless steel & gold liv- ery, boxed. Mint ( £1050) £450. Telephone Jules on 01792 280061, Email: info@sounddrjuleshifi.co.uk Web: www.sounddrjuleshifi.co.uk (Oct(I)

WADIA 21, inc manual, remote and feet, (£5250.00) £2200 Wadia 16, 4yrs (£7450) £3300 Basis Debut Gold Standard Turntable, inc custom dust cover, (£8500) £3900. £1400 Koetsu Red Signature *, 20hrs, (£2200) £1300. All mint, boxed. Telephone Jules on 01792 280061, Email: info@sounddrjuleshifi.co.uk Web: www.sounddrjuleshifi.co.uk (Oct(I)

TOM TOM Audio - Specialists in Naim Audio, supply top condition pre- loved and ex-demo Naim equipment with full 12 month money back guarantee. Demonstration facilities. Can deliver stock list at: www.tomtomaudio.com Call 07972 407 176 or 07977 267 290 or Email: info@tomtomaudio.com with requirements. Wanted: mint Naim gear, cash waiting, will collect (Oct(I)

AMAZING CABLES! Silver hybrid and solid silver interconnects from £85, with world class plugs. Solid silver speaker cables from £220. Fantastic performance, refund guarantee. Details: 0115 962 5772 after 7pm, or E-mail Bob@skydivers.co.uk (Dec(I)

WOODSIDE ELECTRONICS LTD. offer a repair service for Radford, Woodside and Quad II valve amplification. Transformers manufactured to original specification for the above plus bespoke designs. Tel: 01758 741 026 or Email: info@sounddrjuleshifi.co.uk Web: www.sounddrjuleshifi.co.uk (Oct(I)

London Tape Recorders. Open reel to reel specialists, established 30 years, machines bought, sold and exchanged. Akai, Sony, Pioneer, Teac, Tascam, Revox, Technics. Servicing on selected machines. Tel: 020 7603 0303 or 07950 400 005 (Oct(I)

M.A.S. Studer - Revox Sales, Service, Spares, B77 HS £700. A700 2T £550, A77 HS £400, B750 £550, B760 £750, B710 II £550, A710 £600, A80 VU £950, B67 VU £750, A810 £850, A807 VU £950. Tel: 01246 275479 or Email: j.tipping@amserve.net (Oct(I)

“AMPS” QUALITY Valve Amplifiers: Repaired, restored, upgraded. Custom designs commissioned. Kits assembled. Experienced Engineer. Free estimates and free prices. Tel: 01525 756 935 http://www.dhaen.co.uk/amps Email: amps@dhaen.co.uk (Oct(I)

E.M.A.S. - Studer - Revox Sales, Service, Spares, B77 HS £700. A700 2T £550, A77 HS £400, B750 £550, B760 £750, B710 II £550, A710 £600, A80 VU £950, B67 VU £750, A810 £850, A807 VU £950. Tel: 01246 275479 or Email: j.tipping@amserve.net (Oct(I)

NAGRA 4 STEREO with ATN- 2 power supply, and QGB NAB spool adaptor, counter roller fitted all very clean condition as unit is not ext BBC £1500. Tel: 01246 275479 or Email: j.tipping@amserve.net (Oct(I)

LINN KLIAMX Twin Power amp, 8 months old, as new (£6000) £4950. Linn Kellidh’s, black ash, active cards, passive (£1000) £450. AudioTechnica OC9 cartridge brand new £270. Telephone Jules on 01792 280061, Email: info@sounddrjuleshifi.co.uk Web: www.sounddrjuleshifi.co.uk (Oct(I)

VINTAGE WIRELESS COMPANY LONDON Website: www. vintagewirelesslondon.co.uk Buy-Sell-Exchange. Vintage wireless- less and classical audio. Repairs, spares, restoration, modification to all valve equipment. Quad II, Leaks etc, shipped worldwide, best prices, call us at 17 Bell Street, London, NW1 5BY. Tel: 020 7258 3448 Fax 020 7258 3449 Email: vwirelesslondon@aol.com (Oct(I)

AURO PRODUCTS on per- manent demonstration, from the wonderful 369 to the rest of the range. Kora Explora 60 watt hybrid £450. Dynaudio Contouris 1.3’s Mk2 £699. Reestek Consens fully remote and balanced £1100. Reestek Challenge+ £600. Omega speaker systems TS1R £1199. H-Cat P12 £2499. Kora Equinox pre-amplifier MM £995 Kora Hermes 96-192 valve DAC £1199. Tel: Worthing Audio 01903 212 133 or 07900 918 882 (Oct(I)

SILVER ARROW 4N-Pure flat silver foil air intercon- nects and speaker cables with Bocchino phono plugs. H-CAT P12 Zero distortion pre-amplifier from America on permanent demo. Tel: Worthing Audio 01903 212 133 or 07900 918 882 (Oct(I)

TRANSAPRULTRABi Wire 12ft, WBT Bananas (£3440) £2200. Mandrake 1mtr, RCA-RCA (£600) £300. Siltec Arm cable, Ichiban bullets RCA’s 1.5mts (£400) £260 Siltec 1.0 mtr RCA-RCA (£300) £180. Telephone Jules on 01792 280061, Email: info@sounddrjuleshifi.co.uk Web: www.sounddrjuleshifi.co.uk (Oct(I)
classifieds ads order form

RATES - ALL ADVERTS MUST BE PRE-PAID
Maximum length per advert is 30 words, each additional
word is 50p extra. Telephone numbers and E-mail addresses
are treated as one word. Model numbers are treated as
one word i.e. Quad 303 = two words. Please tick the box
for the advert required

Dealers must not advertise in the Private
Classified section. Monthly consecutive
insertions will be considered Trade
advertising. The Publisher reserves the
right to judge submissions

In a rush to get your advert published? Why not use our
Instant Internet Advert to get
on our website immediately.

SPECIAL OFFER
Book a private or trade classified advert, and get one
months *FREE internet advert

*FREE internet adverts are published three weeks AFTER the
magazine has been published

Please write or type your advertisement copy in block capitals with one word per box.
Please continue on a separate sheet if necessary.
WE WILL ACCEPT PHOTOCOPIES OF THIS FORM

Instant Internet Only Advert Private or Trade published immediately £15 per week
Private magazine advert plus *FREE internet advert £10 per month
Private magazine advert display black box plus *FREE internet advert £15 per month
Trade magazine advert plus *FREE internet advert £10 per month
Trade magazine advert display black box plus *FREE internet advert £15 per month
Please tick here if you DO NOT WANT your FREE internet advert

1 2
3 4
5 6
7 8
9 10
11 12
13 14
15 16
17 18
19 20
21 22
23 24
25 26
27 28
29 30

Name
Address
Post Code
Daytime Tel:

Please debit my VISA/MASTER/SWITCH Card No.(Switch card issue No
Expiry Date: Cardholder Signature:

I enclose a cheque/postal order for £ Made payable to: Audio Publishing Ltd.

Send in your private classified ads with our NEW Freepost service. No need for a stamp!

Hi-Fi World, FREEPOST LON3478, LONDON NW6 6YR

www.hi-fworld.co.uk OCTOBER 2003 HI-FI WORLD & COMPUTER AUDIO

ADVERTISERS INDEX

Affordable Valve 50
Audio Jumble 112
Audusa 116
AV Lounge 55
Beauhorn 56
Billy Vee 89,90,91
Central Audio 114
Choice Hi-Fi 86
Classique Sounds 119
Connoisseur Audio 112
Custom Cable 117
Cyrus 1BC
Definitive Audio (Brighton) 58
Definitive Audio (Notts.) 58
Diverse Vinyl 111
Emporium (The) 120
Heathcote Audio 117
Heatherdale Audio 115
Henley Designs 6,76
Hi-Fi Trading Co. 108,109
Ian Harrison 115
Jen Distribution 107
Mantra Audio 76
Matrix 118
Michell Engineering 62
Midland Audio Exchange 110
Mission BC
Musical Fidelity 38
NAD 10
Naim 20
NVCF 112
Origin Live 62,118
Oxford Audio 114
Retro Reproduction 107
Ringmat Developments 50
Seventoaks
27,28,29,30,31,32,33,46
Sound of Music (Crewe) 119
Soundcraft 115
Sounds Expensive 120
Soundstage 111
Sussex Surplus 113
The Chord Company 58
The Listening Rooms 122
Trichord 56
Tube Shop 76
V’Audio 115
Walrus Systems 1FC
Williams Hart 111
X-Electrical 119

SUPPLEMENT No 75
Audio Xpress 96
Chelmer Valve 96
Falcon Acoustics 96
Langrex Supplies 104
Watford Valves 104
White Noise 96

PRIVATE & TRADE CLASSIFIED ADS COPY DEADLINES
NOVEMBER 2003 ISSUE - FRIDAY 5TH SEPTEMBER 2003
DECEMBER 2003 ISSUE - WEDNESDAY 8TH OCTOBER 2003
Once upon a time, writing for a motoring magazine, it occurred to me to ask two or three hi-fi manufacturers what they listened to in the car. Ivor Tiefenbrun (anything, so long as it was recorded from an LP12) drove a tuned Jaguar XJ-S. Anthony Michaelson drove a Maserati, and thought it reasonable to listen to that. Michael Creek, who drove a Peugeot 205 GTI, scorned all built-in apparatus: he listened, through open-back headphones, to a Sony Professional Walkman.

So do I — not necessarily through headphones, for it is plumbed into my main domestic array, the only non-Linn item in the whole assembly for the very good reason that Linn understandably never produced cassette machines. Such things were for decades, however, an unavoidable if unfortunate necessity.

Most of them were quite utterly awful. Only a few specialists made anything that could be trusted to make the best of the medium. BBC reporters used invariably to be armed with the Uher, a hefty box that was just about portable — until, in the 1980s, some of them began to be seen carrying a costly, tiny — and unbelievably heavy — black box upon which the wicked word Walkman was followed in chaste Roman capitals of smaller size by the word PROFESSIONAL.

I bought one. It was very handy and unobtrusive, just right for those occasions when I might have to interview some car stylist or saxophone player. As a recording machine it was surprisingly good, the stability of its tape speed assured not only by quartz-controlled servo feedback but also (and perhaps more positively) by a remarkably heavy high-speed flywheel. I often wondered whether they made it of one of the tungsten-based heavy alloys, but I never found out. What I did find was that the little machine was somewhat sensitive to tape quality: it was reasonably happy with high-bias chrome dioxide, but when sound really mattered it was wise to use a good metal tape.

It was nevertheless as a playback instrument that the little black box exceeded all expectations. With settings for Dolby (including the then new C) and tape bias supplemented by a speed variation up to plus or minus 4% (kind to people with perfect pitch), it was one of those few phenomenal cassette players that sounded like something better than a cassette player could be. There had been a yawning gap in performance between the best Nakamichi instruments and the rest; now this tiny Sony professed to plug that gap. It did not do quite that. Those who took the trouble to compare them (I never bothered) reckoned that for playback quality there was nothing to choose between The Professional and the Nakamichi. The yawning gap remained — between these and the rest.

There had to come a time when the old order would change, yielding place to new, and it came in the mid-1990s with baby cassettes of digital tape. Recording engineers loved this new medium — not because it sounded any better, but because it made editing so very much easier. Sony went where the professionals went: the new Walkman Professional was a bit bigger, and was digital. You would not find Setright following suit. In the first place, I thought that digital processing would have to grow a lot better before I should go out of my way to pursue or endorse it. In the second place, I had some quite irreplaceable things on cassette tape, and had every intention of continuing to listen to them without losing anything by further translation.

The first old Walkman Pro that I bought was sewn into my Linn system for what has proven a long winter for my discontent, since it is still there.

My second is kept mobile for such occasions as require me to cart something about. Whenever I want to make or, better, to listen to a tape, this is how I propose to do it.
The internationally acclaimed 8 series from Cyrus delivers stunning pictures and audiophile sound. Our elegant, hand-finished units and range of equipment racks complement the most style-conscious loft or traditional country home, concealing wires and clutter. Carefully planned upgrade options maximise your initial investment, even many years later.

Come and see Cyrus’ exciting new 6, 8 and X series (including the world début of Cyruslink, the next generation of home audio networking systems, and our new DAC X decoder), in the Mulbury and Bedford Suites at September’s What Hi Fi Sound & Vision Show.

Visit our website or your local Cyrus dealership for more details.
Delight your aural senses

Simple Perfect Sound

volare

www.mission.co.uk

Tel +44 (0) 1480 423700

World Radio History