CASTLE’S NEW SEVERN ‘SPEAKERS

CHEMIST AXIOM INTEGRATED AMPLIFIER
MISSION 734 LOUDSPEAKERS

SCOOPE! NEW 24bit SUPER CD

NEW NAD 614 CASSETTE DECK
TEAC A-BX10 INTEGRATED AMPLIFIER

COMPETITION - WIN SUPER REL SUBWOOFERS WORTH £1500

Exercise your senses at the Sound & Vision Show, London 22nd - 24th September 1995

Hi-Fi WORLD SEPTEMBER 1995 £2.00 For the love of music
Trust your instincts.

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NAIM AUDIO LTD, SOUTHAMPTON ROAD, SALISBURY SP1 2LN.
This Month's World

- Every now and again, NAD come up with a textbook example of affordable audio engineering - just listen to the 402 tuner for proof of this. Will the new 614 cassette deck also have rivals on the run? See p13.

- McIntosh is a venerable US manufacturer renowned for stunning "big Mac" valve amplifiers. Now they've released a monster solid-state amp. See p20 for their latest recipe.

- B&W tried it long ago and Sony more recently. Now Cadence of India have had a go, combining an electrostatic midrange to a dynamic bass in one giant loudspeaker. It sounds great - see p42.

- In the struggle to advance, amplifier design is getting strange these days. Check out Alchemist's beautifully styled low feedback Axiom on p23, and TEAC's balanced-bridge A-BX10 on p31.

- Mission have produced some great 'speakers in their time. Their £430 734 floorstanders look good too, but face stiff competition - from Mission! See p26.

CD brought convenience to the public and economical storage to the music business. But it didn't advance sound quality - some claim the opposite, including me. This isn't blind prejudice as measurement shows it has significant limitations.

Now we're getting a real advance. The two new proposed video carriers have enough storage capacity for ultra-high quality audio - and a working group of digital engineers and industry academics have put forward a 21st century specification. But don't panic, backwards compatibility means your CDs won't become obsolete! We bring you an exclusive, on p34, of what could be a monumental advance for music lovers.

Noel Keywood, Editor
**THIS MONTH’S REVIEWS**

**AMPLIFIERS**

**McINTOSH MA6800**  
How do monster transistor amps weigh up? Dominic Baker listens to £3500 of America’s finest.

**ALCHEMIST AXIOM**  
This intriguing £300 integrated from metalworking masters Alchemist is reviewed by Douglas Floyd-Douglass.

**TEAC AB-X10**  
David Price asks whether this upmarket Japanese integrated amplifier can compare to the best of British?

**COMPACT DISC**

**ROTEL RCD-975BX**  
Rotel have produced some fine CD players in their time. Dominic Todd auditions their latest mid-price contender.

**TECHNICS SL-PS840**  
Dominic Baker listens to Technics’ new Compact Disc combatant, the well-specified SL-PS480.

**LOUDSPEAKERS**

**CASTLE SEVERN**  
Dominic Baker listens to a beautiful exercise in woodworking that also happens to be a fine mid-price floorstander.

**MISSION 734**  
Mission’s medium sized budget floorstander goes more for showroom appeal than outright sound, finds David Price.

**CADENCE ES**  
Douglas Floyd-Douglass listens to these imposing £3500 electrostatic/moving coil hybrid loudspeakers from India.

**REVOLVER COLT**  
It’s tough on the shelves for small ’speakers, so can Revolver’s budget boxes prevail? Peter Downs listens in.

**VINYL**

**ORTOFON MC25F/L**  
David Price auditions Ortofon’s new budget super-transducer, the fine lined MC25F/L moving coil, along with the cooking MC25E.

**CASSETTE**

**NAD 614**  
Does NAD’s latest audiophile cassette deck fulfill the promise of their earlier designs? Noel Keywood listens in.

**TUNER**

**DENON TU-215RD**  
Denon should have success with this bargain entry level RDS tuner, finds Eric Braithwaite.

**WORLD VERDICT**

- **OUTSTANDING** - Superb sound, something we’d use ourselves.
- **GOOD** - Has strong merit. Well worth an audition.
- **ADEQUATE** - Mediocre in vital areas. May be worth auditioning.
TRADE WINDS
All that's happening in hi-fi.

LETTERS
A varied selection of this month's missives.

QUERIES
We get to grips with your hi-fi problems.

COLUMNS 63, 64, 69, 71, 72
Comment, criticism and overviews on the ever-changing hi-fi scene.

NEXT ISSUE 60
October's Hi-fi World has some big surprises in store.

COMPETITION 66
We offer you an instant upgrade!

SUBSCRIPTIONS 68
Subscribe now and look forward to a whole year's worth of enlightened comment and reviews, plus lots of nice pictures of valves.

SPECIALIST HI-FI DEALERS 77
Why try to buy hi-fi from your local video and hairdryer emporium when you've got a real hi-fi dealer close at hand? Find it here.

MEET YOUR MAKER 81
Who makes what, and how to get in touch.

WORLD AUDIO DESIGN 82
High performance kits for those who keep soldering on and on.

CD's ACOUSTIC RENAISSANCE 34
Noel Keywood explains the ARA's fascinating new proposal for true audiophile CD.

AUDIOPHILE VINYL 36
David Price takes a look at the arguments for and against audiophile vinyl.

MUSIC
Some excellent new releases for your perusal.

ROCK RECORD OF THE MONTH:
Supergrass: I Should Coco

CLASSICAL RECORD OF THE MONTH:
Mahler: Symphony No6 in A minor.
Strauss: Metamorphosen for 23 string instruments.
New Philharmonica Orchestra; Sir John Barbirolli

ROCK AND POP 73
JAZZ 86
CLASSICAL 93

COMPETITION
Win REL subwoofers worth £1500! A monster REL Stadium II is the first prize, and a serious REL Strata goes to the runner up.
One of life's more rewarding decisions.

KEF Reference Series

If only all decisions in life were as straightforward as this.

The fact is that if you want the purest sound and the most uncompromising specification, it simply has to be New KEF Reference.

Every speaker must match our engineers' 'reference' prototype to an almost unbelievable tolerance of 0.5 decibels. This means you can be sure that the sound KEF created will be recreated in your home. Exactly.

Our breakthrough Uni-Q® technology delivers an astonishing stereo image, its unique point source design, with the tweeter at the exact acoustic centre of the mid-range cone, lets you visualise the precise location of every performer on the stage. What's more, because of Uni-Q's smooth, even dispersion you'll hear that incredible realism throughout the room. From speakers this good you'd expect outstanding bass performance. With KEF's famous 'coupled cavity' bass system, now further improved with interports, you get it. We go to similar extremes in perfecting every detail.

Some you can't see, like Oxygen-Free Copper internal wiring or magnetic shielding (vital in Home Theatre). Some you can - sumptuously veneered cabinets with heavily gold-plated feet and terminals, for example.

In other words, each pair of Reference speakers is as close to perfection as KEF can make it. When you know you can choose the best, would you willingly settle for anything less?

The experience of sound

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Audio File 01279 506171

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Sound Academy 01922 473409

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Suttons Hi-Fi 01202 655512

BRISTOL
Raiford Hi-Fi (head office) 01172 428247

CARDIFF
Audio Excellence (head office) 01222 228565

CHANDLER'S FORD
Hampshire Audio 01703 252827

CHELTENHAM
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Congleton Hi-Fi 01260 297544

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Frank Harvey Hi-Fi 02033 525200

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Music Matters 0121 4292811

EDGWARE
Musical Images (head office) 081 958 8777

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LEEDS
Audio Projects 01132 304565

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LONDON W1
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LONDON W1
K J Leisure Sound 0207 486 2829

LONDON W5
Audio Concept 0208 547 8703

MAIDSTONE
Speakers Corner 01622 677773

NEW MALDEN
Unilet Audio 0181 942 9567

NEWCASTLE
J G Windows 0191 323 1536

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Nottingham Hi-Fi 01159 786919

OTLEY
Aspin Audio 01944 467890

OXFORD
Audio T (head office) 01865 742044

PETERSBOROUGH
The Hi-Fi Company 01733 347155

PORTSMOUTH
Jeffries Hi-Fi 01705 663604

SALISBURY
Salisbury Hi-Fi 01722 322959

SHEFFIELD
Sound With Style 01142 737803

SHEWsbury
Creative Audio 01743 249924

SOLMull
Music Matters 0121 742 0254

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Zeppl 0181 888 2491

ST LEONARDS
Adams & Jarrett 01424 437665

Worcester
Sevensoaks Hi-Fi 01905 612929

WORTHING
Phase 3 Hi-Fi 01903 245577

IF YOUR TOWN ISN'T LISTED PLEASE CONTACT:
KEF AUDIO (UK) LIMITED: ECCLESTON ROAD,
TOVIL, MAIDSTONE, KENT ME15 6OP. TELEPHONE (01622) 672261.
ERGONOMIC DENON
MULTI-BIT
Featuring 18-bit Burr-Brown DACs, 20-bit 8 times oversampling filters, and "interesting new styling and excellent ergonomics", Denon's new DCD-625 seems to have a lot going for it at only £199.95.

This new player sports an improved digital servo control for the laser assembly, said to give improved tracking over the DCD-615 player it replaces. The DCD-625 also has more than its fair share of features, including coaxial digital output, full remote control with remote volume and synchronised record with Denon cassette decks.

Hayden Laboratories Ltd.,
Chiltern Hill,
Chalfont St. Peter
Gerrards Cross
Bucks SL9 9UG
☎ 01753 888447

INFINITE VARIETY
American loudspeaker manufacturer Infinity has announced new budget standmounters featuring APG drivers with carbon and Kevlar fibre cones, which give high sensitivity and faster transient response.

The UK range comprises the £149.95 Ref 1i with 130mm APG woofer giving 89dB sensitivity, the £199.95 Ref 1ii with 170mm bass unit and 90dB sensitivity, and the £299.95 Ref 2i (pictured) with 210mm APG woofer and a quoted 92dB sensitivity. All three are available in Chatsworth Oak or Black Ash cabinet finish.

Infinity UK
Gamepath Ltd.
25 Heathfield
Stacey Bushes
Milton Keynes MK12 6HR
☎ 01908 317707

LINN PINE FOR MORE FINISHES
Linn have announced that you can now have your Keltik, Aktiv, Kaber or Tukan loudspeaker in any wood finish you like. With their special custom finishing service, just provide a sample wood and Linn will match your new 'speakers' finish to it. The Tukan can now also be ordered in a white, paintable finish for absolute colour matching to rooms. For the less fastidious, four real wood finishes are available directly from stock - Cherry, Black Ash, Rosenut and Walnut.

Linn Products
☎ 0141 307 7777
The answer is an audible Yes. Unlike many electronics companies, NAD specialises in delivering innovative, award-winning audio and home cinema products - and nothing else.

NAD MARKETING LIMITED NAD BUILDING 401-405 NETHER STREET LONDON N3 1QG. TELEPHONE 081 343 3240
QUANTUM MECHANICS

Quantum Audio brings you this limited edition dc coupled hybrid integrated amplifier going by the name of Partridge. Boasting 26 watts into 8 ohms at 1kHz, it is said to feature "cool and quiet operation, excellent build quality and product reliability of an order not typically associated with valve amplifiers". The Partridge comes with a choice of valves, either the 350B for £1799.99 or the Sovtek 5881, said to sound more lively, at £1699.99.

Quantum Audio Ltd., PO Box 26, Kilmarock, Ayrshire, Scotland KA3 7JA
Tel: 01563 71122

SOLID AS A ROK

Roksan have announced two new models. The Ojan 3X loudspeaker builds on the strengths of the Ojan 3 with an acoustically braced cabinet, but features new custom-built high performance drivers. This, say Roksan, makes for "more extended low frequencies and a cleaner, clearer midrange". The 3X comes in black for £1195, and in rosewood for £1395.

Also making its debut is the 3S subwoofer, a passive device which turns the Ojan into a pure three-way design, as well as acting as a stand. £795 buys you a textured black 3S, or £895 in rosewood.

Roksan
Stockley Close, West Drayton, Middlesex UB7 9BB
Tel: 01895 436 384

ARION APPELATIONS

Arion Acoustics have announced a range of tasty looking tubular belles in the shape of the Elektra, Eos, Talos Triode (illustrated), Triton, Eros, and Tycho valve amplifiers. The model range stretches from £1199 for the Elektra integrated to the Tycho integrated at £1850, and all feature Audio Note-designed output transformers, Aerovox, Roedestein and Nippon ChemiCon Capacitors, Beysschlag metal film resistors, gold connectors and ceramic valve bases.

S WINGING SENNHEISER

Remember a time when Radio One DJs were young? Yes, the swinging sixties are being revived by Sennheiser in the shape of their "new old" HD414 headphone. For their fiftieth anniversary, this venerable 1968 design has been exhumed now boasting updated sound capsules with Copper Clad Alloy Wire and 99.99% OFC copper cable. Coming in Sennheiser's trademark black and yellow rather than the original's grey, the limited edition HD414 CLASSIC, said to be "tough as old boots", will set you back £49.95.

Sennheiser UK
12 Davies Way, Knaves Beach Business Centre, Loudwater, High Wycombe, Bucks HP10 9QY
Tel: 01628 850 811
You may be forgiven for thinking that the best solution for a speaker design is the commonly found, easy to manufacture, rectangular box. Not so.

The asymmetric cabinet used with all AUDIOVECTOR speakers is an example of the finest engineering and visual design:
- non parallel sides reduce standing waves
- ultra-rigid front panels
- quality crossover and high sensitivity
- exceptional design

In technical terms, the absence of parallel surfaces means there are no standing waves. This results in less distortion, higher sensitivity and a cleaner sound. In layman’s terms this means an involving and enjoyable sound...

...but if you have heard the AUDIOVECTOR speakers you would know this.

For more information and demonstration, contact:
The Chord Company Ltd., 30a Sarum Business Park, Portway, Salisbury, Wiltshire SP4 8EA. Tel: 01722 331674 Fax: 01722 411388
Distributors of Audiovector speakers for FJLYD, Meinungsgrade 8, D2, DK-2200 Copenhagen N, Denmark. Tel: 01 39 60 60
NAD COMMITTED TO TAPE
The ever-prolific NAD company announce yet another new model, in the shape of the 614 cassette deck. This £269.95 two motor, two-head machine promises NAD's usual high sound quality allied to some interesting features. Play Trim ensures compatibility with virtually any tape, while the CAR button compresses recordings for best results with in-car or portable players. There's also a fine bias control, electronic tape counter, Dolby HX Pro and vertical LED bargraph meters. Look out for this new model suffering our customary tape deck torture test in this issue.

NAD COMMITED TO TAPE
NAD Building
401-405 Nether Street
London N3 1QG
0181 343 3240

ENLIGHTENED CONVERSION
DPA Digital have announced the Enlightenment DAC upgrade kit for the Little Bit 2 or Bigger Bit. For £400, Rob Watts will convert your ageing pride and joy into an Enlightenment DAC, complete with its unique discrete DX32 processor with 32times digital filtering and simple analogue structure.

DPA Digital Ltd.,
Units 7&8,
Willowbrook Lab Units
Crickhowell Road, St. Mellons.
Cardiff CF3 0EF
01222 795621

OBITUARY: ARNOLD SUGDEN
The death of Arnold Sugden on Saturday 27 May 1995 leaves a large gap in the living history of audio reproduction. In his own right as owner and managing director of the Connoisseur company, and as associate and mentor of some of the early revered household names, Arnold's engineering expertise and original turn of mind produced answers to fundamental problems in the establishment of high fidelity as we now know it.

His BD1 and BD2 turntables are still known and used throughout the world and older enthusiasts will recall the sensation of May 1956 when, at the Waldorf Hotel in London, he produced and demonstrated stereo reproduction from a single groove disc for the first time.

To those who knew him well, his reminiscences of behind-the-scenes development work in ceramic cartridges and stylus mounting, pickup arms, stereo amplifiers, microphones, loudspeakers, and engineering in general, were a delight and an eye opener.

I must add that he was also a lovely man and a firm friend - in all my business dealings with him nothing was committed to paper, a handshake being sufficient. He leaves a wife, Vera, a son, Robin, and a daughter, Christine.

Dennis Burke
Technical & General,
East Sussex.
An integrated amplifier from Meridian? It's true!
The new Meridian 551 is our first time — but this is no ordinary integrated.
Just look at it and what do you see?
Power, elegance, simplicity, quality. What else would you expect from Meridian?
It's what you don't see that makes this product a true thoroughbred and your best start to a
Meridian system. Dual mono construction, a massive twin-wound toroidal transformer,
four layer circuit boards to aerospace standard and a unique feedback topology with
precision local error correction.
If it's your first time to try Meridian, discover the real audiophile quality is now within reach.

Just clip this coupon and send it to Meridian Audio Ltd 14 Clifton Road Huntingdon Cambridge PE18 7EJ Tel 0480 52144 and we'll send you our new brochure.

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Ref 06 94
NEW AESTHETIC DIMENSION

The elegantly simple facade of NAD’s new 614 cassette deck conceals some surprises. Noel Keywood finds out whether beauty is more than skin deep.
TRAILING TECHNOLOGY

Of course, the leading edge of hi-fi loudspeaker technology is firmly rooted in...

England? - Of course.
America? - Certainly.
Japan? - No doubt.
France? - Absolument.

But in India we're a bit backward. Yes, most of our technology and arts can be traced backwards for at least a couple of thousand years: music, yoga, metallurgy, woodcraft, building, silk manufacture. But somewhere along the line we managed to miss out the essential technology of music reproduction.

So we read on the back of a cereal packet something about how the electrostatic is the most straightforward and efficient approach. After a couple of years of fiddling in our R&D facility, anechoic chamber and some records, we are now proud to announce the launch of the CADENCE ES hybrid electrostatic.

For those of you for whom such things are important, here are some figures:

Efficiency: 91dB
Power: 20 - 200 Watts RMS (500W burst, ALL frequencies)
Operating temperature: 0 - 40 degrees C
Operating humidity: below 90%RH
Charge up time: < 1 second

We'd like to tell you about how the chemically formed stators are aligned with the 5 micron PTFE membrane in such a way that arcing is impossible. And how the crossover unit seamlessly integrates the bass, midrange and treble. Or how the cabinet is treated to eradicate internal standing waves.

But that would stretch credibility, wouldn't it.

But then, you could always go and hear them for yourself at Kamla in London's West End (0171-323 2747).
Finished in a colour once robustly described as Battleship Grey (now probably known coyly as Dove Cote), NAD’s new £270 614 cassette deck isn’t as colourful as a Renoir or as solidly built as a man-O-war. But it does appeal to the eye more than earlier NAD designs and, crucially, looks smarter and easier to comprehend than its oriental rivals.

Funny that, because in fact the new 614 has lots of facilities, but the absence of ‘go faster stripes’ makes the deck look comparatively simple. Mind you, there are conspicuous frailties. The cassette door was flimsy and appeared not to shut firmly. I often found tapes grinding to a halt, the cure being to open the door and then close it again more positively. This apart, the 614’s operational ergonomics are excellent. It’s so neatly styled, clearly marked and sensibly laid out that foreign rivals could learn a thing or two. NAD use nice, large displays, bevelled rounded corners, gentle curves, colour and even shape coding. The record meters have a useful peak hold action and put the red zone where it should be - above OVU (which has been set, as usual, at Dolby flux). It was all so obviously right as to be surprising.

User adjustable bias is provided for tuning blank tapes, but unfortunately finds its way to the back panel. NAD’s Play Trim facility is also here, and is very useful for tweaking the treble balance of pre-recorded cassettes to banish that muffled sound they so commonly suffer. Good as this is, and as enthusiastic as I am for any deck with properly set up replay amplifiers, recording is still a prime use for cassette decks, so bias trim really should be on the front panel.

**SOUND QUALITY**

The 614 gave a smooth, cohesive presentation and easy dynamics from Isaac Hayes’ Branded album. I recorded the album onto TDK SA without Dolby, the meters peaking just below +3dB. This deck’s ability to get high recording levels onto chrome-bias tape helped nearly eliminate tape hiss (TDK SA is a very quiet tape). It handled this well - until a cymbal crash went “schhhh” past my ears like a flaming arrow - flutter and high rate wow were dirtying the sound, adding coarseness percussion instruments. This said, the 614 was no worse than others of its ilk in this respect, but no better either. Although hard struck chords from Steve Earle’s close-miked steel string guitar on Guitar Town produced some turgidity and muddle on TDK SA, chrome and ferric tapes always suffer this problem to a greater or lesser extent, so the NAD wasn’t at fault. Indeed on balance, it turned in a creditable performance with TDK SA chrome tape: smoother, quieter and more dynamic than usual.

Metal tape (TDK MA) gave more vibrant treble but remained slightly coarse: nevertheless, hiss was very low. If recording levels are kept below +2dB the 614 works well with metal tape. Piano held stable, with little sign of any of the subtler aspects of wow, such as “cracked” notes (caused by small, sudden speed changes, or random wow) appearing - at least, over most of a tape. However I got a nasty surprise at the start of a tape, with dreadful capstan wow adding a rapid warble that was heard through everything, even the most varied rock music. This was a disappointment, being sufficiently audible to be unacceptable.

Our analyser hinted that TDK AR might not sound too good, exhibiting a ropey on-screen response. And that’s roughly how it sounded to the ear, with some coarseness, while treble came over as soft and flabby. Whilst uncritical users would probably think this normal enough for a budget ferric tape, TDK AR can in fact sound amazingly smooth and relaxed, because it has some great properties, but it just didn’t match the 614. TDK AD gave a more positive sound, especially in the treble, but I still detected a lack of real smoothness and cohesion. With these ferrics the 614 worked satisfactorily, but no better.

It was with pre-recorded tapes that the deck really pulled ahead. Tina Turner’s ‘Addicted to Love’ strode along beautifully, with strong bass and ringing cymbals from the drum kit. With soft sounding tapes like Diana Ross’ Eaten Alive, cranking treble up fully brought a sense of clarity that only Play Trim can find within what seems to be an irremediably dull recording. In this respect, the NAD’s almost magically superior to the herd, elevating pre-recorded cassettes to respectability.

The NAD 614 worked very well with chrome tapes like TDK SA, averagely with ferrics and will handle metals if it’s not pushed too hard. It makes recordings as well as one can expect for £270 these days, with the exception of the poor transport, giving a variable performance affected by load, or the amount of tape on each hub. It’s a well designed and aligned machine, with all the benefits that brings. It plays pre-records very well, making it a must for anyone using them as their primary source. But NAD haven’t been able to offset head and transport limitations, and their variable bias facility was poorly implemented. All this bodes badly for the NAD, with an overall performance that can only be described as satisfactory.

**WORLD VERDICT**

Excellent electronics let down by poor transport means the 614 doesn’t quite make the grade.

---

**Measured Performance**

see p113-121
quality hi fi products with style and value for

**Meridian**

The 551 integrated amplifier is single button on the MSR remote control. The 551 integrated amplifier is no exception. It will provide the same, very high, standards from the simplest to the most complex, are designed to be operated by the touch of a single button on the MSR remote control.

The 551 integrated amplifier is designed with the same, very high, standards from the simplest to the most complex, are designed to be operated by the touch of a single button on the MSR remote control. The 551 integrated amplifier is no exception. It will provide the same, very high, standards from the simplest to the most complex, are designed to be operated by the touch of a single button on the MSR remote control.

All Meridian components, from the simplest to the most complex, are designed to be operated by the touch of a single button on the MSR remote control. The 551 integrated amplifier is no exception. It will provide the same, very high, standards from the simplest to the most complex, are designed to be operated by the touch of a single button on the MSR remote control.

**Audiolab**

**8000Q**

With the introduction of the new 8000Q pre-amplifier, Audiolab are able to offer a true 'audiophile' product, capable of working within any ancillary combination.

New 'Zq' technology ensures ultra low noise and distortion, while a printed circuit layout realizes the optimum (shortest) signal path. The 8000Q is best described as a purist design, yet it certainly is not minimalist. Six line, and three tape inputs mean it is an ideal partner for Audiolab's own 8000P or 8000M power amplifiers.

For more details on the complete Audiolab range, including the 8000A, 8000C, 8000CDM, 8000DAC, 8000T and 8000PPA, contact your local Sevenoaks Hi Fi branch.

**Arcam**

**ALPHA 5+CD**

When the original ALPHA CD was launched, few could have thought that it was destined to become such a success. Over the years the Alpha outsold every other model (from Britain and Japan) in its price category, and although other manufacturers made wholesale changes as new technology was developed, Arcam kept to their original philosophy.

Today the new ALPHA 5+CD still uses multibit conversion. Arcam, firmly believe that this reproduces instruments and vocals naturally. With an improved master-clocking device on its DAC board, the ALPHA 5+CD player can provide technical accuracy and musical enjoyment.

You will discover the Arcam Alpha and Delta series at all Sevenoaks Hi Fi branches.

**Quad**

**77**

**Cyrus**

**DAD 7**

The DAD 7 CD player is the one box derivative of the acclaimed DISCMASTER and DACMASTER. Like these, the DAD 7 utilizes a multibit conversion stage, which ensures that all music, from rock to classical, is delivered with a close attention to detail.

All Cyrus products are designed with the same innovative styling, and each reproduces music with natural sophistication. To improve performance further, simply add the PSX-R power supply, which isolates the unit from the mains, therefore reducing the chances of extraneous noise and glitches.

For more details on the Cyrus DAD 7, DISCMASTER, DACMASTER, PSX-R, FM 7 digital tuners, contact your local Sevenoaks Hi Fi-Cyrus stockist.

**Monitor Audio**

**STUDIO 12**

The breathtaking, new STUDIO 12 loudspeakers from Monitor Audio, clearly show the no compromise approach they have to design and construction. This is obvious the moment you see them. Whether they are finished in a standard satin veneer or a luscious grand piano lacquer, the STUDIO 12's are stunning.

All of the models within the new STUDIO series offer a combination of a gold anodized tweeter and an aluminium alloy bass/mid range driver. If partnered with suitable amplification, the STUDIO 12's offer remarkable transparency and the necessary focus to reproduce very complex passage's of music with glorious accuracy.

To experience the Monitor Audio STUDIO series of loudspeakers, including the STUDIO 20SE, just visit our branches in Sevenoaks, Chelsea, Croydon, Guildford, Watford and Witham (Essex).

**Cyrus**

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For more details on the Cyrus DAD 7, DISCMASTER, DACMASTER, PSX-R, FM 7 digital tuners, contact your local Sevenoaks Hi Fi-Cyrus stockist.

Seventeen Hi Fi have been at the forefront of Hi Fi retail in the UK for over 23 years. We sell quality products to discerning customers and we firmly believe in a meaningful demonstration and helpful unbiased advice. All the products we sell are brand new, fully guaranteed and maintained by our own service department. We also offer Peace of Mind with our own 'No Quibble' extended warranty. We are able to install the products you purchase, ensuring their optimum performance.
**EXPRESSION**

**hi fi connoisseurs and music lovers**

The new 77 integrated amplifier embodies all of the hallmarks of quality you associate with Quad, which have made them such a well respected and successful manufacturer over the last fifty years. Compared with many other integrated amplifiers, the 77 is revolutionary. The new 77 has almost limitless expansion capabilities, thanks to a new ‘intelligent’ remote control. With a 77 CD player, and tuner soon to be released, this family of exciting products represent that rare breed of innovation and tradition, that is only available with Quad.

**rotel**

**RA970BX**

Designed and developed in the UK the new RA970BX is instantly recognizable as a Rotel product. With the same slimline styling and characteristically solid build quality as every other Rotel amplifier, it delivers the performance you would expect from models at twice the price.

For further details of the Rotel range, including the new RCD970BX CD player, and RC/RB970BXII prepower amplifier combination, visit your local Sevenoaks Hi Fi.

**castle**

**HOWARD II**

There are no obvious revisions on the exterior of the new HOWARD II. Yet beneath the handcrafted, real wood veneer cabinet, are more closely specified components. Castle’s mastery of quarter-wave bass technology was evident in the original HOWARD. However, combine the new crossover with the offset metal dome tweeter and fibre polymer bass/mid range driver configuration, and you have a loudspeaker that is adept at handling all types of music well.

The HOWARD II encapsulate all of Castle’s style, offering nine real wood finishes on all of the models in their range, like the compact TRENT II, DURHAM 900, SEVERN and CHESTER II.

**marantz**

**CD63SE**

Marantz are one of the dedicated manufacturers that enjoys making recorded sound as realistic as is possible. This development of pure hi-fidelity has led the Hi Fi Press to bestow numerous Best Buys and Recommendations upon models within their range. The CD63SE offers the kind of sparkling performance you associate with more expensive CD players. With a high mass drawer mechanism, and copper screening, ensuring unrestricted CD transportation and air flow, music is always reproduced faithfully. The CD63SE also offers an easy upgrade path, via coaxial and optical digital outputs. With this pedigree, the CD63SE represents exceptional value for money.

**nad**

**514**

Nad’s no compromise approach to the development of the new 514 CD player, has meant that many unique features and specifications have been demanded.

At the heart of this unit is a one bit dual digital to analogue (DAC) MASH converter. This maintains the purity of the all important audio path by eliminating the need for any capacitors. Thus, yielding real benefits in terms of musical detail and nuance.

The 514 also offers a new CDR audio compression circuit, enabling the 514 to make top quality recordings onto tape for a wide variety of listening environments, such as car audio.

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Dominic Todd asks whether Castle's new Severn loudspeakers can deliver us from the evils of mediocre mid-price floorstanders.
Ever since TDL launched a range of good quality floor-standing 'speakers for under £500, other competitors have been falling over themselves to compete. Once the province of stand-mounted stalwarts such as Epos' ES14 and Celestion's SL6, the £300-£500 loudspeaker market now finds itself awash with floorstanders.

Castle Acoustics are no strangers to floorstanding loudspeakers, having already enjoyed success with their Chester and Howard models. Now they've turned their attention to the fiercely competitive £500 sector, with the introduction of the Severn priced at £499.95. Mission, Ruark, Royd, TDL and Tannoy have already pushed class standards to such heights that for the Severn to be simply capable isn't enough. To succeed it needs to offer something different and transcend mere competence.

The Severn makes an excellent initial impression. It's one of the best finished 'speakers at its price, shaming models costing hundreds of pounds more. The real wood veneer is finished immaculately with not a sharp edge in sight. Castle make much play of their real hardwood veneers, but whether this is environmentally sound when there are so many convincing pulp reconstituted veneers around is questionable.

In an effort to break up standing waves, as well as bracing the structure, the cabinet is internally divided via a sloping shelf. The two-way, bass-reflex design features two entirely new drive units, each designed and built in-house by Castle. The woofers feature a rigid cast chassis, long-throw voice coil and injection moulded polymer cone. The tweeter is a soft dome, traditionally held to give a sweeter sound than hard plastic types.

Properly run in, these 80cm high 'speakers gave of their best in free space about one metre from the rear wall, with the bi-wiring terminals used. Castle 'speakers have never been known for their gut-wrenching bass and awesome dynamics, and the Severns offer the familiar Castle refinement, without the last word in rip-roaring audacity. The Brand New Heavies proved these 'speakers aren't for bass freaks. But look beyond the dynamic constraints and there's much to recommend.

Sound staging was spacious and unconfined, and acoustic instruments were both well defined and cohesive with the rest of the mix. Bass may not have been especially deep (ironically, no deeper than a similarly priced stand mounter), but it was solid enough to underpin the music firmly. Treble could become slightly splashy, but the fine transparency and imaging offered was ample compensation.

By comparison, Tannoy's similarly priced 637's offered greater dynamic contrast, but at the expense of a cloudy mid-range and abrasive portrayal of the saxophone.

Danny Thompson's 'Whatever's Best' showed the Severns in an even more favourable light. Correct tonal colours for the acoustic guitar, alto sax and double bass let me listen right into the recording. Treble seemed happier too, lending great refinement and sweetness to the alto sax's higher register. Despite the relaxed pace of things, detail didn't appear to have been left out, and the depth of the recording was well depicted. Some listeners may sense a lack of drama though. Although all the basics were there, the effect could just feel too scaled down at times.

A Super Bit Mapped Stevie Ray Vaughan disc provided the Castles with a superb, uncompressed and expansive recording. The Severns rose to the occasion, and didn't impede upon the fine recording in the slightest. They were quite capable of handling difficult guitar transients without glare or compression. Nuances of Vaughan's voice, often missed by Castle's less courtly rivals, were clearly displayed.

While bass wasn't the deepest, it was substantial enough not to have most listeners yearning for more welly.

Castles tend to major on classical music, and the Severns were no exception. Schubert: Scherzo: Presto, from Trout Quintet, once again demonstrated their relaxed, easy-to-listen-to nature. The violins were liquid-smooth and not at all wearing, yet they still gave a fine insight into the music, with bass tight enough for speedy and accurate timing. Breaths and creaks from musicians chairs were there too, adding a sense of realism. The whole performance was informing and vivacious, but never over-bearing.

If you can accept the Castles' limitations, they have much to offer. Those who find their system lacking refinement or who don't want a floorstander with strong bass will warm to the Severns. They're not the sort of 'speaker to jump out at you on initial audition, but their qualities of subtlety, transparency, strong imaging and accurate timing will show themselves, over time, to be of far greater worth.

The problem for Castle is that both the Mission 752 and Ruark Templar offer similar sonic qualities and slightly more ability in some areas. But it's here where Castle play a strong card. The Severns are better finished than either of the others, and offer a wider choice of finishes to boot. So anyone looking for a compact, floorstanding 'speaker unobtrusive in its surroundings would do well to listen to the Severns.

Castle Severn £499.95

Castle Acoustics
Park Mill, Shortbank Rd,
Skipton, North Yorks BD23 2TT
Tel 01756 795333

WORLD VERDICT

Highly capable floorstanders with a polished performance and finish.

Measured Performance see p113-121
Dominic Baker finds McIntosh’s MA6800 an extremely tasty high-end amplifier.

Combining sixties-style power meters and control knobs with nineties’ electronic switching and digital volume readout could be a recipe for disaster - who wants the worst of both worlds? But despite my doubts, I came away impressed that McIntosh have blended these differing ingredients to perfection.

The styling of the £3735 MA6800 carries an aura of American heritage and prestige, with the message of high technology engineering fully conveyed too. Although covered in enough lights, meters and what have you to rival any midi-system, McIntosh get away with it - it doesn’t look gimmicky, so much as functional. It’s a precision instrument, dedicated to the task of amplification.

Eschewing the minimalist approach, the McIntosh has just about every feature you could possibly need - and then some. To the far left of the thick glass-fronted fascia there are bass and treble tone controls. Thoughtfully engineered to have a subtle action at either frequency extreme, an example
of their effectiveness was the way they tailored London's often bright and thin sounding radio stations to give a much fuller balance.

On the other side of the two power guard indicators is a central digital volume readout - gimmicky, but attractive to those who like apparent complexity. The MA6800 has eight line inputs, one of them used for the optional phono module. Separate record/listen selectors are especially useful for three-head cassette deck owners, where the original can be compared to the recording at the flick of a switch. Beneath this little lot sits a row of electronic push-button switches covering mono, listen and record functions, or an external signal processor that can be switched into the signal paths. A 6.3mm headphone jack separates these from mute, switching for two pairs of loudspeakers and the power switch.

As the volume control at the far right turns, the central digital readout shows level as a percentage of full power. I rarely got past 7-8%, and with around 150 watts on tap and a peak output current of 55 amps, you are unlikely to run out of steam into any loudspeaker. As if this wasn’t enough, the McIntosh is also fully remote controllable and can be linked to other McIntosh components to allow control from one handset, meaning it’s equipped to become the centre of a remote controlled multi-room system. The power amplifier and preamplifier sections can be accessed separately, making bi-amping easily facilitated, should you feel the need for more power!

Inside, construction is not the neatest, but then the substantial 40kg chassis is packed with electronics. There are separate power supplies, banks of relays for input switching, huge smoothing capacitors and heatsinks, all interconnected by thick looms of wire. It was reassuring to see good quality audiophile grade components throughout the signal path. The MA6800 also uses McIntosh’s ‘autoformers’. These do essentially the same job as the output transformer of a valve amplifier, providing exactly the right load for the output stage to drive, whatever the impedance of the loudspeaker connected. This, McIntosh claim, means the output stage is always running into the optimum load for highest efficiency, which improves performance and reliability.

As you’d expect, the MA6800 didn’t so much play music as take control of it. There was an effortless drive to bass lines, REM’s ‘Low’ with its mellow, resonant bass guitar intro powered the ‘speakers’ cones to their limit with control and precision. The MA6800 had terrific upper bass punch, with dynamics to match, giving a crisp, firm attack to well recorded rock. The burst of leading edge dynamics you get from a guitar chord was captivating.

With a good recording such as Sheryl Crow’s recent Tuesday Night Music Club, the overall scale of reproduction was massive, creating a three-dimensional sound stage. Stage height and width was expansive, and depth surprisingly good, if not quite up with the best. The MA6800 has a brightly lit treble, which helped to give the sensation of space and atmosphere, and an incisiveness with hi-hats and similar percussion. Images weren’t as precisely located as I’d have liked, but by being dispersed a little they added to the overall scale and air of the presentation.

Locatelli’s Concerto for violin, string and basso continuo proved a good test of tonal character. The MA6800 is velvety smooth through the midrange, with just the slightest hint of grain - and then only on the most fiercely struck notes. Here it rivals DPA’s original 50S power amplifier, one of the smoothest transistor designs I’ve heard. But the MA6800 has a richer texture to it, giving more body to strings and a captivating warmth. Perhaps it is not quite as neutral as a DPA, but still offers a very musical presentation.

Serious classical listeners will notice the extra incision given to upper string harmonics. With rock, this gave an extra sense of precision and crispness, the steel strings of Grant Lee Buffalo cutting the air like a switchblade. But with the more subtle harmonics of violin, an edginess was added to the soft decay, which struck me as unnatural. This is unlikely to be a problem though, as long as sharp or gritty metal dome tweeters are given a wide birth.

McIntosh have combined all the facilities you are ever likely to need in one integrated package. In sound quality terms alone this amplifier could be bettered at the price. But for the listener who wants a versatile amplifier its own distinctive style, the MA6800 looks good. Its strength comes from its unusually broad range of abilities, rather than for any one judged in isolation. Expensive yes, but by any standards it is an impressive piece of engineering.

McIntosh MA6800 £3735

MPI Electronics, 13 Weston Road, Guildford, Surrey GU2 6AU 01483 454993

WORLD VERDICT

A mighty confection of power, facilities and style, and it sounds good to boot.

Measured Performance see p113-121
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World Radio History
In the best Alchemist tradition, the new baby Axiom integrated sports an intergalactic Battlestar design finished in brushed aluminium and polished gold, but gone are the dragon wing heat sinks which the original integrated Kraken so proudly displayed.

The outboard power supply has also been replaced by a more practical, internal version which is at the heart of the 30watt Axiom. There is no phono input, but Alchemist have blessed the Axiom with CDV, video and auxiliary inputs in addition to the standard tape, tuner and CD. The loudspeaker terminals are solid and are plastic shielded to protect against short circuiting. Finish is neat, uncluttered and facilities accessible.

The cycloptic power indicator, slap bang in the middle of the front panel, took a while to glow its bright corporate yellow. John Lee Hooker's 'Chill Out' had good depth of soundstage and a warmth so befitting the blues. Cymbals were open and gave a good indication of the ability of this amplifier to handle transients with musical dexterity. The percussion was tight and fast and skin drums sounded natural and were given good space amidst the full band accompaniment.

The album has huge dynamics, and lovers of real soul would have died and gone to heaven, having heard 'Let Me Love You' performed by the Axiom. Bass was seriously deep, and was to be the magic carpet upon which the wind chimes, vibes and muted cymbals were to ride. Soul is often a difficult style of music to translate, but the Axiom produced a moody, heady swell of music.

Pink Floyd's 'Goodbye Blue Sky' was mellow than I had previously heard, but nonetheless compelling. If anything was lacking, it was the projection of Waters' vocals, particularly in the lower midrange.

Soundstage was wide, although not as deep as usual, particularly noticeable on the strings. Setting the customary Floydian atmosphere and tone were the voices of the kids in the playground at the intro to 'Brick in the Wall Part 1'. The typically 'big' production was emulated by the Axiom and in particular the stereo delayed guitar and bass were true to form. At times, the bottom end seemed to lack complete control, and the cat call at the end of the track was distant, suggesting a wavering or fluctuating control of dynamics.

Bach's Toccata and Fugue in D minor pulled no punches, the bottom end proving really impressive. At times, high arpeggios sounded thin compared to the consistently solid bass and midrange, again suggesting a change of sorts in the amplifier's character.

Chopin's Impromptu No1 had good midrange detail and the piece sparkled into life. Piano tone was natural and demonstrated a lifelike timbre all the way down the scale. The only disappointment (and there were few) was that there was once again an inconsistency in the higher notes, which could sound edgy and thin. This was occasional, and didn't really detract from my enjoyment of the otherwise charming character.

The grand finale of Bizet's 'The Pearl Fishers' was a real tribute to opera. The Axiom demonstrated its dynamic capabilities with orchestral grace. Whilst the tenor sounded faultless and set the emotional scene, the baritone raised the encore. Soundstage was open, theatrical and had great presence. A great performance.

The Aura VA-80 I later compared the Axiom with was smoother, and undeniably more accurate and stable. However the personality that the Axiom displayed was musical in a way few others can manage at the price. Its good characterisations like extremely low noise levels, good dynamics and excellent transients outweigh the niggly details of inconsistency in the higher frequencies.

The Axiom typifies great British hi-fi on a budget. The baby Alchemist may have its quirks and eccentricities, but does at least have the ability to make music rather than just amplify, an attribute sadly lacking in so many of its rivals.

The personality that the Axiom displayed was musical in a way few others can manage at the price.

Alchemist Axiom £299

Alchemist Products, 4 Rosebery Mews, Muswell Hill, London N10 2LG.

0181 883 3008

WORLD VERDICT

Musically rewarding amplifier that deserves serious audition.

Measured Performance see p113-121
The 734 loudspeakers are Mission's unashamedly populist way of making music.

David Price takes a listen.

As the dust settled and the Audiolab monoblocks cooled down, I finally managed to put these handsome-looking Mission floorstanders into perspective. I'd been greeted by a sound that was at once impressive and profoundly unfulfilling, contradictory emotions that I had to resolve.

First things first, the 734s appear to be a lot of 'speaker for the money. At 84x20x33cm they're large and enjoy Mission's hallmark professional standard of styling and finish. With a metal dome tweeter paired to two translucent polypropylene-coned bass/mid drivers in a large box, what more could you expect for £430?

Run in, toed-in and well warmed through, the 734s produced an instantly attractive sound. 'Big' was the word that sprang to mind as Isaac Hayes crooned forth from 'Life's Mood'. Pianos had body, percussion was clear and the whole mix was highly animated. Unfortunately, I'd just been listening to their famed cousins, the 752s, which although £70 more expensive were far, far superior.

The 734s sounded muddled by comparison, with none of the finesse, detail or precision of their older cousins. The first problem was the polypropylene drivers, which although in essence are fairly clean and innocuous sounding, had a propensity to quack and thrum a little too much, making for a plummy upper bass. When the 8000Ms were cranked up, things got really bad.

Listening to the 733s tested in April, I'd noticed the rather early onset of cone break-up, making for compressed attack transients at high volumes. Although better than their baby brothers, this is still a recognisable trait with the 734s, resulting in a softening and muddling of the sound on peaks. This isn't altogether unpleasant, but it means rim-shots and snares will never thwack you between the eyes, Linn Tukan-style.

Moving lower down, the 734s certainly had more bass than their older brothers, but were lacking in extension and grip. Again, bass had a pleasing sumptuousness and presence, but was rather rambling and ill-defined. I felt there was little connection between it and the tune it was supporting.

Comparison with the 752s was hardly elevating, the opening heartbeat to 'Ike's Plea' sounding emasculated, going on to almost disappear into the mix. The 752s held onto it right through, and managed to capture its rhythmic inflections far better.

Up top, the 734s weren't much to write home about either. They seem a touch less bright than either the 731s or 733s, but still have a tendency to sound fizzy and metallic. Carmen Lundi's 'Spring Can Really Hang' brought this into sharp relief. The Missions gave a creditably spacious and airy sound, but as soon as the slow ride cymbal came in it had me wondering what on earth was going on. Suddenly it developed a hissy, abrasive edge that just didn't square with the 752's sweet, svelte rendition.

Unfortunately, imaging wasn't a forte either, with Carmen Lundi's immaculately recorded vocal hanging
rather ponderously between the two 'speakers. So reluctant were the 734s to project that I wondered if it was a problem with the recording, but swapping over, the more expensive 752s again threw everything into sharp relief.

Wondering what the budget Missions would do to rock music, Teenage Fanclub’s ‘Start’ found itself inside the Audiolab CD drive, and the Missions made their first good move of the day. Suddenly, this rather tinny recording (maybe Norman Blake was trying to emulate his mentors, The Byrds. on this count) assumed some warmth and body through the 734s, with an energetic, lively sound underpinned by a fairly fluid bass line. True, that tweeter grain was still there on hi-hats, but amidst the fray of jangley Big Star guitars, it wasn’t so conspicuous. So, the plot unfoldeth. Give these floorstanders basic rock recordings and they’ll oblige with an enjoyable sound, but ask them for more and the situation changes for the worse.

It’s not that Mission can’t produce decent ‘speakers - as a fan of the 760is and 752s I’d never suggest that - but it seems Mission’s market research has suggested that big, stylish boxes with an impressive showroom sound sell more than quality stuff. If that’s the case then so be it, we’re just lucky we’ve got the slightly more expensive 752s to save up for •

Mission 734
Mission Electronics,
Stonehill,
Huntingdon,
Cambridge PE18 8ED
Tel 01480 451777

WORLD VERDICT
Engineered for low price and showroom appeal rather than absolute sound quality.

Measured Performance see p112-121
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REPRODUCTIC
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The Rotel RCD975 has one of the best starts in life a CD player could wish for - it's based on the RCD970. The transport is the well-proven Philips CDM-9 unit with a continuously calibrated multi-bit digital to analogue convertor. The new machine adds a second DAC, run in dual differential mode. Cosmetically it's unchanged, meaning it maintains Rotel's usual conservatism and excellent build. First used in the 970, the case follows the trend for slimmer boxes, allowing the RCD975 to fit in discreetly almost anywhere.

Eric Clapton's 'Running On Faith' saw the player showing a degree of maturity akin to a player from the class above rather than its own. But despite a confident performance, vocals lacked a little body compared to the Marantz CD63SE. What marked it out was superb transparency - such was the ease with which it unravelled the various components of the mix that it was a breeze to follow individual instruments and vocals.

Acoustic Alchemy's 'Ariane' revealed more strengths - depth and spatial width, the sheer transparency and integration of the sound making the player rewarding to listen to. With acoustic music my only complaint was that bass didn't go down to quite the same level as a good £600 CD player, or even the CD63SE.

With James Taylor Quartet's 'In The Hands Of The Inevitable', the Rotel wasn't quite as light on its feet as some, but fine bass integration saved it from plodding. Bass weight was more than respectable; although unobtrusive when it needed to be, low frequencies were always present in sufficient quantities when required. True to form, the overall sound was easy to listen to for long periods without seeming veiled. The broad sound stage accommodated all the instruments with ease, lending to the feeling of openness and transparency.

Occasionally though, the Rotel could be caught out. With Sibelius' Symphony No.1, played by The Pittsburgh Symphony, the sound lacked a degree of drama and tension - a little too restrained and refined for its own good at times. That said, the 975 made a fine job of producing the tricky violin timbre correctly, never becoming confused, while the near-silent background brought out subtle detail during quiet passages.

The Rotel RCD975 has a well rounded sound quality that's easy to live with and transparent enough to make listening enjoyable. Perhaps it lacks enough spark with some types of music, but this has never really been a Rotel characteristic anyway. Build quality and appearance are also in its favour. The problem for Rotel though is that the 970 offers all this and nine-tenths of the sound quality. Ultimately, the Marantz CD63SE with E100 interconnect will outperform the Rotel, so it can't be classed as great value, but for those whose musical preference is for classical and acoustic, the Rotel RCD975 should definitely be on the short list.
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World Radio History
It’s big, black, and it’s gunning for the UK specialist market. David Price auditions TEAC’s top integrated amplifier, the A-BX10.

I suppose it’s inevitable that a review of TEAC’s new A-BX10 integrated amplifier should be framed around the great east-west audio divide. After all, this new £1000 integrated rather seems set to gnaw away at the sales of some of Britain’s foremost amplifier manufacturers, rather in the way they’ve been assaulting the Japanese market recently.

Let’s get the A-BX10’s intentions straight from the start. Forget about bells, whistles and A/V surround sound processors - this is a Japanese real hi-fi product going straight for the jugular of UK audiophile amplifiers. You won’t find any fripperies on this front panel. Indeed, in this review it finds itself in the ironic position of facing a cheaper British amp. - the Meridian 551 - with more facilities, flexibility and convenience! Instead of Meridian’s svelte user interface, remote control, digital display and what-have-you, the TEAC sports a single central volume control, with power on/standby and input selection knobs to the left and
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right respectively. There's also a tape monitor button and a mains power indicator which glows TEAC's corporate orange for standby and green for go.

At the back is the usual confection of gold-plated phono sockets, binding posts and IEC mains socket, as well as a pair of balanced inputs, telling prospective home market purchasers that this amp. wants to be regarded as a serious piece of kit. Its not inconsiderable 12kg weight underlines this, meaning TEAC certainly pack a lot into its compact (for a Nipponese amp) 443x103x38mm dimensions. Inside, it follows up-market thinking typical of the land of the rising Yen, with a goodly complement of high quality components neatly laid out, a large toroidal transformer and an optional plug-in MM/MC phono board.

Befitting any expensive amplifier from this part of the world, the A-BX10 boasts an enormous 100W RMS rated power output, reflected in its propensity to raise the ambient temperature of any room you care to use it in. In use the TEAC is simplicity itself, the controls have a satisfyingly smooth, positive action, making for a quality feel.

First impressions were highly favourable. A thorough warming up is recommended for this product, after which it took its partnering Linn Tukans by the scruff of the neck. One of its key home-grown competitors is Meridian's 551, somewhat cheaper at £695, but a product for which I have a lot of respect. In truth, I wasn't really expecting the TEAC to touch it, but I was wrong. Kicking off with Everything But the Girl's 'Sugar Finney', the most dramatic difference between the two amps was in their bass. The TEAC was punchier and tauter, with more grip and weight to kick drums, bass guitar lines and left hand piano parts. By comparison, the Meridian sounded softer around the edges, lacking the low frequency articulation if its oriental rival. But for all the A-BX10's proficiency in steamrollering along the song, I couldn't help feeling the Meridian was more tuneful. The TEAC emphasised notes starting and stopping, but with its occidental brother things were noticeably more melodic.

Across the midband, the TEAC turned in an equally credible performance, with a vast, bold soundstage with satisfying depth and dynamics. Bob Marley's 'Waiting in Vain' assumed an enormous acoustic, with commendably large amounts of percussive detail springing forth. Images were more tightly located than with the Meridian, projecting forward from the speakers better. Again, its firmer bass gave more life to proceedings, clearly conveying the impressive counterpoint between bass and drums.

Once again though, for all the TEAC's cerebral delights, the Meridian was more effusive, beguiling performer. Although its bass wasn't as tight, it caught the rhythmic subtleties of the organ playing noticeably better, which in conjunction with a smoother, finely etched treble made for a more fluid and natural rendition.

The Meridian also threw light on the TEAC's high frequency failings. Although the Japanese amplifier wasn't coarse, it had a slight haze that made cymbals brighter, giving them welcome lustre but losing their feel, making for a rather bland, generic sound. Most noticeable in the upper regions, this effect nevertheless extended to the midband. So despite the A-BX10's lively, grippy character, low level detail and atmosphere wasn't a forte.

It's not the first time I've heard British and Japanese amplifiers fall into these camps - the former 'soft and musical', the latter 'big and powerful'. I'm sure the Japanese like this sound and engineer their products with this in mind, because with super-dry, pin-sharp modern Japanese recordings, it certainly sounds impressive. Ryuchi Sakamoto's 'Asadoya Yunta' saw the TEAC gaining a lot of ground on the Meridian, sounding fast, lithe and detailed thanks to its talents with leading edge dynamics. The Meridian on the other hand sounded more natural, imparting the song's rather mechanical percussion and koto playing in a rather matter of fact way. As a further measure of the seriousness with which TEAC have approached the design of this amp, even the optional £150 phono card was good, being quiet on MC and giving little away in sound quality to line inputs.

Make no mistake, this is a fine integrated amplifier; the TEAC is not to be confused with headache-inducing Nipponese black boxes at the bottom end of the market. It's a very confident, grippy sounding device, strong on sound and build quality. Used with smooth ancillaries and quality interconnects, its drive and confidence may be just the ticket. But for British ears, the charms of similarly priced Meridian and Naim products may be too much to resist.

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TEAC A-BX10 £999.95
optional MM/MC phono card £149.95

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Herts. WD1 8YA
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WORLD VERDICT

Very strong all-round performer with excellent build and finish. Verging on the expensive though.

Measured Performance

see p113-121

HI-FI WORLD SEPTEMBER 1995
A group of audio experts have just proposed a twenty-first century specification for Compact Disc. It relies on the increased storage capacity of proposed new video players that use today's Sin CD, but in either multi-layer or double-sided form. Noel Keywood explains.

These days, the Consumer Electronics business talks video, because that's where the money is. Packaged audio systems from the East have become a high-volume, low profit commodity items. So whilst Philips, Sony, Toshiba, Time Warner and just about every other major CE company get stuck into each other's throats in yet another video format war, audio has been ignored. No proposal has been made to put high quality audio onto these discs, except as an accompaniment to films.

ACOUSTIC RENAISSANCE

Now, a group calling themselves the Acoustic Renaissance for Audio (ARA) have put forward a proposal for an advanced digital music coding scheme. The ARA comprises a small group of senior engineers with long experience in their respective fields of professional, broadcast and domestic audio (see box at end). It was, however, founded by Professor Hirokazu Negishi of Canon's (Japan) Research and Development headquarters whose aim, he told us from Japan, is to promote "the value of acoustics for audio and hence the arrival of the third paradigm". This means thinking of audio as an all-round experience, rather than frontal stereo or mono (second and first paradigms, in U.S. speak). As visiting professor to the University of Essex, Professor Negishi has co-operated with others in Britain in drafting this proposal, but has been actively promoting it back home in Japan.

Sensitive to the failures of the past, the ARA have ensured their proposed system is "backwards compatible" - meaning the system will be able to play current CDs, so they should not become obsolete. Whilst the digital audio code is out of date, the CD itself, seen as an information storage medium, is going from strength to strength. The growth of video in the home has pushed it along - moving pictures need considerably more storage space than music, so where audio CD has 0.6 Gigabytes capacity to give 73 minutes of music, the new discs have 5 Gigabytes (Toshiba/Varner) and 3.7 Gigabytes (Philips/Sony). This is achieved by using smaller pits read by higher resolution lasers.

PREDICTING THE FUTURE

Faced with such massive storage, the options open out. Quality can be improved immensely, or playing time, or the number of channels used. Which to choose? This is where the proposal wisely acknowledges the impossibility of predicting the future and the folly of attempting to shape it. It can provide numerous options, according to the intended role of the disc. From two to eight channels of high quality audio can be provided, but the authors lay emphasis on sophisticated surround-sound schemes. Although they see this as the future, the proposal specifically provides properly constituted stereo too, again for compatibility.

CD's ACCURACY x 26!

How about 143 minutes of stereo using a 24 bit amplitude description at a 96kHz sampling rate? That's a resolution of 16,777,216 levels to describe amplitude, instead of today's 65,536 - a considerable gain. Industry experts with experience of high-bit coding schemes generally see 24-bit as offering such high resolution that all future argument about this aspect of digital sound should be made redundant. Let's hope so.

Using more digital steps to better describe the signal reduces distortion and increases dynamic range (theoretically, from 96dB to 144dB). This will give a smoother sound, lacking the glassiness and clinical dryness of today's Compact Disc. The view that CD omits detail and low level ambience cues, giving an immediately impressive but ultimately unconvincing sound, is likely to become a thing of the past.

Today's Compact Discs are sampled at 44.1kHz. The new proposal recommends 48kHz or 96kHz. The latter gives an audio bandwidth of 48kHz (half the sampling rate), compared to today's limit of 21kHz. Pioneer already make DAT machines with this specification and listeners confirm that it sounds a lot more open, neutral and airy than the somewhat constrained sound we get from today's CD. In the background lurk arguments drawn from U.S. Army research that we
THE NEW SPECIFICATION

- The new audio CDs will give improved resolution, making 24bit digital audio in the home a reality.
- Audio bandwidth will extend to 48kHz, double today's figure.
- The ARA hope to make sophisticated multi-channel surround-sound a reality, complete with height information.
- Existing CDs will play on the new players, but today's players will not play the new discs.
- The improved sound quality will put a gulf between midi systems and proper hi-fi.

need to be able to perceive information right up to 100kHz before recorded sounds and environments seem completely natural to us. So there might be a need to go even higher, but at least we know that doubling the sampling rate does bring perceptible benefits to sound quality and the ARA propose this within their system.

REAL HI-FI REBORN!

So this new coding scheme offers some interesting possibilities, but it's also cunningly flexible. Ultra high-quality digital puts emphasis on hardware technology, and therefore cost, but ARA's scheme also allows low quality video or audio players to access and play some part of the disc. This universality has interesting ramifications. Obviously, it makes ARA music discs compatible with a wide range of players, from cheap to expensive. However, it also attempts to exclude budget hi-fi - midi-systems and their ilk - from the high quality sections by imposing a stiff cost penalty. Few midi-systems could afford to incorporate 24-bit D/A convertors, their build budgets are so tight.

This should stimulate hi-fi sales by giving top end real hi-fi products a specific identifiable advantage. Unfortunately, it may well become a two-edged sword, being a benefit only in the short term until the necessary silicon becomes cheap enough for inclusion in a midi-system. Then suddenly midi-systems will claim 'real hi-fi' credentials - and that will be that! It's unlikely however that any realistic way could ever be found to prevent this sort of thing, even though the ARA proposal attempts to hold off the wolves for a few years.

CD SURROUNDED

Oldsters may be amused to hear that Ambisonics makes a re-appearance in this ARA proposal. This is a method of accurately encoding a sound field, the sound patterns within three-dimensional space, such as a room, theatre or even an outdoor scene. This, as its developer Michael Gerzon always made clear, is not concerned with the number of reproducing channels, which can be three or more, so much as recording a sound field so that it can be reproduced accurately.

HOW IT WILL SOUND

Vocalists and instruments will sound less clinical and hard in their representation. A greater sense of naturalness and air around the images will make music sound more convincing.

Treble will sound sweeter, smoother and more open. The timbrel properties of metallic percussion will become apparent. Natural ambience will be revealed.

As Ambisonics is spatially accurate in its coding, it requires a holistic view to be taken. This means meticulous attention to detail, from the soundfield microphone required to accurately capture a complete acoustic, to the decoding needed to translate four internal signals out to any number of speakers. As it is pure, it can be used for large choral works, dramatic Wagnerian experiences, tracking bees in Granchester Meadows, and such like. On the other hand, today's multi-channel systems for cinema simply contrive movement, most sounds being artificially "steered" during the mixing process. This somewhat simpler requirement can also be accommodated by the ARA proposal.

UNLIKE MINIDISC OR DCC

Enthusiasts will be pleased to learn that data-reduced digital of the sort seen in PASC (DCC from Philips) and MD (ATRAC from Sony) is specifically avoided. Irrespective of arguments about whether such schemes are audible at one pass, there are problems when data reduction is applied more than once. This could happen if a data-reduced DCC tape is broadcast through a data-reduced Digital Audio Broadcast radio transmission. This problem, and the fact that once mangled, music cannot be restored, is enough to have given many people in the professional audio business strong doubts about the wisdom of using such a process. Data-reduction is a retrogressive concept needed only to pack music at low data rate onto inadequate carriers, so it has no part in this new proposal.

A COMMERCIAL REALITY?
The ARA have submitted their proposal to both camps in the video player battle and although there has been no official response, which will doubtless be contingent on many other factors in their commercial war, we were told by Bob Stuart of Meridian that "it has been greeted well". If approval comes through in the next year, and assuming other parties don't object or otherwise make things difficult, it is likely that the new Super-CD could appear in around three years time, or 1998. Then we'll discover just how "inadequate", as the ARA put it, 1970s' digital really was, consigning it to the dustbin of history - alongside flared jeans!

The ARA are:
Professor Hirokazu Negishi, founder of the ARA and Director of the Design and Development Centre of Canon Inc, Japan.
Professor Malcolm Hawksford, University of Essex, Dept of Audio Engineering.
Bob Stuart, Technical Director of Meridian.
Tony Griffiths, Technical Director of Decca Recording Co.
David Meares, R&D Manager (Audio and Acoustics) BBC Research and Development.
Francis Rumsey, University of Guildford.
Peter Craven & Chris Travis
David Price looks at an interesting new direction the venerable long-playing vinyl disc is taking.

As cost has started to play second fiddle to quality for many record buyers, the audiophile vinyl business has burgeoned. You only need to look at specialist companies like Audiophile International (who supplied the LPs for this feature) to see this. So what does spending £25 on an album that would normally retail for under £10 bring? Are they really better than everyday pieces of plastic? The answer isn’t as simple as it seems, for the world of record manufacturing enjoys a number of conflicting viewpoints. Let’s separate the wood from the trees.

ORIGINAL MASTERS

There’s a long and tortuous path between high quality studio recordings and your turntable. Copies of the master tapes are made so the original masters can be archived. It’s these copies that are often used by the pressing plant, meaning that before even reaching vinyl, your album has lost at least one ‘generation’. But audiophile pressings use the original first generation master tapes, giving them the best possible start in life. But then comes the mastering process, about which opinions are divided.

VINYL MASTERING

Between the master tape and the slice of plastic revolving in front of you is the mastering process, where the master tapes are transcribed to the vinyl disc. Normally the cutting lathe (shown below) cuts a groove onto a lacquer blank from which, after a long and complex process, the moulding tool known as the stamper that presses the vinyl is made.

This intricate process is prone to many problems which adversely affect sound. But in 1980, Teldec introduced Direct Metal Mastering, originally developed by Telefunken and Decca in the 1960s for video playback from a vinyl disc (the format’s failure was doubtless something to do with its ten minute maximum playing time!). As the cutting lathe cuts the groove directly into copper, which doesn’t deform too easily, it avoids lacquer’s tendency to ‘relax’ after being cut, which can lose high frequencies. So the simpler, cheaper DMM process gives what Bob Bailey, production manager at EMI’s...
AUDIOPHILE VINYL - THE DIFFERENCE

- Audiophile pressings use the original first generation master tapes.
- Standard pressings weigh 120gm, while audiophile discs weigh in at 180-200gm.
- Many standard records are made from recycled vinyl. Audiophile vinyl is new and untouched.
- Standard pressings come with packaging that don't protect the disc properly, and can actually abrade playing surfaces. Audiophile vinyl is packed properly.

Hayes production plant, calls “a closer representation of the analogue waveform”, replicating fully the groove cut by the lathe.

Although conventional industry wisdom is that DMM “will give an improved result over a lacquer”, why is it that none of the specialist audiophile pressings tested here are Direct Metal Mastered? Herb Belkin, president of Mobile Fidelity Sound Labs believes it’s a case of best practice. For MFSL, instability problems at high frequencies are reason enough for rejecting copper as a mastering medium. Because it’s so much easier to use, DMM looks an attractive idea, but Herb believes its subjective drawbacks outweigh its objective benefits. “DMM is a science,” he says, “but working with lacquers is an art.” This means neither mastering medium is perfect, and care taken in production quality control affects subjective sound quality as much as the mastering materials used.

Less contentious is half-speed mastering (HSM), which offers improved transient response by cutting a master tape playing at half its original speed on a lathe turning at 16 2/3 r.p.m. The standard way to master discs until the early fifties, HSM was abandoned as soon as technology permitted time-saving double-speed mastering. Nowadays, most audiophile vinyl is half-speed mastered as a matter of course.

PRESSING QUALITY

Is there any point carefully transcribing the masters if you’re going to press onto the first piece of plastic you can find? Audiophile LPs employ thicker vinyl, all titles tested here are pressed on 180gm vinyl, nearly twice as heavy as conventional LPs which weigh as little as 100gm, while Mobile Fidelity use 200gm vinyl. What difference does this make?

Bob Bailey argues there has been no conclusive research on this subject to date. Instead, he believes “the quality of vinyl is in the groove”, rather than around it, “if a 120gm disc is formed well it will perform as well as a 180gm”. As the average 120gm LP is 1.25mm thick, while the groove depth is less than 0.05mm, many industry engineers feel the extra thickness of an audiophile pressing is unlikely to improve performance.

However, Herb cites his company’s reason for using heavyweight vinyl as longevity. Standard weight vinyl, he argues, means thinner, less resilient groove walls which can result in the vinyl developing a “memory” as it’s repeatedly played. Thicker, heavier vinyl resists warps and wear, retaining the microscopic information in the groove better. Indeed Herb claims that MFSL vinyl “has at least as good a survival rate as CD”. Audiophile pressings also have deeper grooves, which he believes gives superior signal-to-noise ratios.

There’s also vinyl quality to consider - all these audiophile pressings come on virgin vinyl. Nothing to do with Britain’s resident balloon flying, Cola-drinking entrepreneur, this simply means what you’re listening to isn’t made from regrind ABBA records - the vinyl is new and unrecycled. In the seventies, massive record sales meant fast pressing cycle times were needed. Using impure “regrind” vinyl which was malleable and quick to cool, cycle times could be reduced to 12 seconds. But this made for a muddy sound with endemic surface noise. Pressed with high quality virgin vinyl, audiophile LPs can take over 1 1/2 minutes to cool, and are far harder to work with, but side-step the noise problems caused by contaminants in regrind vinyl.

Industry professionals don’t see this in black and white. Some argue recycled vinyl is more stable and predictable, meaning greater real-world consistency. While Bob pointed out that “there’s no research showing virgin vinyl is quieter”, Herb countered that a properly set up press using virgin vinyl will give better results, and that mass production on EMI’s scale doesn’t allow time to optimise presses.

STORY OF THE GROOVE

Many regard the fifties as the heyday of vinyl. Then, standard LPs were pressed on 180gm vinyl rather than today’s 120gm norm. In the seventies, pressings got lighter, and suffered from the widespread use of inferior recycled vinyl which meant increased distortion and a lower signal to noise ratio.

At the end of the decade, while LP quality was entering freefall, audiophile pressings on heavy virgin vinyl appeared. Many Blue Note releases appeared on heavy virgin vinyl. Half-speed masters from Mobile Fidelity Sound Labs’ Original Master Recordings made serious inroads into the market.

The mid eighties saw LP quality drop further still, thanks to the increasing use of second or third generation master tapes in the reissue of ‘mid-price’ albums. The use of regrind vinyl and ever flimsier jackets suggested that big record companies were losing interest in black plastic.
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AUDIOPHILE VINYL
IN ACTION

Now, in the middle of the nineties, standard vinyl pressings seem to be getting better, so how do they compare against the serious stuff? We listened to titles from specialist audiophile labels including Mobile Fidelity, Decca SXL, Analogue Productions, RCA Living Stereo, and DCC Compact Classics, and rated them out of ten, with top marks awarded when the record disappeared completely! Does audiophile vinyl give more sound per pound?

Ray Charles and Betty Carter
DCC Compact Classics: 8/10
Standard: 2/10
This release uses valve power amps to drive the cutters, making for a dramatic improvement over the standard digitally remastered LP. Where the cooking version sounded dry and compressed, the DCC pressing had far more atmosphere. Brass had superb timbre, while Ray and Betty's voices projected much better. Surface noise was very low, with the recording's original analogue tape hiss replacing the digitally remastered disc's vinyl hiss and roar.

Debussy Printemps
Decca FFSS Stereo Phonic: 9/10
This had an even quieter surface than the DCC. Sound quality was excellent, with a deep, rich timbre to strings. The room had a magnificent ambience, far surpassing any standard LP I've heard, while bass was unusually powerful.

Muddy Waters Folk Singer
Mobile Fidelity: 10/10
Pressing quality was again up with the best I've encountered, but the awesome dynamics showcased the vinyl better than the more laid-back Getz/Gilberto recording. The massive acoustic, the physicality of Waters' voice and the attack of his guitar came close to the heart-stopping drama of the RCA pressing.

THE VERDICT

The arguments over the practicalities of record production will run and run. What's obvious is that standard LPs are produced with very different time and cost constraints to their audiophile cousins. This explains why the latter are considerably more expensive. Sonically, audiophile vinyl has much to recommend it. The discs tested here provided a level of fidelity that shames conventional pressings, and some were just plain awesome. The quality of sound they wrested from my system has made it grow in my estimation, to say the least. The question you'll doubtless be asking yourself is "are audiophile pressings worth £5?". To this I can only say yes. It's a hell of a lot of money for a piece of black plastic, but not much more expensive than a lower-fi double CD. They'll also last a lifetime, and a very enjoyable lifetime it will be too.
Denon's TU-215RD tuner brings you full RDS ‘Enhanced Other Networks' capability for a mere £150. Eric Braithwaite sees the future and is impressed.

Maybe it's because Denon has a strong footing in broadcast equipment in radio studios that they do affordable tuners so well. If you heard it on radio, chances are you heard it through one of Denon's professional-sector CD players. Here's the latest in Denon's tuners to keep others the Tu-215RD, a mere £149. For this you get a remarkable selection of facilities.

It looks much like any other tuner, Denon or otherwise, yet here you get those nice solid-touch controls that inspire confidence. Not for Denon the narrowing down of choice that fitting only VHF/FM imposes. The '215 has Medium wave radio too, so the new Medium wave specialists popping up in the UK can be captured. This is a synthesiser tuner with no fewer than 40 station memories, optional remote control and full RDS (Radio Data System). Many of the front panel buttons relate to RDS, rather than other tuner functions, like selectable IF, which are absent.

Denon's RDS system gives you more than most: it's a full implementation. I mean, full. Not just the station name. We have scrolling text ('Rachmaninov Prelude in C minor Op23 No 7') that does away with all those memory failings and allows you to impress your friends with your instant encyclopedic musical knowledge.

"I wouldn't give tuppence for the way most tuners treat solo piano, but I couldn't complain about the TU-215."

"What's that, then?" with “Ah yes, that's Rachmaninov, the Prelude . . . of course.” Or, via Choice FM, parrot 'Continuous jams in London'. For a moment I thought they meant jam sessions, which seemed a bit of a new departure in programming, but this is RDS EON (Enhanced Other Network), which gives you the traffic updates.

Mind you, that message was hardly news and RDS expression can be a bit limited. What do the asterisks stand for in 'Sarah Kennedy, the *** early Show? No, don't write in. You do need to be within a couple of feet to read it, though the display is usefully bright. I thought it was ‘Wogan, with news weather and great wits' and was about to complain about misrepresentation until I looked again. It was 'great hits'. Some stations are now also finally broadcasting the time from the Universal Cesium clock, so you can tell people the time without even looking at your watch.

Impressive! That's only the written word. Spoken word was pretty good, too, with just a touch of cuppiness and nasality, but of the degree where you have to listen for it. I caught Yevgeny Kissin on Radio 3, and it wasn't only last year's Royal Festival Hall performance that scored, it was reading the names of all four encores as they began that came in handy as well.

I wouldn't give tuppence for the way most tuners treat solo piano, but I couldn't complain about the TU-215. A balance on the rich, warm side gave the left hand a very solid round and deep tone, while scales and arpeggios in the treble were clean and sweet, without any discontinuity. It was a very well-defined, rather close-up image between the speakers, with the applause properly confined across the sound stage instead of splashing around: a
good test of a tuner’s control.

Tennstedt, conducting the overture from Die Walkure, came over pretty well, too, with, as you’d expect, rich fruity brass and sweet strings. Laid back, yes, but this is better than being thin and scrawny in tone. A solo violin piece again had a good, sweet and vibrant tone. Top marks at this price, here. Good marks at twice the price, even. Dynamics are a touch constricted compared with a reference, but the Denon made a better stab at the transitions between ppp and p than most.

So far, so very good, but rock devotees beware: this is not a tuner tweaked for compressed rock stations. There are those that bend the truth, beef up the bass and sharpen up the upper end of the midrange to compensate. The Denon stays a bit of a smoothy, with decent finger-clicking bass timing and a dry bottom end. All this on FM, of course; AM is competent, a bit less cloth-eared than some, but lo-fi with enough added brightness to make it listenable, as opposed to sheer mud.

Yet again, Denon have come up with a budget tuner with real class and no false economies sonically. In Des’s cringing catch-phrase: “how do they do that?”

Denon TU-215RD

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**WORLD VERDICT**

With no technical weaknesses, great sound and comprehensive RDS facilities, it’s a bargain.

**Measured Performance**

see p113-121
Getting an electrostatic panel and box bass to tango isn’t easy. Noel Keywood and David Price judge a curious partnership in the shape of the Cadence ES loudspeaker.

The principle is sensible enough, but the practice peculiarly difficult. Open electrostatic panels offer an airiness to the reproduction of vocals and instruments that’s hard to resist. I detected this in the £3500 Cadence ES ‘speakers from the moment they sang their first song. But harmonising the efforts of gossamer-thin clingfilm with the antics of a weighty bass cone working against the air in a large, closed cabinet is another task altogether. Like getting a gnat and an elephant to dance together without treading on each other’s toes, it’s not a mismatch easily concealed.

I’ve tried a bit of this malarkey too, using an active filter to help give the bass driver a good prod to keep it in step. Experimenting with this gave me a good idea of the difficulties. I suspect Cadence opted for a closed cabinet because it offers better damping and potentially “faster” bass than the more common ported (reflex) cabinet, hoping it would match the electrostatic section more readily. This means the cabinet must be large if its bass is to go low - as buyers will expect from such a costly and complex loudspeaker. So, like B&W with their early-seventies DM70 hybrid, the Cadence is seriously large and not unintrusive. Does the trick come off?

I can’t say they do. The Cadence crosses over noticeably from a full, grumbling bass that argues with the floorboards to a sprightly midrange that has other things to do. Quite how obvious this was depended much upon the music played, the amplifier used and the required listening levels. In the end, I found they best matched mellow sounding power amplifiers with good bass drive and grip - Audiolab monoblocks fitted the bill.

The low synth throb at the start of Isaac Hayes’ cover of ‘Summer in the City’ had so much weight and power it shook the room. The Cadences were deeply impressive here, with rare bass quality - deep, thunderous gut-wrenching stuff. Hayes’ vivid percussion effects and tight rhythm section were well projected by the electrostatic driver. Here the Cadences showed just what they could do - by any standards they were impressive.

Peculiarly, in a Jeckyll and Hyde
that one listener said made them a little "clanky" sounding. This wasn't much of a concern with rock, but the violins of the Philharmonia Orchestra struck me as hard and forward with Wagner's Tannhauser. This 1960 recording isn't the newest, and I know the strings do sound hard, but not that hard. Balancing this was a gloriously wide soundstage across which the string sections were arrayed convincingly, making the 'speakers' impressive, even whilst wayward.

As electrostatic hybrids go, the Cadences are better than many I've heard, if not perfect. Cadence have made a good basic job of some difficult engineering, even though trying to match an open backed electrostatic to such a huge bass cabinet was always going to be a non-starter. This apart, however, the Cadences are very sensitive - always a good point - so they'll work with all high quality amplifiers, even low power designs.

They need mains power of course, but overseas readers may well appreciate the fact that they're unaffected by very high humidity. The fact that these 'speakers hail from India partly accounts for this unusual plus point, but Singaporeans contemplating the monsoon will likely take heart too. Apparently, an Austrian electronics engineer designed the 'speakers for his own use, but development and production was funded by a large Indian company with various industrial interests, so presentation and back up are first class.

The Cadences were professionally finished and they measured unusually well too, which was the biggest surprise. It's the impedance/sensitivity/reactance characteristics of a 'speaker that say much about its designer - an area where beasts of this size and complexity are commonly a dog's dinner. The Cadences were not. Those with a big wallet and a room to match should certainly listen to the Cadence ES 'speakers - they've got performance to match their size.

**DAVID SAYS**

Now these are 'speakers I rate, but before I start to wax lyrical I'll make one qualification - neutral and inconspicuous they're not. What they are, however, is fun - the kind that brings an evil grin to people's faces when they know they're hearing something special. Isaac Hayes' 'Summer in the City' went from being just another cover version to an epic soundscape in which Isaac's voice battled with legions of wah-wah, keyboards and drums of cowering strength. As the track progressed Hayes' arrangement grew in complexity and the soundstage filled out to envelope me - while all the time the bass rumbled and growled like an Aston DB5. The Cadences appear able to convey scale, without limitation. As a critic, I could find problems, but as a music lover, they were awesome. An imperfect cadence, but an enjoyable one nevertheless • DP

**WORLD VERDICT**

An interesting design with a very impressive sound, but an inconsistent performer.

**Measured Performance**

see p113-121
IN DEFENCE OF SILVER DISCS
I would like to use the pages of your magazine to leap to the defence of the Compact Disc user. I reject the views put forward by some of your recent letter writers that CD users don't know any better and have been led astray by record companies and Philips' long-ridiculed marketing hype. I use CD because I actually prefer it!

Oh horror of horrors! I can just see the vinyl snobs among us wringing their hands in despair at my last remark. Contrary to the belief that CD is the spawn of the devil, I know what I like and can recognise the strengths and weakness of both mediums.

In his review of moving coil cartridges in the June issue, David Price rather sneeringly remarks that CD users need to be told that there is more to music than just instant track selection. Not so Mr Price. I spent a lot of time and money selecting my system and it suits me just fine. Why do people keep knocking me for it because I prefer CD?

When I read your letters page I often wonder how vinyl users have the time to listen to music because they seem to spend all their time worrying about the effects CD is having on other people's systems. Why don't they mind their own business! Hi-fi is not a crusade for vinyl and should not be treated as such.

Jeff Bryan Enfield.

Oops, methinks I've been misquoted. I actually said that the vdH MC10 was "the sort of thing to remind CD fans..." - there was no suggestion that CD users need to be told anything. This wasn't meant to sound sneering - of course CD users have got a right to enjoy their music in peace.

Why do vinyl junkies make so many disdainful comments about CD? Simply because CD is a hostile threat to them. Record companies have unilaterally deemed that the world wants CD and can't have anything else. So I don't think vinyl junkies' complaints are addressed to CD users as much as the major corporate players in the "music software" game. Like you, all they want to do is enjoy their chosen format in peace.

PAstry, Pumps and Peaks
I have a number of issues that may be of interest to the readers of Hi-Fi World. Firstly, the bargain of my year was discovered while being dragged screaming and kicking around Ikea. I stumbled across some lovely looking pastry boards. What I hear you say has pastry making got to do with hi-fi? They were marble slabs 60x40cm - I couldn't resist them and they've made my turntable come to life, with a marked improvement in dynamics and imaging over their wooden predecessors.

On the subject of equipment supports, 18 years ago I did an A-level project on finding a method or substance to isolate my Connoisseur BD1 turntable. After hours spent in the workshops building a test jig (incorporating an old ceramic cartridge) I tested a whole range of things, including foam, neoprene and springs. My conclusion was that a balloon partially inflated with air gave the best result. The only problem I had in using these for my turntable was that they kept deflating over time. It seems that Max Townsend has partially solved the problem with a valve and cycle pump!

I read with interest Noel's comments about compact disc being seventies technology with an inadequate dynamic range "in vivo" limited by a horrendous sounding distortion that all too often makes itself known. I listen to mainly rock and jazz and find many recordings compressed to death. This doesn't surprise me at all. From my limited experience of recording a live band in a hall most of the time the VU meters barely moved from the -20dB area. Then, the vocalist lets rip and the needles bang the end stops and all the peak lights flash at you as if the end of the world is nigh! If you don't overload the electronics and are recording onto analogue tape you get compression and some distortion of the peak. Judging by what you used to see going on in recording studios this was an accepted way of doing things. But never in your wildest dreams would you go over the limit recording digitally would you? You compromise, lower the levels, whack in the brick wall limiter, never daring to get to 0dB. Wasting precious digital bits and resolution and getting into that horrible sounding 1-2% distortion at -60dB.

Oh and don't forget you have a restricted frequency limit caused by a ridiculously low sampling rate.
Fortunately, thanks to the noise made recently, many record companies are waking up to the undeniable demand for black plastic. DP

POWER TO THE GARRARD

Following the note of the Vintage Communications Fair (Trade Winds, May), I thought I would go, and despite the drive down I really enjoyed it. Not a lot of hi-fi as a percentage of the floorspace, although I did see a pair of Heathkit amps and preamp similar to the ones I built (mine were mono) to go with my deck, but I bought a couple of valve radios to join my small collection. I'll be back next year I think.

Now for a suggestion. If it's not in the pipeline, has anyone thought of designing a power supply for the Garrard 301/401 for inclusion in the supplement? I would think Andy Grove could knock one out in a tea break. I mention this because I have a 301, which I bought new when I was nineteen-ish, along with an SME arm and Shure cartridge. I remember my mother had to sign the guarantor form for the hire purchase! It appears to be a transition model, a 301 deck with a platter and motor. It doesn't seem like 30 years ago. In fact, until when I started reading World I built another plinth for it with an RB 300, and it's now in its third incarnation.

Ken Johnston
Glasgow

They knew how to make them to last. As Quad note, almost irrespective of purchase price, products with a life span like this are cheap in the long run.

NK

WORLD WIDE OF THE MARK

While I have been a fairly consistent reader of your mag for some time now, I feel I must take exception to the stomach-churning sycophancy of your multiple reviews of the DPA Renaissance CD player in the June '95 issue.

You might well be on first name terms with DPA's designers but that's no excuse to completely lose your heads and objectivity over what is basically a very good value-for-money CD player, nothing more, nothing less. It's certainly not the best thing since free money.

When I'd got through counting the number of glowing terms you used to describe the player, I had to check the front cover to make sure I hadn't picked up a copy of What Hi-Fi by mistake. This was sensationalistic journalism at its most vulgar. To suggest the DPA has no competitor at the price is short-sighted and reckless.

As someone always on the lookout to better my existing set up, I have auditioned many top-end players. Good though they are in their own ways, continued on page 47...

WIN HI-FI WORLD INTERCONNECT CABLES

OR PERFECT PITCH'S FRANCIINSTIEN CD ENHANCER

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Next, try the Alpha 5 FM tuner. Again, don’t let its surprising affordability seduce you. Instead, listen to broadcast sound that is natural, clear and dynamic - qualities which gained it a class leading recommendation in the 1994 What Hi-Fi Awards.

Finally, feast your ears on the new Alpha 5 Plus CD player - quite simply, the best value high performance CD player ever produced by a UK manufacturer. Over the past year the critics have heaped praise on its predecessor, the Alpha 5 CD player, calling it “the player to beat” (What Hi-Fi?) and “standing head and shoulders above the rest” (Hi-Fi News)*. Now, thanks to new master clock circuitry, the 5 Plus sounds even better and once again sets the standards for other CD players to match.

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*If you already own an Alpha 5 CD player, we’d be happy to update it to full 5 Plus specification. Please call our service department at the number below during office hours for full details and prices.

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including the DPA, to my great surprise none has bettered my existing CD source. You might be wondering how much I spent on such a capable player - well I spent £825 to be exact. It’s based around the modest Marantz CD63 player, with a £200 Audio Alchemy DAC-In-The-Box, the £275 Monarch Digital-Interface-Processor and a pair of Audioquest Video Z interconnects. Get your readers to check out this combo in comparison to the DPA. It’s not the best thing since free money, it’s just the best thing I’ve heard to date for under £2000. Nothing more, nothing less.

**David Hull**

Northants.

I agree that if everything gets a “phew - wot a stunner!” review, we might as well give up and go home. But at the same time we go to lengths to identify good products and give them appropriate coverage.

The reason the Renaissance got three reviews was that it’s a product about which opinions were divided. We all loved it, but weren’t sure if its sound was ‘accurate’. So our dilemma was whether we should rave about a euphonic sounding product - more a philosophical (if that’s not to overburden the word) question than one of patronage, friendship or sycophancy.

**Gary Hastie**

Daventry.

Well, excuse us, but there are no anoraks here - the only vinyl in the office is of the circular, flat variety. I hope you enjoyed the LP12 feature - we’ll be carrying more on it at a later date. The base board mod. sounds interesting, but remember to avoid any live mains you might find under the hood.

**S Chapman**

Derbyshire.

PS I’m now trying to get her to listen to Heybrook Sextets!

**A RUSH AND A PUSH**

My current system comprises TDL RTL3 speakers, Denon PMA 480 amplifier, Denon DCD 910 transport, QED digit DAC with positrion PSU, Monster component interconnects, Chord Company Speaker cable and a Technics RS-B765 cassette deck.

I’ve always found that no matter what I did during the various upgrades paths which have lead to my current system, things have always eventually started to sound tame and boring. The sonic revelations brought about by the addition of each new system element became predictable and tarnished after just a few weeks and I was left questioning whether the money had been well spent in the first place.

However, given that I had invested considerable amounts in hi-fi over the years, I felt that the problem required perhaps just a little thought prior to the seemingly inevitable upgrade. After auditioning a number of new amps, CD players, interconnects and cassette decks to no avail, I turned my attention to my much-loved TDLs.

During a moment of contemplation I realised the only constant in my system during the last two years has been the internal components - the cabinets themselves having been rebuilt to more demanding tolerances by a local carpenter some time ago. Since he is also a hi-fi tinkerer of some local standing, I let him do the cabinet construction and the transplanting of the machinery in one fell swoop.

So I have never seen the TDLs with their clothes off so to speak. After a couple of minutes with a screwdriver, I had the bits laid out neatly on the floor and the problem was practically hitting me right between the eyes! That near-perfect signal upon which thousands of pounds had been spent was reaching the crossovers and then dying as soon as it was injected down the miserably thin bell wire which connected them to the drive units.

Given the inherent quality of the major components within the RTL3s, and their ridiculously low prices it stands to reason that corners had to be cut somewhere. Since I just happened to have some Chord Co. cable left over, I feverishly busied myself with the soldering iron.

The difference was continued on page 53...
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Review of PASSION - Martin Colloms
HIFI News April '93 and November '94

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 Things are heating up in the mid-price CD player grand prix.

With Marantz’s CD-635E on pole and NAD’s S14 second on the grid, there isn’t much room for outsiders. But this month we’ve tested two other serious contenders, from big name players too. Dominic Todd auditions the new £400 Rotel RCD-975BX, which has the benefit of being tuned up in the UK, and here we’re concentrating on Technics’ £450 SLP-S840.

Of all of the players in this race, the Technics looks the most dated in terms of styling. Even the NAD has smoother, more aerodynamic lines and a more functional appearance. Although I thought the thin pin stripe that crosses the Technics’ fascia had gone out with XR3is, the layout’s still clear, neat and ergonomically at the front of the pack. It has a wide range of facilities too, including the ability to sort tracks so that they fall neatly onto a cassette when recording.

Electronically, the SLP-S840 uses Technics’ MASH 1-bit convetor chip, which should give a smooth, distortion free sound. Their Virtual Battery Operation power supply is said to reduce noise from the power supply and digital circuits. Technics are quick to claim comparison with audiophile techniques, like Class A and battery operation, but technically connections are tenuous in our view. All the same, component quality in this player was high throughout, with carbon film resistors and audio grade polypropylene capacitors. But there’s only an optical digital output provided, which may limit its upgrade future.

Compared to the highly regarded £350 Marantz CD-635E, the Technics had a heavier, more cumbersome bass quality. Even with the light, breezy balance of the Lightning Seeds’ ‘Open Goals’, bass was fulsome but slightly plodding, where it should have been driving forwards speedily. With thinner sounding recordings like Oasis’ ‘Supersonic’ this was welcome, giving the bottom end a fuller, more rounded quality. But even here, although much of the balance of the recording was restored, a slowing of pace could be detected.

Another facet of the SLP-S840’s presentation was relative lack of treble precision. Whereas lower down the sound was realistically solid, with the grungy guitars and hi-hats of REM’s Monster, treble took on a splashy, phasey quality that destabilised notes. This was less noticeable on richer recordings with a softer balance, but could prove too much with some of the brighter metal dome tweeters around. It was noticeable with a smooth, soft-dome tweeter, and although peculiar and incorrect, I did not find it overly annoying.

The player’s midrange was commendably smooth and focussed. With prominent vocals where bass and treble energy aren’t allowed to dominate, such as Bjork’s ‘Enjoy’, the SLP-S840 acquitted itself very well. Her voice was projected out across the stage, her childlike emotion carried nicely. There was very little sharpness or edge to her vocals, even on loud transients, allowing the breathy, open character of the recording to flourish. These traits carried through in similar fashion on classical works. Ravel’s Bolero on the Chesky label sounded as if it had been tweaked at the frequency extremes with a graphic equaliser. High percussion had a grainy edge, highlighting harmonics in an unnatural manner. The result, although certainly listenable, paled next to the smoother, cleaner and more refined CD-635E. In the bass, cellos gained a plumminess which, whilst adding scale to the performance, smothered the rich, woody texture of the instruments.

This track highlighted the Technics’ basic character. Although, as is common with most CD players, soundstage depth was compressed into a narrow plane between the speakers, a good sense of stage width was apparent. So even though kettle drums had been moved forward to sit with the violins, the orchestra was spread wide past the boundaries of the speakers. Imaging was sharp, with orchestral sections tightly positioned. Across centre stage images lost some body, becoming thinner and more dispersed, but all the same the SLP-S840 did a fine job, making for a credible performance.

The Technics SLP-S840 has some admirable qualities, displaying a smooth and lifelike midrange, plus a broad sweep of sound stage. However, its failings - ponderous bass and lack of body in the treble - make it hard to recommend, in sheer sound quality terms, compared to Marantz’s £100 cheaper CD-635E. I’d even suggest that better value could be had from Arcam’s more expensive Alpha 5 Plus, which takes refinement one step further. But if it’s convenience, ergonomics and features allied to a solid performance, the Technics SLP-S840 is still in the points.

Technics SLP-S840 £450
Panasonic UK Ltd., Panasonic House, Willoughby Road, Bracknell Berkshire RG12 4PF T: 01344 862444

WORLD VERDICT
Not the last word in sound quality but a performance with some strengths nonetheless.

Measured Performance see p113-121
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DON'T PATRONISE ME!

I've been a reader of Hi-Fi World for the last three or four years, so it's about time I wrote in! Overall the new format is a great success and is much more attractively laid out, but...

Noel is right to dismiss AV and Home Cinema as a matter of editorial policy. The strength of World's competitors is that they can review a large quantity of equipment, albeit in less detail than here. Their rating systems can guide potential buyers towards worthwhile products, but can deify certain products at the expense of others. Hi-Fi World however, is not a buying guide, so why on earth do you feel it necessary to introduce a rating system?

To me, it seems at odds with the magazine's enthusiastic approach. Enthusiasm must be conveyed in the article, not with a patronising soundbite and star rating.

Secondly there's an unrealistic view of vinyl. CD for all its perceived faults is the mass market medium, and has brought reasonable sound quality to millions of homes in a convenient package. It seems to me that only at the price extremes that vinyl exceeds CDs. My Moth Alamo/Ortofon 510 is considerably inferior to my Marantz CD52, particularly in the bass. I may revise my view when I eventually have enough cash for a Linn LP12 and Karik CD player!

Rob Hall
Bedford.

We have adopted a globe rating to avoid the criticism that we are either vague or equivocal in our conclusions. This is an old, old problem in fact, one I've discussed many times with different editors over the years. The best approach I've ever heard runs like this:

"Look, would you buy it if you had £250, or not? - that's what the readers want to know". Without this sort of frankness, too many writers tend to meander around or sink into uninterpretable euphemism when trying to conclude a review. Now they have to decide how many balls - no, globes - it deserves. NK

Less of the "star rating", please - the other mob do that! They're always seeing stars; we're more Worldly. But seriously (in the words of Phil Collins), you're quite right that the different nuances of performance a Michell Orbe has to a PT Anniversary cannot be conveyed in a star - I mean globe - rating, and they were never meant to.

World Verdicts weren't intended to be a graphic indication of how much better a Technics CD player is over the equivalent Aiwa. Instead they show how much we respect the design and whether we'd live with it, an important point. So, like everything at World, the globe rating works in a slightly different way. This is why we only need four globes, because if we were going to try and graphically represent absolute or relative sound quality, we'd need a scale of one to a thousand, at least.

As for your second point, the following letter artfully demonstrates the divergence of opinion on the subject. Kind-of makes you feel damned whatever which way you turn, doesn't it? DP

VINYL VALUE

In the June issue I read a letter by Mr. Crooks saying that a £2000 turntable would be better than an equivalently priced CD, but not a budget one. I used to think that way until I bought a new Mission Cyrus 3 two months ago, and man what a difference! My Rega Planar 3/Audio Technica AT120E now sounds much better than my far more expensive Marantz CD53/Audio Alchemy Dac-in-the-Box. Maybe the opposite is true - that very expensive CD players of the likes of Wadia and Mark Levinson sound better? Moshe Benarroch Jerusalem, Israel.

Is it or isn't it? Opinions vary on whether budget vinyl is better than budget CD.

Andrew Walmsley Halifax, West Yorkshire.

.... continued from page 47
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HDCD UPGRADE?
I currently have an Audio Innovations 500 integrated valve amp, Yamaha CDX810 CD player with Straight Wire interconnects, original Monitor Audio 852 speakers, and NAC-4 speaker cable. In our 6 metre square listening room with high ceilings the sound is pleasant, but lacking involvement and bass. I also have the feeling that the level of detail may have declined since I first purchased the system, but this is subjective and may be due to changed expectations. My query concerns what to upgrade first. I shall be visiting Europe soon and wish to use the occasion to replace one or other of the above components.

Given the doubt over HDCD and CDV replacing CD, is it worth replacing the Yamaha? Would it be better to buy a new Rotel or for the same money install a Trichord Clock 2 or an outboard DAC such as Cambridge Audio's DACMagic? The most impressive speakers I have ever heard have been large Tannoy's, and I believe strongly in the advantages of having a point source. Would I be better advised to buy the DI00, the 638 or even the D500? I would appreciate your advice as I will not have much time in the UK. Thanks for an innovative and educational magazine!
Dr John Franklin
Sydney, Australia.

Write in with your problems to Hi-Fi World, 64 Castellain Road, Maida Vale, London W9 1EX. Our panel of experts will endeavour to solve them, or at least offer some practical advice.

Don't worry about HDCD for the meantime, it will take a good few years for anything directly relevant to filter into the hi-fi world. Pacific Microsonics' excellent system is already a reality, but it's too early to tell whether it's going to become a universal standard.

The Yamaha is your weakest component, so modifying it won't bring a great improvement. Your amp and 'speakers are good designs, so you would be better served by a decent CD player. You haven't said how much you want to spend, but if money is tight, the £400 Arcam Alpha 5 Plus or £350 Marantz CD63SE would be an excellent start. If you have £800, listen to the Quad 67 against the DPA Renaissance. The former is consummately smooth and warm, the latter is all fireworks and pizzazz. It depends on your taste, but I suspect the DPA will be better suited to your amplifier's presentation.

CD NEEDS OUTBOARD MOTOR
I currently own a system comprising an Aiwa XC-700 CD player, a Kenwood KA-3020 amplifier and Mission 760iSE 'speakers, bi-wired with Cable Talk 3 cable and mounted on sand-filled Atacama SE24 stands. Interconnects are Tandy Gold Patch cords.

I want to improve the system and was thinking of adding an outboard converter such as the Audio Alchemy Dac-in-the-Box using the optical output on the Aiwa CD player. Would changing the amplifier be a better solution or would doing both changes be preferable? At the moment it sounds very smooth and I would prefer more bite and attack from the system, as well as a clearer and more tuneful bass. I have a budget of around £500 although I may be able to stretch it a bit further if you think it would be justified. I would be extremely grateful of your help on this matter.

Basharat Anwar
Oldham, Lancashire.

What you describe reminds me much of the KA-3020SE amplifier, which I found a little weak and insipid in its sound. A firmer, more impressive presentation is to be had from the Denon PMA-450SE II, an amplifier with real muscle. This will definitely liven things up and give better bass.

The Aiwa CD player is smooth sounding, but not dull or boring. I believe you need to buy an external converter of some ability before significant improvements become apparent, so don't be too quick to dispense with the Aiwa - and do try and listen first to any alternative. The QED Digit with Positron power
supply has the extra bite you are looking for, but beware of combining this with the Denon, since together they may swing the sound to become too sharp. NK

LOOSE LP 12?
My system comprises a Linn LP 12, Naim NAC82, NAP250, Hi-Cap, Marantz CD-63SE and Epos ES14s on dedicated stands, using Naim speaker cable.

I listen to delicate female vocals on vinyl a lot, due to its smoothness and ambience. I find the bass from the Epos can be ploddy, and so am considering upgrading them. I want a smooth, detailed sounding system with tight, accurate bass and good imaging. My budget is £700-£1500 and my room is 13 ft square.

Michael Jones, Wolverhampton.

A 13 ft square room spells trouble. It will have a strong main resonance at 43Hz, because length and width resonant modes coincide (rooms resonate like organ pipes). It is highly likely the ES14 has its own low frequency resonance in this region, like most 'speakers of its size. That's a horrible trinity of resonances that together are likely to be giving you the ploddy bass you complain of. There are various ways of ameliorating the problem, but only a Kango or a bulldozer can eliminate it.

Firstly, both you and the 'speakers should be as far away from the room's walls as possible. Experiment. Pull your speakers forward and listen to a long bass line with plenty of movement across the note scale. Then progressively move out into the room yourself and note how much this lightens and imposes order on bass. Do what you can to site the speakers away from the wall, and yourself if possible.

High quality miniature loudspeakers with limited output at 43Hz will put less energy into the room, exciting it less. Audition Harbeth HL-P3s or Linn Tukans. The ES14's have a bit of a low frequency kick and I suspect they are a relatively poor match to your room.

You'll not get the bass you want unless you resort to acoustic treatment. Small, square rooms resonate too strongly. And you will only get good imaging with the 'speakers away from the walls, which is how you'll get best bass of course. You could try RPG

Two Hearts Beat As One!
I have a simple question. Can one stereo system be shared by two hi-fi enthusiasts? I am very happy with my system that consists of a NAD 3130 amplifier, Sony 730ES Tuner and Rogers' LS4a 'speakers. I am a radio freak and like the dead "BBC sound" of the Rogers.

There is a problem - my wife. She is keen to start her own CD collection and is willing to go up to £400 for a CD player.

Unfortunately she hasn't got enough money to start her own system, and wants me to attach her CD player to my system. I have a feeling this will end in tears, as I know my wife likes a more lively sound than my system can produce.

What should I do? Is there a CD player that can overcome my dead system and bring it to life, or should I tell her it's impossible, and to keep her hands off my hi-fi?

Vaughn Colley
Isle of Man.

There's an easy answer for what appears a 'delicate' problem. Your wife should try the Marantz CD63SE CD player, which has a bright, vivacious sound, and connect it with decent budget interconnect such as the ones you've just won. This will give her the life she's after, whilst allowing you to keep your system just as you like it, which is of course one of the central preconditions to married bliss!

As a radio freak, make sure you have an appropriate outdoor aerial, since this greatly affects sound quality. If you receive Holme Moss, roughly 120 miles South-East from the Isle of Man, you'll need a large outdoor array, probably five elements or so, but always consult a local aerial rigger. Don't pass up an opportunity to listen to a NAD402 tuner either. DP

Continued on page 61...
Adding a fineline stylus to Ortofon’s superb MC25E cartridge makes for more music, finds David Price.

It’s puzzling that since LP was dethroned by CD, it has improved enormously. The component that’s come along the most is the humble pick-up cartridge, Ortofon in particular shrugging off the presence of Compact Disc. These days their moving coil cartridges sport rigid aluminium bodies, a variety of advanced stylus profiles, 99.99% pure OFC copper windings, and a healthy output voltage.

Measuring and tracking superbly, the £170 MC25E and £225 MC25FL tested here epitomise the Danish company’s approach to the business of getting music from record grooves. If you haven’t quite got the funds for the top £2000 MC7500, you’ll find something in the Super series for you, the MC25s sitting above the £95 MC10 Super and £125 MC15 Super II in what has to be Ortofon’s most competitive range for years.

Both share a body weight of 10.5g and a tracking force of 2gms, meaning they’ll work well in a variety of modern tonearms, including the SME312 used for this review. The only difference is the stylus, either an 8x18μm elliptical
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(E) or a 18x40μm fineline (FL). Both share the same aluminium cantilever, as well as similar measured performance, with the more expensive FL version offering, according to Ortofon, slightly better tracking ability and more extended high frequencies.

Mounted sturdily in our Garrard 401, the MC25E sounded extremely appealing, with a verve and swing to Bob Marley's 'Three Little Birds' that you don't usually get from 'affordable' moving coils. The E's sound was very 'get up and go', with a tight, driving bass line, plenty of detail and commendably delicate hi-hat sound. Switching to the MC25FL showed what the E was doing wrong however, offering a smoother sound altogether, reminiscent of the MC30 Supreme tested in the June issue. Cymbals were crisper, starting and stopping more tightly and displaying better timbre. This combination of greater grip and smoothness wasn't immediately as appealing, the MC25E's punchiness proving more entertaining on first acquaintance.

However, moving to David Crosby's 'Almost Cut My Hair', things looked a little different. The MC25E again did very well, with an animated performance to wake even the sleepiest hi-fi reviewer. Most impressive was the amount of detail this cartridge managed to wrest from such an old piece of plastic. Scratches and surface wear just didn't phase it, the Ortofon managing to excavate the backing Hammond organ with consummate ease, while making foreground instruments really sing.

If there was one criticism, it was the MC25E's propensity to sound slightly 'spiny'. Although subtle in effect, this phenomenon was conspicuous next to the MC25FL which wasn't going to let itself get upset by distressed pressings. As well as the extra smoothness, the fineline tip brought superb timing - notes didn't blur into each other but were separately delineated. This precision could make the FL sound a touch analytical compared to its brother's gusto, but in the end, greater control won the day. Cymbals again gained a beguiling delicacy of touch, while bass was firmer, but just as voluminous.

Moving to a vintage Decca SXL pressing of Mahler's Symphony No1 in D Major (George Solti; LSO) and I found myself aghast at the superb quality of sound coming from the speakers. I - like most people I suspect - now do almost all my classical music listening with silver frisbees, forgetting just how pleasing it is to hear the body and physicality of an orchestra in full non-digitised glory. The MC25E again showed itself as a veritable greyhound, conveying the vigour and force of the LSO of yore with aplomb.

Interestingly, the MC25FL sounded more wiry and sinewy on strings, contrary to my expectations. Comparison to the E saw the cheaper coil sounding somewhat airbrushed and nebulous, while the fineline was obviously getting further into the groove to impart the violins' harmonics in their entirety. This extra focus also made for soundstaging improvements, superb 'hear-through' stage depth as well as good imaging accuracy. As the E is already strong on soundstaging, the FL joins the distinguished company of far more expensive coils in this respect.

Fifteen years ago, today's MC25E would have been a revelation, with such a bold, powerful musical sound and vice-like tracking - now it's just a considerable achievement. It builds on the MC15 Super II's excellent basics and injects true verve and pizzazz. The MC25FL goes far further, snapping at the heels of the big boys in the £500 class. If there'd been a cartridge like this around at that critical moment in audio history, CD might have been 'just another Elcaset'. Makes you think, doesn't it?

Ortofon MC25E
Ortofon MC25FL
Ortofon UK Ltd.,
Chiltern Hill,
Chalfont St. Peter,
Bucks. SL9 9UG.
Tel 01753 889949

£169.95
£224.95

World Verdict
Delightfully sweet, musical sound with added refinement on FL means the MC25 takes some beating.

Measured Performance
See p113-121
There's still just enough time to grab a copy of Hi-Fi World and head to the beach for the last few days of sun. When you're there, read about all the new products in trade winds, enter a super competition to win new kit, read reviews on all the latest equipment, scour the classifieds for bargains, and relax reading features on all aspects of audio. Here's some of what we hope to bring you in October's issue.

**TUKAN I PEAKE**
The Tukans are a miniature loudspeaker designed for a super-fast and clearly projected sound. David Price, a long term user of the original Kans, weighs up the new design.

**DPA DIGITAL LITTLE BIT III CD CONVERTOR**
DPA Digital's new Little Bit III is the most affordable discrete CD convertor available. Using their own unique in-house designed and built DAC, the Little Bit III looks set to offer unrivalled performance at the price. We take a very look.

**WHARFEDALE VALDUS 500 LOUDSPEAKERS**
The sub-£500 floorstander battle continues. Now Wharfedale have weighed in with the Valdus 500s. These metre-high floorstanders use a line up of three 8-inch drivers and a 28mm tweeter, and will set you back just £299! They could be the ones to beat.

**VIRTUAL REALITY SYSTEMDEK/RB300/1042GX TURNTABLE SYSTEM**
Working with Systemdek, Rega and Goldring, Virtual Reality have come up with this highly tuned turntable system. Just some of the tune ups include a precision Swiss motor for the Systemdek, new wiring for the Rega, and a carefully tuned Goldring 1042GX. We take a close listen to this high performance system.

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bass absorbers, an effective acoustic treatment, if a little expensive for most people. Alternatively, stuff the room with heavy sofas, if possible, since they absorb low frequency energy.

You could also have a Cirkus kit fitted. At £299 fitted it’s probably Linn’s best value Sondek upgrade ever, and will improve both tightness and imaging. DP

ELECTROSTATIC DEPRIVATION

My system consists of a Thorens 126 Electronic MkIII, SME 3010R and Grado Signature 8MZ cartridge, with a home-made valve MM phono preamplifier feeding a passive Mod Squad and Electrocompaniet DMB100. Loudspeakers are Celef Stratus, charged with sand and lead shot placed on Target ST20 stands. This current set-up is the result of upgrading from an Ariston Q deck and Denon PMA-920 integrated amplifier. I also own a Micromega OPTIC CD player. The system rests on Tripod furniture, with the power amp on a separate stand.

I dream of buying an electrostatic loudspeaker because of the transparency and lack of boxiness. I’ve listened to Apogee Stage, Martin Logan Sequel Il and Quad ESL-63, but unfortunately they are just too expensive. Could you advise me of suitable alternatives?

In the meantime, I’ve asked for information from Loricraft and Technical and General about tweaking my turntables. I’m going to give the Ariston a heavy wood base, but don’t know if I should use the rubber feet or substitute cones. I’ve also designed a kind of Townsend trough for it.

Would it be wise to install Deflex panels in my loudspeakers, or should I change the drivers and crossover? Is the Ringmat as good as it is said?

Francisco J. Guillot
Valencia, Spain.

You may well know that we use modified Quad ESL-63s, amongst other ‘speakers, and wouldn’t be without them. Although other makers of electrostatic sound considerably different, as you say there’s nothing quite like a good one; they make music a wonderful experience.

Dominic has been working on an open-baffle conventional loudspeaker. Our view is that many of the properties of an electrostatic (but not all) can be closely approached with conventional drive units. In particular a lack of box boom and colouration across the critical midband and treble regions, which results in a gloriously open, spacious sound is possible, providing very high quality drivers are used. An electrostatic drive unit has a Clingfilm diaphragm, the ultimate in low mass and colouration, so there’s no point in trying to mimic its properties with quacky polypropylene or coarse paper cones. This does make the drivers expensive, but less so than a commercial electrostatic.

My alternative to the Quad is the Heybrook Sextet. It isn’t really similar, except insofar as it has superb treble and a level of imaging and soundstaging that approaches ESL-63s. Otherwise, there’s little in the commercial loudspeaker world that really offers the sort of sound you are after.

You cannot simply change the drivers and crossover of your loudspeaker to gain improvement. They are carefully chosen, matched together and matched to the cabinet. Deflex panels are sound dispersers, rather than absorbers. Generally, it is best to mix dispersion with a little absorption, so they are worth trying, although we cannot be specific about benefits, because they’ll vary.

Our review of the Ringmat (January 1995 issue) placed it as very good value on a majority of turntables, including Thorens. NK

DUAL TO THE DEATH!

I am looking to upgrade the sound of my 1978 Dual C5510 turntable. Your review of the £1000 Pro-ject 6.1SA seemed to provide an obvious candidate until I realised this retail for £4000 here in Australia, and that would be really ‘over the top’.

So returning to the Dual, which when purchased was a very good turntable, how would you suggest I upgrade it? Substitute a better tonearm, or fit a better cartridge and stylus than the Shure M95ED currently fitted?

The rest of my system comprises a NAD 3240PE amplifier with Altec Lansing loudspeakers. I would be very grateful for your advice.

Colin A. Harrison
New South Wales, Australia.

The Dual was a good deck in its day, but nowadays certainly isn’t the last word on the subject. Even upgrading to a Rega Planar 3 would bring substantial gains in detail and imaging, as well as an extra solidity to the sound. You could also investigate the soon-to-be-

discontinued Linn Basik, or look for second-hand Axis or Manticore Mantra.

If you decide to keep the Dual, fitting a new arm isn’t really worthwhile. In the seventies, part of Dual’s success was due to the quality of their straight-pipe arms. As they were integral to the turntable package it would be very time consuming to change, so consider a new cartridge instead. The Shure’s sound and age is likely to make it the weakest link in your system. Try the ubiquitous Goldring 1042 whose generous bass will compensate somewhat for the Dual’s tightness in this area. Also consider substituting the CS510’s unsupportive mat for Rega’s felt mat, or better still (but substantially more expensive), a Ringmat. However, it’s unlikely that these modifications will raise it to Rega standards. DP

ELCASET BARGAIN?

I recently bought a Sony Elcaset EL7 along with an RM30 remote control unit and 25 LC90 tapes. Both units are in nice unmarked condition and boxed and working. No one seems to know about the Elcaset and I wonder if you can tell me anything of the history of this machine. Considering its build quality, I would imagine that it was an expensive piece of kit. It came into my hands for £10.

D.W. Bandpass
Wallingford, Oxon.

At the time of Elcaset’s introduction in 1976, cassette technology was substantially less well developed than now, with poorer tape formulations (no metal tape), transports and heads. Elcaset was Sony’s brave attempt to address the Compact
Cassette's sonic problems while retaining its convenience.

Elcaset were basically cassettes of 1/4 inch tape, with 4 tracks running at 3 3/4ips. With this spec. they easily outperformed conventional cassette. Compared to Sony's top cassette deck at the time, their two Elcaset decks (EL5 and EL7) had better signal-to-noise ratios with an extended frequency response stretching 3KHz higher to (a quoted) 18KHz with Sony's flagship Ferrichrome tape.

Your machine was top of Sony's 1977 range, with a £550 price tag. However, Elcaset machines were soon discounted heavily, and there were no prerecorded tapes. Open reel was the pukka enthusiast's medium, as buyers weren't convinced of its merits. The cassettes themselves were large and expensive and there were no prerecorded tapes. Open reel was the pukka enthusiast's medium, while cassette was for convenience. The new format fell uncomfortably between the two.

Although rare as a medium, Sony Elcaset machines still turn up quite often. Nowadays, they shouldn't be regarded as a serious alternative to cassette, as Elcaset tapes are almost impossible to come by and modern cassettes - especially metals - are considerably improved. DP

BETWEEN A ROCK AND A HARD PLACE

Thank you very much for your excellent magazine. Discovering it was like a finding a knowledgeable friend with the same outlook on hi-fi. I was a long time supporter of Hi-Fi Answers in the late seventies but found today's equivalents to be on a downward spiral into A/V comics.

My current system consists of Townshend Elite Rock Mkll/Linn Basik Plus/A&R P77Mg, Audio Innovations 200/QUAD 50E monoblocks, and Rega speakers from 1977. I have assembled this system over a number of years. While not representing the newest or best, its highly listenable quality seems missing from more modern equipment.

The Rock is a recent second-hand purchase through your Classified section. I would like to upgrade the arm and cartridge to an SME 309/ Audio Technica OCS combination. I have used the OCS which seems a good match for my MC input. The SME's detachable headshell and good adjustments should make setting up the Rock a lot easier. The SME 309 seems an illusive creature so I have not been able to hear the combination on a Rock Mkll. Would you recommend this as a good match?

Now to the difficult bit. I want to replace both the speakers and power amplifiers but am not sure which combination would suit my desire for an open, clean sound with excellent vocal quality and good soundstaging. I am not a fan of heavy bass or high volume levels and my living room is 13' by 16'.

I am considering either dusting off my Quad IIs and getting them re-valved, having the 50E's enhanced by Ayvondale to give the top end more detail, sticking with Audio Innovations and getting a 200 power amp, or saving my pennies until I can move up to something like a K5881 PSE kit.

For the speakers I have been favourably impressed with dual concentric designs such as the larger KEF Q series and Tannoy 613s which seem to have the fluid midrange performance and clarity combined with great imaging quality I am looking for. On the debit side I was overwhelmed by the bass on the KEFs and unsure of the Tannoy's presentation, somehow they sounded like a collection of drivers in a box rather than an integrated speaker.

Are there other speakers in the KEF or Tannoy ranges that you could recommend?

As an alternative I notice in DIY Supplement 13 that KEF are releasing kits using their Uni-Q drivers, so how about a World Audio design based around a Uni-Q driver.

Reading Noel Keywood in the May issue has set me thinking that perhaps a second-hand pair of Quad Electrostatics may suit my speaker requirements, but how much space would they require around them?

Richard James Swindon.

Lack of a stated budget doesn't help, because your predictions span quite a wide price/size range.

Systemdek 931s are moderately priced at £330, image well, are coherent sounding and have dry-ish, well controlled bass. Also, Harbeth HL-P3s may well fulfil your requirements, costing just a little more, and don't forget Rogers Studio 3s.

These days, original Quad Electrostatics don't come cheap, unless you find a pair lurking unrecognised in a junk shop (keep dreaming!). You can fit a pair into a 16ft long room - just. They need plenty of space behind, at least 3ft. Alternatively, use my trick of hanging curtains of carpet felt behind, preferably spaced behind the 'speaker by at least 6in. This lessens rear radiation usefully, easing placement sensitivity and cleaning treble.

Because the Quad is a bass dipole, heavily furnished rooms are best. If possible, rear bass radiation should be 'lost' down the length of a room. Placement at least one-third the way up (i.e. 5ft from the rear wall in your case) is about right. They need to be spaced around 7ft apart.

The amplifier you choose will depend much upon your loudspeaker, especially its sensitivity and load impedance characteristics. Quad Electrostatics are notoriously insensitive (82dB) and really need a 45watt amplifier. The old 303 was meant for them, and now the 306 is a good match technically, although it doesn't have a lot of balls. The latest 606 is a good bet.

A value Quad II power amp. delivers just 12watts (within the wind in the right direction), but I can't say it isn't a match because, although these items in combination wouldn't generate enough sound to down a gnat at five paces, many readers swear by the combination - so criticism by me is unwise! I doubt whether any system in the world could sound so sweet and relaxing. And get your Quad IIs restored by Quad - do not have them 'tweaked'. Our K5881 PSE is more modern in its sound, mainly because it has larger output transformers able to swing full output at both ends of the audio band. When the Quad II was around, people couldn't afford such a thing, these days they can.

If you buy an insensitive 'speaker like the Quads, Harbeth or Rogers (all 82-83dB) I have suggested, in a room your size we would normally recommend an amplifier of around 50watts minimum for reasonable volumes. A Sugden Stemfoort (£500) or Aura VA-80 (£280) are both worth considering, the former for its timbral richness, the latter for its smoothness. NK
Reviewing loudspeakers is easy, great fun and bloody impossible! There’s so much variety in their sound and we all know what we like. That makes it easy. Fun comes from hearing a really good one, but loudspeakers are so imperfect this is rare. And it’s essential because there are so many conflicting influences that trying to define accuracy and hold a notion of perfection seems pointless. Let me deal with the last, very human problem first, because getting a grip on one’s own approach is important to avoid some misunderstandings.

An important precondition for accuracy is a flat frequency response, which simply means all frequencies are reproduced with equal intensity. Readers often raise this point, asking why we don’t try to define “accuracy” like this and seek it, which is fair enough. The British loudspeaker industry spoke of little else through the 1970s, with the implied promise of perfection just around the corner. Since then, things have gone a little quiet: here’s why.

We’ve designed and built flat-response loudspeakers (it isn’t so difficult nowadays) and they sound hard, thin and lacking in warmth; there would be few buyers in the showroom for a “perfect” loudspeaker like this. This raises a serious problem: if we can’t develop ‘speakers using even this most fundamental objective criterion, what can we use to guide us?

Loudspeaker engineers try to resolve the problem with yet more theory, wittering about total radiated power, reflected energy, total perceived energy and what have you. They are sailing into deeper waters - room interaction - without a chart. It’s best to be pragmatic. The European Commission were not and spent millions on Project Eureka, a joint research project investigating loudspeaker/room interaction. The result is, er, well...

Loudspeaker research soon starts to leave Planet Earth once people get a bee in their bonnet about loudspeaker accuracy. When measuring loudspeakers we look for a smooth frequency response, but don’t demand flatness and are ultimately obliged to accept what we and others subjectively perceive as right. This usually turns out to be a slight tilt downward toward the treble in the response curve. Most people, from reviewers to studio engineers, designers and manufacturers find this gives a natural tonal balance.

We rely on measurement for guidance and explanation, but at the end of the day it’s necessary to “take a view”. Doing this involves taking into account other people’s opinions. Sometimes reviewers and designers may differ from a common view, the topic of bass output is one example.

Reviewers with some experience under their belt generally don’t grumble to loudspeakers with heavy bass, yet showroom experience suggests many buyers are spooked by it. A ‘speaker with heavy bass sounds big and superbly impressive in a short demo; thunderous lows may set it apart from, for example, a small mid-system box. But heavy bass comes with long-term penalties. It’s usually obtained by making the air in the box resonate, which gives a rotten one-note effect, rather like an acoustic pogo stick. This sort of behaviour not only destroys bass lines, it gives you a headache. So when we recommend a ‘speaker, bear in mind it’s unlikely to re-arrange your furniture. Strong bass isn’t in itself what sways us; expressive bass, where you can follow a bass line, gathers more Brownie points.

Whilst reviewers don’t usually go for excessive bass, they do sometimes gravitate toward prominent treble, or at least a bright revealing sound. I try to avoid this, yet I became aware that a common criticism of the original Heybrook Sextet I recommended so enthusiastically was that it sounded over-bright. It was more dry in the bass than excessive in the treble, and our standard measurement can follow a bass line, gathers more Brownie points.

What you choose in the end is very personal. I hope you can understand what we choose - and I hope the two are not so different!
It's a shame that as a self-build activity, a digital kit hasn't received much coverage as it's a lot fun to put together. Digital equipment doesn't require the hundreds of volts of H.T. demanded by valves, so bench lash-ups are a breeze and experimentation is a quiet, gentle activity without the painful splats and buzzes which accompany experimentation with valve analogue equipment. And it's also the future - if you're interested in building electronics to prepare for a future job, it's as well to start climbing the digital learning curve as early as possible.

I've just finished designing a unit which may interest digital-audiophiles and constructors alike, the DA150 digital power amplifier, but the unit might equally be termed a digital integrated amplifier because it comprises digital source selection, 18bit DAC, volume control and stereo, 150W precision power amplifier all in one. Other features include three AES/EBU and SPDIF inputs, LED flags for professional/consumer use of channel status, de-emphasis and non-valid data, and comprehensive digital and analogue muting. Safety features include forced mute in presence of errors, a non-locked PLL or non-valid audio data; soft (fade-in) mute on the power amp and relay-protected speaker outputs; as well as heatsink overtemperature thermal shutdown.

Combining DAC, volume control and power amplifier in this way brings some significant technical advantages. The unit delivers a guaranteed 16/18 bit performance by attention to low-noise design and ensuring that it's impossible to drive it into various forms of signal overload - a benefit in a high-quality monitoring or listening environment. This is achieved by designing amplifier sensitivity so that digital 0dBFS is equivalent to 1dB below full-power output clipping, and by defining audio bandwidth precisely in the digital filter prior to the DAC chip. The power amplifier is thus safeguarded from reaching its slew-rate-limit and consequently is protected from generating TID and other transient-effect distortions.

The power amplifier section of the unit is based upon a MOSFET output stage topology. If you have been following Doug Self's articles on power amplifier design in Electronics and Wireless World over the past months, you'll know that much of the current debate in semiconductor power amplifier design revolves around the inherent linearity of bipolar junction transistors (BJTs) compared with MOSFETs in the role of output transistors.

Doug Self regards the BJT as a clear winner. I believe this purist debate is something of an irrelevance and should not prejudice us against the use of MOSFETs. Most significant to commercial designers is relative price, with MOSFET output devices costing several pounds rather than the few pence of BJTs. Furthermore, MOSFETs have a finite - and relatively large - on resistance which is wasteful of power and necessitates the use of paralleled devices in order to drive low impedance loudspeakers.

These two considerations affect 'watts per dollar' calculations considerably. But in the hi-fi market, where their higher price isn't such a disadvantage, MOSFETs have never achieved total acceptance either. So it is not wholly for commercial reasons that the FET is under attack - does sound quality play a part too? This design has proved to me that with care, a MOSFET amplifier is capable of producing results very little short of a dream ticket low-feedback, class-A semiconductor design.

When MOSFET amplifiers first appeared they were heralded as the answer to everyone's prayers. In those days, FETs were regarded as more linear than BJTs. Then the truth broke out - BJTs are the FET's under attack - does sound quality play a part too? This design has proved to me that with care, a MOSFET amplifier is capable of producing results very little short of a dream ticket low-feedback, class-A semiconductor design.

To the question, "if I like it so well, why didn't I opt for Class-A?", the answer is that it's not possible to construct a practical class-A, BJT amplifier with a power output commensurable with monitoring digital audio programme without either depressing monitoring volume to an unacceptable level or including cooling fans, bringing operational problems of their own.

As well all the articles so far published about the Maximalist Preamplifier and a host of other information is available on-line by visiting my Electric Perception WWW home page at URL, http://www.demon.co.uk/epercep/. You can leave messages and comments for me there or alternatively at Compuserve ID100601.1614 or via e-mail 100601.1614@compuserve.com.
Famous for turntables, Revolver are new to loudspeaker manufacturing, with less than a year’s experience under their belt. The £149.95 Colts reviewed here sit in the middle of their three model line up, priced. They feature a 130mm treated paper bass/mid unit with a 19mm soft dome tweeter in reversed alignment à la Mission, and a cabinet that’s reflex-loaded from behind.

Positioned on 22” open stands, 11” from the rear wall, first impressions were favourable with even tonal balance and good scale conjuring up a big sound well projected. Further improvements were achieved by bi-wiring, with a deeper sound stage and better focus. The Yellowjackets’ Shades retained the driving beat of the drums, even if the last octave was missing from the bass guitar. The sax showed good tonal quality with the metallic honk produced well, percussion too was ably projected and even handed in presentation. However, dynamics were slightly softened, with the opening of ‘New Shoes’ losing its explosive start. Moving to more traditional jazz with Dizzy Gillespie’s Bebop Trumpet, the opening bars with Gillespie harmonising Benny Golson on tenor sounded instinctively ‘right’ - the breathy sax and slow laid back drumming making me want to reach for the Horlicks.

Turning to classical, and with Orff’s Carmina Burana, only in the extremely loud passages did the Colts get ragged and lose their poise. Imaging was clear, with the orchestra well placed around the singers. With Beethoven’s Piano Concerto No4; Brendel-Levinen, piano showed a slight thickening on the upper keys. Strings sounded sweet with no hint of wiriness - it was only when pushed hard that the Colts lost their composure and became strident. Used sensibly they’re OK, and shouldn’t be a problem unless you’re a headbanger.

Their weak spots? They have lively cabinets which add bounce to upper bass and a degree of honk on some records. The midband could sometimes sound hollow, and although treble didn’t suffer from metal dome tizz, there was a slight grain present, highlighted by female voices.

Still, the perfect £150 loudspeaker is yet to come, but at the end of the day the Revolver Colts were enjoyable to listen to. This alone means they’re worthy of audition against budget big guns like KEF’s best-selling Coda 7 •

Revolver Colt £149.95

RAM UK Ltd.
16 Willan Trading Estate,
55 Waverley Road, Sale,
Manchester. M33 7AY
TP 0161 9730505

WORLD VERDICT

A good honest standmounter with a musical sound, but not the last word in refinement.

Measured Performance see pp113-121
Enter this month’s competition and your system could be instantly upgraded with the addition of a REL subwoofer. If you crave bass extension to add an extra dimension to your system and new levels of enjoyment to your listening, don’t miss this one. We’re giving away two super REL subwoofers, the new Stadium II for first prize, and a Strata for the first runner up. REL’s Stadium II uses coarse/fine rolloff controls which set the upper frequency limit and an overall gain control. This system allows it to be accurately matched to a wide range of loudspeakers, giving a smooth and even balance. The electronics feed a robust ADD REAL DEPTH TO YOUR SYSTEM - WIN REL SUBWOOFERS WORTH £1500!
100watt power amplifier, bolted securely inside the heavyweight 72litre cabinet.

The Stadium 11 sits on four spiked legs, the high power Volt bass driver firing downwards. Set up properly, the Stadium 11 is capable of revealing bass lines and subsonic detail that conventional loudspeakers completely miss. After living with a subwoofer capable of revealing this extra low frequency information, it's hard to imagine being without it.

The runner up gets a REL Strata subwoofer. This more compact device uses a 60watt amplifier and a smaller cabinet. Although bass isn’t quite as powerful as with the Stadium 11, it still goes very deep, reaching 20Hz at -2.5dB! More importantly, it’s tuneful and articulate with it. Ideal for small to medium rooms, the Strata will complement almost any system.

So if you want real bass from your system, don’t miss out. All you have to do to enter is complete the questions and tie breaker opposite. Please send your entry on a POSTCARD, or the back of a SEALED ENVELOPE, and completed in block capitals, to arrive no later than 4th SEPTEMBER 1995 to:

REL SUBWOOFER COMPETITION
Hi-Fi World Magazine,
64 Castellain Road,
Maida Vale,
London W9 1EX.

COMPETITION ENTRY QUESTIONS
Cut out and affix to the back of a sealed envelope

1) The REL Stadium 11 has a built in power amplifier. How powerful is it?

A. 40watts
B. 60watts
C. 100watts
D. 200watts

2) The internal volume of the REL Stadium 11 is?

A. 72pints
B. 72gallons
C. 72cc
D. 72litres

3) The high power bass driver used in the Stadium is specially made by?

A. Volt
B. Audax
C. KEF
D. Focal

4) The REL Strata goes how low at -2.5dB?

A. 10Hz
B. 20Hz
C. 30Hz
D. 40Hz

TIE BREAKER (obligatory)
Although my system sounded ace,
I wished it had faster bass,
Then one day I found,
A subwoofer with a sound,
Complete the last line of the above limerick and compose the next verse.

Name:
Address:
Post Code:   Tel No.

Please do not add my name to your mailing list.

COMPETITION RULES AND CONDITIONS OF ENTRY
[1] Only one entry per household will be accepted. Multiple entries will be automatically disqualified.

[2] In the event of more than one entrant submitting all correct answers, the winner will be picked from the tie-breaker by the editor. We will endeavour to publish the results in the November 1995 issue. Purchase of the magazine is not a precondition to entry.

[3] No correspondence about this competition will be entered into and the editor’s decision is final.

[4] No employees of Audio Publishing Ltd. or any companies associated with production or distribution of the prizes may enter.

Don’t forget to include your name, address and a telephone number so that we can contact the winners promptly.

Your name and address may be added to our mailing list only.
If you would prefer not to receive details of new products or special offers from us alone please tick the box. Hi-Fi World magazine is published by Audio Publishing Ltd.
"Dead good speakers"
Mr. GR Hudson, Hampshire, on the Beretta

"Astonishing performance and value. A surefire success"
Mr. D Mclean, Surrey, on the Purdey

"a range that aims to blast away established sharp-shooters in the £100 to £250 corral"
Malcolm Steward, Hi-Fi Choice on the Revolver Purdey, Colt and Beretta Loudspeakers

"Revolver’s reliability is so good that we are placing a 10 year guarantee on all our loudspeakers"
Ray Nugent, RAM UK Ltd.

PREPARE TO BE BLOWN AWAY

RAM UK Ltd. 16 Willan Trading Estate, 55 Waverley Road, Sale, Cheshire M33 7AY. Tel: 0161 973 0505 Fax: 0161 905 1965
Japanese tuners suffering Yen, it's becoming more which could be wired to a when stereo FM was first worthwhile.

with better performance new-fangled stereo FM. Yet with an MPX output tuners were still mono, being broadcast, most fun) makes it all the more even if it isn't as much tuner (NAD402 excepted, than a modern £200+

and into everyday use equipment back to life bringing vintage decoder. The joy of up to a good stereo dusty old valve tuner

due to the strength of the Mozart tuner at Classique stereo decoder. Recently, I stumbled upon a PYE Sounds (0116 283 5821), a vintage specialist based in Leicester. I'd seen a couple of these before, with their fantastic fifties styling. The tuner matches the Mozart preamplifier, with a shiny copper fascia and a triangular cut-out for the frequency display. The power switch is clear, and lights up with the "PYE" logo at power on.

I've always wanted one, but they're mono with no MPX output. Yet when I spotted this one it set me thinking again. Since a mono tuner contains everything you need to receive a stereo signal, apart from the decoder, it must be simple to convert for an MPX output. Checking with Stan at Studio 12, and after consulting a couple of good radio books, I took up my soldering iron for what transpired to be a very simple task.

I have drawn a simple representation of a mono tuner output circuit (Fig.1), showing the signal coming in from the discriminator. The signal from the radio station transmitter has treble boost applied to it, called pre-emphasis, to improve noise performance. This has to be countered at the receiver end to give a flat response. This is called de-emphasis, and is performed by the the resistor and capacitor shown in Fig.1.

The output from the discriminator valve can have several hundred volts of DC on it. The coupling capacitor labelled $C_{out}$ is there to block this DC from the output. It's very important to leave this capacitor in series with the output of the tuner to prevent damage to your amplifier. This capacitor is normally around 0.1μF. The Leak Troughline is one of the few exceptions, having a low voltage, direct coupled MPX output.

To convert this mono output stage for use with a stereo decoder all you have to do is disable the de-emphasis capacitor (Fig.2). The de-emphasis in a stereo tuner is done individually on each channel after the stereo signal is decoded. I inserted a small switch which I mounted internally so that this de-emphasis can be easily switched back in to give a usable mono audio output. It also enabled me to keep the same captive output wire. This way the tuner is kept as original as possible, and the modification is reversible. These de-emphasis components form a circuit with a 50μS time constant. Preferred values are $47kΩ/1000pF$ or $470kΩ/100pF$, which makes them easy to recognise. If you are considering doing this modification to an American mono tuner, bear in mind that the de-emphasis is set to 75μS. Another vintage mono tuner prime for this kind of modification is the Quad FM1. These are plentiful and still cheap, and with Quad's legendary backup service, you know you'll always be able to get it going.

Well, after converting the PYE Mozart, I plugged it into the Studio 12 decoder module. At this point I was expecting to be disappointed with the sound compared with my usual Leak Troughline, but although the Mozart didn't have quite the same bottom end power, the sound was crystal clear, spacious and open with superb treble detail and extension. What's all the more satisfying though, was bringing this fantastic copper fronted vintage tuner back into every day use after a thirty year rest.

During the period, and this that were produced the number of tuners like today shows that so many of them are

I'm always surprised at the number of tuners like this that were produced during the period, and that so many of them are still around today shows just how well engineered they were.

Prior to the early stereo broadcasts though, tuners were mono with no MPX facility for a stereo decoder. Recently, I stumbled upon a PYE Mozart tuner at Classique Sounds (0116 283 5821), a vintage specialist based in Leicester. I'd seen a couple of these before, with their fantastic fifties styling. The tuner matches the Mozart preamplifier, with a shiny copper fascia and a triangular cut-out for the frequency display. The power switch is clear, and
Audiolab 8000Q Pre-amplifier

With the introduction of ZT Technology, Audiolab is revolutionising conventionally accepted standards for sound quality and performance.

Through the innovative application of advanced technology we have created two remarkable new designs — the Audiolab 8000Q Pre-amplifier and the 8000PPA Phono Pre-amplifier.

They represent the most significant advance in Hi-Fi amplifiers since the original Audiolab 8000A Integrated Amplifier took the Hi-Fi market by storm nearly 10 years ago.

Ask your Audiolab dealer for a demonstration.
If Sir John Harvey-Jones were to "troubleshoot" the British hi-fi industry, he'd have a field day. It's not so much a problem with what's being produced, but more to do with the fact that the industry, with a few exceptions, has to be one of the worst self-publicists. Take Tannoy as an example. One of the oldest loudspeaker manufacturers selling a massive range of speakers world-wide. You'll find Tannoy 'speakers in a surprisingly large number of studios, the Houses of Parliament, and through their professional brand, in many of the world's airports and stations. To cap it all, Tannoy are in the rare position of boasting a generic brand name - who hasn't heard the term, "over the Tannoy"? Yet ask a member of the public to name a 'speaker manufacturer and you'll likely as not be faced with a barrage of Japanese brands.

It's not just Tannoy who are doing themselves down either. The whole specialist industry at large faces a severe image problem. The problem is that quality hi-fi seems to appeal only to those with an interest in either the equipment or music (although many musicians are renowned for owning some of the cheapest and tackiest hi-fi around). Ask Joe Public to name a quality hi-fi brand, and sure enough the list would consist of the Japanese majors once again, and probably Bang and Olufsen, too.

The two main difficulties the industry seems to be facing are that of not appealing to a wide enough audience, and not appearing too cliquey. Many manufacturers do a fine job of selling themselves, but only within the specialist press. The only British companies I can think of that have taken the bull by the horns and really tackled the non-specialist press, in recent years, have been Linn and Mission. It's the public at large that the manufacturers need to appeal to if they are to stand any chance of real hi-fi getting the recognition it deserves.

The other issue that needs to be addressed is that of inconvenience. Running-in, cables and tweaking are all factors that go hand-in-hand with achieving the ultimate system, yet many will throw up their hands in horror at the very idea. And you've got to admit it, the whole running in syndrome can seem a little baffling to those used to buying their computers, TVs and videos that work, one hundred percent, straight out of the box. Not only do new products need several hours to work properly, there's also the question of how long should you leave your system on before you listen to it? Half-an-hour, a couple of hours or burbling away all day to ensure everything's at its optimum operating temperature? The trouble is that running-in does make a difference. I've lost count of the number of times people have told me how disappointed they've been when having listened to a pair of highly reviewed 'speakers. More often than not, the dem' has been carried out with 'speakers straight out of the box.

The responsibility here seems to lie with both dealers and manufacturers. Dealers should (and some do) ensure all demonstration products are properly run-in. Manufacturers could also make more of an effort to run products in before they leave the factory. You can't blame people for feeling cheated that they have to complete the last five percent of manufacturer themselves. This would inevitably add to the cost, though, and whether it's worth pursuing in the name of wider acceptance, is a moot point, and likely to come up against strong resistance from those in the industry quite happy to put up with the practice.

The British hi-fi industry is respected world-wide, and undoubtedly produces some of the best hi-fi going (and not always at telephone number prices). If it could just promote itself better and convince consumers that there really is a difference between mini-systems and real hi-fi then it could become a force to be reckoned with.

"Ask a member of the public to name a 'speaker manufacturer and you'll likely as not be faced with a barrage of Japanese brands."

This works in the car industry. If you were to buy a quality sports or luxury car you'd expect it to come with decent quality tyres, oil, filters and so on, to allow it to give of its best. Yet there will always be room for the enthusiast who wants to change the tyres, dampers, exhaust and so forth. But the point is the product as a whole stands up to scrutiny in its own right without any modifications. But to listen to a CD player with its own interconnects just isn't the done thing.

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June the 22nd was one of those unusual days when the office was a calm, relaxing place to be. For some reason the phone wasn’t ringing itself to bits, and everything was running smoothly. Noel was away on business, while Dominic was out in Germany’s Black Forest mingling with the hi-fi glitterati (and some journalists as well) at a Thorens bash.

I was on the phone to Peter Sheehan of Pentacone discussing the relative merits of turntables fashioned from 24kg of concrete, as you do. Suddenly the Zen-like tranquillity was disturbed, as Audio Publishing’s general manager Mark ran in from the advertising office exclaiming “John Major’s resigned!”

Having more than a passing interest in domestic political machinations - I’m the kind who believes sport should be banned from the media to make way for more parliamentary tittle-tattle - I was aghast. It was one of those epochal “where were you when” type moments - you know the sort: Lennon’s murder, the Thatcher coup, Dave Lee Travis’ resignation speech on Radio One.

My first instinct was to find out what the hell was going on. Mark and I looked around for a radio. Neither of us could find one, but then I suddenly remembered - Brian Morris from Linn had been down that morning with their new preamp, the Wakonda, within which, if my memory served me correctly, was a Kudos tuner module. Brilliant, thought I, Radio Four’s PM programme is a mere press of a button away. I dashed downstairs, grabbed the Wakonda, plugged it into a couple of Audiolab 8000Ms, an FM feed and an IEC mains, and we were off, or so I thought.

In the best traditions of hi-fi journalism, I hadn’t read the manual and so had no idea how to activate the tuner. So in my haste to catch the news I found myself unpreparedly scrolling through the Wakonda’s input selector, scrabbling for something that sounded like radio. Nothing. I started running through the record/listen options thinking I’d got something wrong. Nothing again. So in desperation I pressed everything. By sheer chance I got the tuner, only to be faced with silence - it was in preset mode. More frantic stabbing of buttons had me skipping through the Kudos’ bank of unassigned presets. I was going nowhere fast, and rapidly missing news of something that could be a defining moment in media hype, if not history.

Getting increasingly annoyed with something I didn’t have the time or patience to understand, a moment of inspiration arrived. The Troughline! Yes, our own ‘distressed’ Leak radio receiver, held together by parcel tape appropriately marked “fragile”! As it would get the Hi-fi World four globe award for the most shabby looking tuner still in existence, I thought the Troughline couldn’t possibly work at a time like this. So dilapidated is its appearance that the slightest suggestion of a G.T.Audio rebuild would have Graham Tricker announcing early retirement.

But the clock was ticking and there was nothing to lose. The grubby captive phono leads were plugged into the shiny new Wakonda, the power switched on, and the tuning knob twisted to 92.5, whereupon the magic eye started glowing. To my total surprise, a smooth sounding Robin Oakley - BBC politico numero uno - wafted from the speakers. At last I’d managed to switch a radio on.

Rapidly approaching my fourth decade on this earth, and dwelling under the impression (if not the knowledge) that I’m a reasonably intelligent being, it’s curious that it took me so long simply to tune in to Radio Four. Stranger still was that Linn’s latest super high-tech exercise in user-friendliness was harder to use than an old twist-and-go fifties radio. It’s not that it’s badly designed or unduly complicated - quite the reverse. But like many modern hi-fi products, it’s not intuitive - it requires ‘learning’ first.

This is something relatively new to hi-fi. It’s come about now that the physical process of turning, twisting, switching - all things we learn at a very early age - has been superseded by a ‘virtual’ environment designed in software. With the Meridian amp I use, if you want to hear a tape, you can’t just press the tape button anymore, you have to scroll through “LP-

CD-RD-TV-T1-T2” on the display, unless you’ve got the remote.

For me, at least, this is a problem. In everyday use it’s fine, but when I need to do something instantly, without thinking - turn the volume down by half for example - ‘virtual’ controls are a disaster. I have to hit the down arrow and watch as the volume slowly scrolls down from ‘LP78’ to ‘LP39’ - hardly as natural as a quick flick of a volume control.

This human need for intuitive ergonomics, where a physical action corresponds directly to a perceived effect is something the motor industry discovered a decade ago. Remember the infamous MG Maestro with the digital dashboard? Even Jaguar dabbled with electronic displays, to drop them like the Tories dispose of their leaders. The message was: fancy electronic ‘user-interfaces’ are for Knight Rider only.

Hi-fi manufacturers are on a learning curve. Making electronic controls appear analogue (oops - that word again), or - in the case of motorised volume controls on Naim preamps - making analogue controls appear electronic, has to be the way forward. Still, with his backbenchers’ propensity for excess volume, I’m sure John Major would have Graham Tricker rebuild his G.T.Audio to use it, if you want to hear a tape, you can’t just press the tape button anymore, you have to scroll through “LP-

CD-RD-TV-T1-T2” on the display, unless you’ve got the remote.
In a post-grunge world, pop stylists Supergrass are showing the way forward, but the Foos are fighting back. Meanwhile Elvis and Van run through some standards (borrowed or otherwise), and Madchester raves on again courtesy of The Stone Roses.

FOO FIGHTERS
Foo Fighters
CAPITOL 7243 8 34027 2 4

Of the surviving Nirvana members, nobody's come up with any post-Cobain material except widow Courtney Love - and her band, the ever so subtly named Hole, were extant well before hubby Kurt bit the bullet. But here come Foo Fighters, a combo built around drummer Dave Grohl (a relative new boy too, having joined after the group’s Bleach debut and hitherto unheard as either a singer or penner of songlets). He’s aided and abetted by occasional Nirvana sideman Pat Smear (guitar), Bill Goldsmith (drummer) and bassist Nate Mendel, the latter two survivors of the legendary Sub Pop band Sunny Day Real Estate. Grohl himself picks up guitar, vox and primary writer's duties. And he’s no mean purveyor of any of these disciplines, best evinced on the cracking opener 'This Is A Call'. There’s the odd Nirvana echo, perhaps inevitably so, particularly on over-familiar refrain of 'For All The Cows'. They go over the top occasionally ('Exhausted' is an ironically apt title, more bluster than bite) but this remains a promising if by no means classic debut. Still, nothing to be embarrassed about. Now what are the other guys going to come up with? Forgotten their names already? Me too. Sad. But millionaires deserve all the tears they can muster.

ELVIS COSTELLO
Kojak Variety
WEA 9362-45903-2

Journalists - who needs ‘em? Certainly not Master Costello - the sleeve notes to this latest collection of cover versions are as concise, informed, fluent and polished as any review you're likely to read this year. This doesn't in itself make this latest EC disc a work of genius of course. And as a matter of record, it must be noted that this is not strictly speaking a ‘new’ Costello record. It’s been bootlegged to hell and back, and is largely the result of time spent in the studio following his hit-and-miss Mighty Like A Rose.
Inevitably it's the more familiar goods that leave most to be desired - hence Dylan's 'I Threw It All Away' ends up with Costello doing precisely that. Ironically though, it's Costello's over-impassioned delivery that makes you realise just how masterfully understated Bobby Zee was on his original. Similarly, and although I must confess to not knowing the original version, El's morosely downbeat interpretation of Mose Allison's 'Everybody's Crying Mercy' sounds, to be honest, like a weak Allison out-take. And 'Pay-day', by no means the best song penned by the often brilliant Jesse Winchester (as El says in his sleeve notes, the man's debut LP featuring The Band is sheer brilliance and ought to be in any serious music lover's collection) gets a similarly rough and ready run-through.

Reservations are inevitable, yet even lukewarm Costello is better than most. Here much of the credit goes to a superb selection of backing musicians from Presley guitar maestro James Burton to Larry Knechtel, whose sterling Hammond will chill your spine, warm the cockles of your heart and bother several bits in between. Mid-price, I'd say buy it for the far from infrequent tasty bits. Full-price I'd think twice. And as for that title, well, I scratched my head so much I could stand in for Yul Brynner.

VAN MORRISON
Days Like This
EXILE 527 307-2

- The old bugger just won't go away will he? It's over three decades now since Van the Man first launched his articulate and totally unmistakable Celtic tonsils on an unsuspecting planet as lead singer with Them, and the odd glitch apart, he's been constantly inspired and inspiring.

He's been on a roll lately, not unlike his Canadian contemporary Neil Young, and Days Like This is Morrison on top form. The disc was recorded and mixed in Bristol and Dublin but you'd never guess it. The sound is richly textured, production and arrangements are sparkling and smart, with Pee Wee Ellis' production leaning towards classic Stax, while there's oodles of rich Hammond organ from John Savannah.

Van's voice is on top form, and he's helped out on a couple of cuts by daughter Shana and Brian Kennedy, the latter particularly strong on the call-and-response chorus of 'No Religion'. And if Shana's voice isn't too impressive alongside her daddy's - but then who would be? - she's a definite asset on the cover of Ray Charles' 'You Don't Know Me'. True there are times when he verges on self-imitation ('Underlying Impression' is just too Van, if you know what I mean) and 'Songwriter' is a throwaway filler. But overall, a strong addition to an already awesome catalogue.

JOY DIVISION
Permanent: 1995
LONDON 82824.2

- And if you need an antidote to the chirpiness of Blur et al. what better than this well thought out selection from the vaults of the Kings of Mancunian Gloom? Of course there's always the epiphany of 'Love Will Tear Us Apart', but the likes of 'Transmission', 'She's Lost Control', 'Dead Souls' and so on are as sombre, brooding, and driven as when first released. But remember - it's only a record. Relax. Rock's answer to Charles Baudelaire.
RECORD OF THE MONTH

SUPERGRASS
I Should Coco
PARLOPHONE 7243 8 33350 22

Yes, yes, yes, I'm getting well marked with all this jolly Cockerl geezer stuff too. And alright, I agree that the frontman for this trio looks like nothing more than the mutant offspring of a young Mick Jagger and one of the Simians from Planet Of The Apes. And a mate said that they're the new Monkees. But so what? I like The Monkees. And I very much like Supergrass. They're a brash, cheerful pop trio with - like Suede minus the affectations - strong echoes of early seventies' pop/glam rock - a Bowie intonation here, a Cockney Rebel ore there, the exuberance the best of the Chinnichap groups. Sweet in particular. Most importantly though, this debut LP carries heaps of good short snappy, catchy, joyful pop songs. You'll have heard the hit single, 'Strange Ones' no doubt, and there's bound to be more to follow. If they stumble it's only when they stay from their brief, as on the six-and-half minute 'Sofa (Of My Lethargy)'. Says it all really. And yes, there's always the danger that we'll all eventually get tired of all this boyish, lager-primed high spiritedness. But by then Supergrass will probably be living it up in Rio next door to Ronnie Biggs. A Madness for the nineties? Yeah, why not?

Jon Clarke

STONE ROSES
The Complete Stone Roses
SILVERTONE ORE CD 335

The Stone Roses are as important to Britain's contemporary rock scene as Manchester was to the Industrial Revolution, as The Complete Stone Roses demonstrates. While Manchester's thriving cotton manufacturers fuelled the fires of the industrial revolution, so the city's finest band since New Order kick-started the most exciting music since punk's heyday.

Being a student in Madchester, as it was called in the late eighties, was to be invited to a happy, buzzing scene full of flowery T-shirts, flares and floppy Man City hats - as the cover picture of this new release demonstrates. The music was a fusion of house and indie pop, giving a dance-friendly foil to an intense summer of love hangover.

Along with The Charlatans and the Happy Mondays, the Roses carved a unique scene which for a few sweet months consumed the whole city and then the entire country, even the world. But no sooner had it emerged when it fizzled out, with "Death of Madchester" headlines screaming from the music press once London hacks had grown weary of spending three hours on the train travelling up from the capital. It was a precious moment, a time to savour - a night at the Hacienda, a dance at the Ritz and the hottest ticket of all - a place at G. Mex or Spike Island for the Stone Roses.

The Complete Stone Roses is less an essay on the formation of a modern-day supergroup than a preface to 1994's best album, The Second Coming. 'I Wanna Be Adored' best explains the allure of the band, a mystifying chant of joyful rhythm, a bolt of thunderous guitar pop and Ian Brown's lazy humming. But as with so many of the 21 brilliant tracks, it's hard to single one out for particular attention. 'Sally Cinnamon', 'Made Of Stone', 'She Bangs The Drums', 'I Am The Resurrection', 'Fool's Gold' - special moments to be remembered.

Kicking off with the early sessions, it's easy to hear a young and unsure band in the garage, messing around trying to find their niche. Most of the first five or six tracks are standard indie jams, but show how the Roses developed from the early days of 1985 to peak in 1989 with Fool's Gold. This is a joyful package for the world to enjoy, one that shows just why the best British rock is still the best in the world.

THE CHEMICAL BROTHERS
Exit Planet Dust
7243 8 40540 2 I

The Chemical Brothers are Tom
and Ed, two geeky students who just happened to get lucky. Like Ed from Radiohead and darling of the clubby press DJ Justin Robertson, Tom Rowlands and Ed Simons did their time grafting the syllabus at Manchester University.

Hanging out at the UK’s hippest Uni at a time when the Roses and the University of Tricky, the majority of these tracks have a Mad Professor feel at heart. But ultimately while many parts of the album shine, much touches on tedium and repetition.

David Price

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**Throbbing Pouch**

**RISING HIGH RSNLP30**

- Concept album alert! The KLF were always accused of being so far as their 'trips through ambient dreamscapes' were concerned, because just when you thought the atmospheric sounds were getting a bit overbearing, they'd cleverly lapse into self-parody. Unfortunately Banco rather miss the point, bringing you a full-on techno trip to Tibet's capital city complete with Trans-Global Underground-style Rai sounds, assorted ethnic wailings and a predictable electronic steam locomotive chuffing its way through virtual countryside.

This said, despite its Megadog techno hippy thematics, Last Train is a seriously good album. Toby Marks (for it is he) has a feel for a song as good as anyone, something he proved in no uncertain terms with last summer’s scorching Maya debut. Continuing in the vein of what coffee table fashion months might dub “pop situationism”, Banco de Gaia bring you a satisfyingly melodic set of Asia-Pacific traveller anthems, all mystic samples, tribal chants and kicking sub-bass. An accomplished, well-rounded outing with designs on being ‘Deep Forest’ for the Glastonbury set.
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See page 85 for order form...
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Last month I set out full of good intentions determined to cover a host of recent releases, all worthwhile, some essential. And then of course even more piled up. So hold on to your hats, we’re racing through them!

**Keith Jarrett**

Pianist Jarrett is one of the most publicly successful jazz musicians of his time. Having found fame with Miles Davis’ electric groups, in the seventies his work gradually eschewed contemporary instrumentation in favour of acoustic settings and the results - most especially his epic solo work as heard on such masterpieces as The Koln Concert and the mammoth Sun Bear Concerts - practically defined a genre of ascetic, introspective, capital-S Spiritual instrumental jazz. During the eighties however, he turned back to straighter jazz improvising in the company of two musicians with whom he’s since performed live and recorded extensively. Featuring drummer Jack De Johnette and double bassist Gary Peacock, the “Standards Trio” regularly perform songs from the standard jazz repertoire, yet inject them with a hugely explorative intelligence which constantly has the discerning listener wrong-footed. Recorded live in Oslo in 1989, Standards in Norway is as good a place as any for a newcomer to this group to sign up, and will be essential for its fans.

You can forget questions of experimentation versus classicism with this group and delight in three players who understand each other’s musicianship intimately and who willfully, yet lovingly ravage and subvert such common material.

**Enrico Pieranunzi / Paul Motian**

More subversion of the jazz classics here. One time Jarrett-colleague, composer, bandleader and master-drummer Paul Motian joins Italian pianist Enrico Pieranunzi in an intriguing set. Constructed as three suites, Flux and Change connects radically
reworked (often to the point of being almost unrecognisable) jazz standards, and intersperses them with oblique originals written by both participants. I like to think that along side Jarrett, Motian - as gifted a composer and arranger as he is a drummer - has led a whole new audience to a greater appreciation of the classical jazz repertoire; in particular his trio with saxist Joe Lovano and cult electric guitarist Bill Frisell has deconstructed the repertoire over and over, with frequently dazzling results.

But the music here is something else. A constantly shifting soundscape almost leaves one seasick or vertiginous, as vaguely familiar themes move momentarily into focus then just as rapidly out. This is undoubtedly a music which owes as much in its tonal colouring and formal grace to European impressionism as it does to any Afro-American tradition, but it's utterly compelling. A record for which I had no expectations, and to which I have returned constantly. Highly recommended.

PAUL BLEY

Outside In

JUSTIN TIME JUST 69-2

• Another duo, again working similar territory, albeit for radically different reasons. Pianist Paul Bley, like both Jarrett and Motian, took much of his musical cues from pianist Bill Evans, a musician who in the sixties introduced a sense of lyricism to jazz which has infected the music's history ever since, though not necessarily as noisily or famously as, say, the electric experiments of Miles, or the revolutionary "outside" explorations of the more urban New Thing. (An aside: Bley also has in common with Jarrett and Motian a long history of recording for cult, German label ECM, whose very existence it's difficult to envisage without the influence of Evans.) Outside

In captures a day's jamming between Bley and guitarist fellow Canadian Sonny Greenwich. Like Bley, Greenwich has a keen ear for oblique yet scintillating melody, full of heart-stopping interval leaps and staccato flights - and the facility to see it through (though softer ears may find his approach and tone a tad hard-going). Together they work their way through a set of originals, improvisations and standards whose title describes it perfectly; this is music at once easily familiar and vibrantly new. A minor gem.

PETER BRÖTZMANNN

HAMID DRAKE

The Dried Rat-Dog

OKKADISK OD12004

• Yet another acoustic duo, but moving still further away from the chamber jazz tradition. Saxist (though that barely hints at the range of regular and arcane reeds this man plays) Peter Brötzmann is without question one of the giants of modern music. Emerging on the European Free Jazz scene at the turn of the seventies, he was one of a group of musicians who offered a strictly continental alternative to both urban American Free Jazz (a music still steeped in the traditions of jazz and blues tradition at its most revolutionary) and the more self-consciously reserved work that emerged from British improv round about the same time. This music was bombastic, declamatory and above all noisy (the infamous landmark Brötzmann-led Machine Gun just about burns in its wake anything recorded before the emergence of genuine noise culture in eighties post-punk), and Brötzmann had a sound and technique to match the music. The hugely underrated drummer and percussionist Hamid Drake, on the other hand, emerged from the American free school, and is one of an ever-growing group of American jazz improvisers who view jazz as part of a vibrant pan-ethnic continuum. He brings out a more lyrical, altogether less city-as-dystopia side to Brötzmann's honking. Although these things are relative; I mean, don't expect a Jan Garbarek record, just because this album features songs with titles like 'Trees Have Roots In The Earth' or 'Dark Wings Carry Off The Sky'. This is after all still an album of Brotzmann originals, and even here, he reveals a powerful malevolence lurking in every environment. An more contemplative Brötzmann, then, and in great, truly sympathetic company.

FUSHITSUSHYA

The Caution Appears

LES DISQUES DU SOLEIL ET L'acier

CDSA 54039

• Now we're talking noise making. Japanese guitarist, composer, singer and bandleader Keiji Haino has appeared here before, albeit as a bit of a cameo. A legend among a handful of extreme rock aficionados and Jap-o-philes in this country, the rumours about him - he plays live with eight Marshall stacks (oh yes please...), dresses only in black robes, that he's secretly a monk, or that he's never been seen without regulation black shades - are rife. The sole availability of his records as expensive Jap imports has done nothing but add to the mystique, but here, finally, are couple of records you don't have to be either hugely wealthy, devotedly fanatical, or incredibly suggestible to actually buy.

On The Caution Appears, Haino is in the company of his regular group Fushitsusha. Details on this record are non-existent, but from the sound of it this is the trio version of the group. (Haino sometimes appears with a second guitarist - as if that were really necessary). He shows himself to be the most exciting, extreme, sublime, mesmerising electric guitarist to emerge in the last fifteen years, a guitarist from a world where Jimi Hendrix and Black
Sabbath grew up listening to Gregorian Chant and John Coltrane, and where clichés like this weary one mean nothing.

**KEIJI HAINO**
A Challenge To Fate
LES DISQUES DU SOLEIL ET L'ACIER
CDSA 54029

And here’s Haino solo and live, and if anything yet more incredible. Haino shrieks like an electric guitar, plays guitar like one of Cage’s prepared pianos, plays percussion like a genius three year old. For all Fushitsusha’s transcendent, purifying zeal, A Challenge does slightly have the edge on Caution, although in a perfect world of course you’d buy both. This is a truly unique soundworld, where terrifying torture-victim shrieks preface edgily gorgeous ambientscapes; a music of devastating, and devastated poetry.

**ARTO LINDSAY TRIO**
Aggregates 1-26
KNITTING FACTORY WORKS KFW164

Guitarist, singer, songwriter and sort of professional New Yorker Arto Lindsay is a genuine pop original. From sideman to new music stars like Zorn and Frisell to co-leader of avant-pop funksters Ambitious Lovers, his twenty years plus of music making in and around the New York new music scene have witnessed the marriage of his voracious assimilation of musical styles (punk, Brazilian pop, Free jazz, funk... you get the picture, we’re talking metropolitanism-as-art here) to his trademark scratchy guitar and paranoid, freaked-out singing, with frequently stunning results. Aggregates 1-26 is one such success. A trio recording with avant-funk super-bassist Melvin Gibbs and drummer Dougie Brown, it touches the usual Lindsay bases - stop-start tempi, languid funk, indiscriminate acts of ultra-violence, coy, geeky sexual come-ons - but delivers it all with terrific power. All your Bowie wannabees and revivalists be damned - this is the truly alternative pop world.

**SCOTT HAMILTON**
Live At Brecon Jazz Festival
CCD-4649

Another Scott Hamilton release, this time recorded live at the Brecon Jazz Festival last year. In that Hamilton fronts British talent in the form of Brian Lemon on piano, Dave Green on bass, and Allan Ganley on drums, it’s the follow-up to ‘East of the Sun’. It’s a group that knits well, each player complementing the others. Of course, this is not surprising considering that the Lemon-Green-Ganley axis are so well known to one another. While Scott is a fine performer comparable with the great names of mainstream jazz, this CD shows clearly that his playing has slipped from effortlessness into mild lethargy - has he lost the challenge? Does he feel he’s seen it, done it, and played it all too often? Is he just getting old? I don’t believe either that Scott has passed his best or that he’s yet played everything available to him. Hamilton has been a quality artist in this idiom for so long - bursting onto the scene as a blast from the past then becoming the main man of mainstream - that jazz has caught up with him, and that there can be no more challenge in playing this way - too knowing to startle, too set to change. He has never been a performer to re-invent himself, but unless he tries he’ll be unable to offer any more to jazz than he already has. Still, if you like any of these performers, this is an excellent recording up to Concord’s usual standards, and well worth the money.

**Dr JOHN**
Afterglow
GRB 70002

Everyone has those tracks you just have to play when your woman done left you, the dog died, the car’s been repossessed, you can’t pay the rent, you’re out of coffee, life just gets you down. This is one such CD, showcasing Dr John’s ivories in a setting of bluesy jazz tracks which though quite well known, are far from standards. I’m not a Dr John fan, mainly because I don’t much like his easy, swinging ‘life affirming’ take on music, until now that is. This one really hit the spot. Technically, the recording is very clear, keeping the piano right up-front and lending it a limpid, spring-water quality. This instrument bubbles, chuckles and flows just as much as Doc’s vocals. And of course, there’s always that distinctive Dr John voice. The ten tracks are an interesting mix; a couple of Doc’s compositions with Doc Pomus and a few older tracks such as Irving Berlin’s ‘Blue Skies’ - a cracker - Robin/Jordan’s ‘I Know What I’ve Got’ and Ellington/David’s ‘I’m Just a Lucky So-and-So’, all showing a beautifully full big-band sound behind Dr John.
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MUSICAL IMAGES, 45 High Street, Hounslow, Middlesex. Tel: 0181 695 3602. See advertisement under audio visual developments.
The art of recording is literally about making sound judgements. In the case of the Swedish Opus 3 label this means matching acoustics to the music and continuing to rely on tried-and-trusted analogue techniques. For the New Queen’s Hall Orchestra, it’s a matter of selecting the right instruments and obtaining truthful balances within the orchestra, as well as redefining the approach to performing the romantic repertoire. But there’s nothing new about taking such decisions: as Barbirolli’s Mahler and Strauss recordings prove, EMI’s engineers were getting them right three decades ago.

Despite the AAD coding, this is not a reissue: the recording was made as recently as 1993. So is the Swedish-based Opus 3 label simply being perverse in sticking with analogue recording when the rest of the world has embraced digital? Not in the least, judging by the sound quality here.

Opus 3 was founded in 1976 with the simple philosophy of recording music in the kind of acoustic for which it was written, and very successful they were too. The label’s engineers also employed the minimum of electronics in the recording process - seldom more than four amplification stages between the microphone and the storage medium - and came to appreciate the special qualities that valves could bring to the sound. Valve equipment is still extensively used in the recording process, as is the basic Blumlein microphone configuration of crossed figure-of-eights. Why change when you can achieve the kind of glorious sound which enhances these two clarinet masterpieces?

With its broad sound stage, fullness of tone, satisfying timbre and overall transparency, this recording truly offers the sensation of a performance taking place before you. Judicious setting of the volume control brings an immensely pleasing immediacy, with everything in its place in a light, airy acoustic.

Moreover, this Mozart and Brahms coupling is as satisfying artistically as it is technically. These are warmly affectionate, poetic performances, full of character. The impression that all five...
I suspect the two works on this EMI reissue were primarily chosen to demonstrate the matchless conducting of 'Glorious John', as Ralph Vaughan Williams affectionately dubbed Sir John Barbirolli. Secondly, the two composers were contemporaries, although Richard Strauss outlived Mahler by thirty-eight years. Yet there is another, and I feel very significant connection between Gustav Mahler's Sixth Symphony of 1904, and Richard Strauss' Metamorphosen of 1945; that connection is the notion of the 'hero'.

Mahler's Sixth - originally given the subtitle 'Tragic' by the composer, but later discarded - concerns the fall of the hero figure, and in Metamorphosen, Strauss tops the heroes of Ein Heldenleben and Also Sprach Zarathustra just as surely as Allied bombs brought his beloved Munich Opera House crashing to the ground, the event which was supposedly the catalyst for the work's composition.

Yet there the comparison ends. Mahler was haunted - with justification, as it turned out - by impending tragedy throughout his life. The Sixth, his most pessimistic and bleakly brutal utterance, was nevertheless the product of one of his happiest years, 1904. Strauss, on the other hand, seldom had reason to be less than confident, assured and optimistic: he was, after all, music's first millionaire.

The Second World War changed all that, for it was not until Germany's impending defeat that the eighty-year-old composer could bring himself to recognise the tragedy that had been inflicted upon the entire world, as well as upon his own country, whose culture - which he so revered - had been so defiled by a new breed of barbarians.

With its half-suggested quotations from Beethoven's Eroica Symphony and Wagner's Tristan, as well as from his own compositions, it is both a valediction and an anguished lament. At the conclusion of Mahler's Sixth, the fateful blow is dealt with all the stark finality of a coffin lid slamming shut: in Metamorphosen, the hero confronts his mortality with a quiet, achingly resignation. The contrast could hardly be greater, but they share one common, all-pervading bond, that of abject disenchantment. Mercifully, perhaps, neither of these works was to prove their composer's epitaph: Mahler was to find consolation in the final movement of the Ninth Symphony, and in Der Abschied (The Farewell) from Das Lied von der Erde; for Strauss, final solace was to be found in the 'instrument' which had dominated his life's work, the soprano voice, and in the poetry of Hesse and Eichendorff which he brought together in one final, beautiful and transcendent moment as the Four Last Songs.

GUSTAV MAHLER
Symphony No6 in A minor
RICHARD STRAUSS
Metamorphosen for 23 string instruments

New Philharmonia Orchestra; conductor, Sir John Barbirolli
EMI CLASSICS CZS 7 678162 (2CD SET) (111.23)

Mahler's star continues to shine brightly - as least as far as those programming this year's Prom concerts are concerned, for they have included all nine symphonies, Deryck Cooke's completion of the Tenth Symphony and the major song cycles. And with not a single Mahler anniversary to commemorate: I trust Bruckner will merit similar comprehensive coverage in 1996, his centenary year.

Why does Mahler now enjoy this universal appeal? The contribution of the LP record and stereo recording back in the early 'sixties should not be overlooked, making his gigantic symphonic canvases accessible both physically and aurally. Now though, that we are no longer left open-mouthed and wide-eyed by the panoply of orchestral effects and colours, and by the sheer scale of the symphonies, or left emotionally drained by the inexhaustible melodic riches, perhaps other reasons should be sought. Is his popularity down to the extraordinary contrasts of his sound worlds, where the sublime beauty can coexist with the banal, the grotesque, the ironic, the witty and the downright bizarre? Is it because we recognise so many of our own, and the world's, contradictions in the music and character of this Jewish musician from Bohemia, each of whose symphonies seem part of some public process of self-exploration, within whose span it is possible to touch the spiritual heights as easily as it is to plumb the depths of vulgarity and despair?

Of Mahler's nine completed symphonies (ten, if you add in the essentially symphonic song-cycles Das Lied von der Erde), the Sixth is unquestionably the most complex in psychological terms. Even Mahler felt compelled to state: "My Sixth will present riddles which only a generation which has assimilated and digested my
first five symphonies can tackle.”

Despite its outwardly abstract,
four-movement neo-classical structure,
the autobiographical nature of the
symphony is evident throughout, not
least in the half-hour long final
movement, where three fantastically
orchestrated development
sections seem to hurtle
toward some terrifying abyss (in fact, the
orchestral writing here is as
taut and coherent as any
Mahler produced - it just
sounds wild). And indeed,
the abyss awaits in the
shape of three ‘blows of
fate’ (Mahler asked for
them to be executed by a
sledgehammer!) which
bring each section to a
shuddering halt. Mahler
added, by way of
explanation (as if any were
needed): “The hero receives
three blows from Fate, the
third of which fells him like a
tree”.

And with the sense of
tragic irony which had
haunted the superstitious
Mahler throughout even his happiest
years, fate did indeed deal him three
blows: a year after the symphony’s
premiere in 1906, he was asked to
relinquish his post as director of the
Vienna Opera (the position which he
had been so ambitious to secure that
he converted to Catholicism in order
to appease the innate anti-semitism of
his employers). Then in July 1907, his
daughter Anna died aged four; a few
days later, a doctor diagnosed Mahler’s
own, ultimately fatal, heart disease.
Alma Mahler, the composer’s widow
later recalled: “Not one of his works
came so directly from his inmost heart as
this...The music and what it foretold
touched us so deeply. The Sixth is the
most completely personal of his works,
and a prophetic one also.”

It is also a symphony which has
inspired a variety of interpretations,
from Solti’s hard-driven Chicago
performance on Decca to Bernstein’s
idiosyncratic, but utterly convincing
reading on DG. There have been other
great performances from Abbado,
Horenstein, Kubelik, Karajan and
Tennstedt to name but a handful. And
then there is Barbirolli, measured,
even plodding compared to Solti in the
first movement but, as quickly
becomes evident, with a clear idea
of where the performance is leading.
This is cogent, coherent conducting
the like of which is all too rare these
days, with the over-emphasis on detail.

Not that Barbirolli glosses over the
detail - little, if anything escapes his
attention - and the finale is a tour de
force, with all the nightmarish impact
that Mahler could surely have wished
for. Returning to Barbirolli’s
interpretation after several years (I
recall its last incarnation was on Classics for
Pleasure), I was surprised
just how persuasive it
remains. Barbirolli shapes
and moulds the music
without ever appearing to
impose his ideas on it, and
even in the comparatively
low-powered first
movement sustains the
tension.

All this alone would
be sufficient to earn this
set the highest
recommendation, but
there is more. First, is a
welcome return to the
catalogue for one of the
finest recordings ever
made of Strauss’s
Metamorphosen,
ravishingly played and
performed with a
compelling intensity. Second, to
enhance the Mahler, is a Kingsway Hall
sound produced by Ronald Kinloch
Anderson and engineered by Peter
Brown that is more than a match for
anything produced in the intervening
twenty-eight years and, in the finale,
has a scale, clarity and range like the
of which I’ve seldom heard equalled. This
is not the only Mahler Sixth I would
want in my collection - alternative
views of this work are vital - but it is
nevertheless indispensable. And the
Strauss represents Barbirolli at his
treasurable best.

RICHARD WAGNER
Overtures: Rienzi;
Tannhauzer; Die
Meistersinger von Nurnberg/
Preludes: Lohengrin (Act I);
Tristan und Isolde (Act III)/Prelude and Close of Act
III from Parsifal
The New Queen’s Hall Orchestra;
conductor, Barry Wordsworth
EYE OF THE STORM EOSS001 (2 CD SET)
(DDD/44.03)

● Six Wagner excerpts occupying
over two hours! Either these are
performances at tempos which make
Leonard Bernstein’s Enigma Variations
appear hurried, or there is some other
explanation. I’m pleased to say it is the
latter which applies to this provocative
set from the recently founded Eye of
the Storm label. It offers two
performances of each work at, I should
swiftly add, a single disc price (£14.99),
and all recorded by the same orchestra
and conductor, and all in the same
venue.

So what’s the point of the exercise?
Before the philosophy, a little history.
The original Queen’s Hall Orchestra
was founded in 1895 for Henry Wood to conduct at the Promenade Concerts in London's Queen's Hall. The word New was added to the orchestra's title in 1915, but by the late 'twenties, the ensemble was absorbed into the BBC Symphony Orchestra, which became the principal 'Proms band'.

The story now moves forward to 1992. Enter John Boyden, one of the most controversial personalities in classical music, but also someone with an enviable list of credits to his name, not least the pioneering Enigma label. Boyden had become disillusioned with modern-day orchestral performance and recording, especially of the romantic repertoire from the late nineteenth and early twentieth centuries. He disliked its bland homogeneity, the way the sound balances no longer reflected composers' intentions. But he reserved his most scathing criticism for what he described as the "de-humanising effect of today's recording process," with its "search for perfection above all".

I should add that John Boyden is not the first to voice this kind of criticism, although he has the capacity to articulate it better than most. The notion that there is something inherently deceitful about piecing together an acceptable 'performance' from a series of edits was put forward by the founders of the Nimbus label over twenty years ago. True, it was some while before Nimbus brought this philosophy to the complexities of orchestral recording, and Boyden's Enigma recordings, with Tony Faulkner doing the engineering, were probably the first attempts in this country to reverse the trend.

Anyone who has sat in on recording sessions of late will be too only aware of the jiggery-pokery that can take place, although to be fair I have detected a move towards the 'complete take' in some quarters, with editing merely used to 'tidy up' the odd split note or whatever.

However, Boyden's revisionist approach goes beyond the misuse of the digital editing machine. He believes we have also lost much of the character and colour of orchestral playing, that the over-emphasis on so-called perfection has diminished players' scope for individual expression. Not least of the problems was that the instruments themselves had changed radically over the past seventy years, principally in response to the dry acoustics of recording studios and many modern concert halls. Brass instruments for example have become much louder, as have the woodwinds; to compete with this change, strings have had to exchange the mellow quality of gut strings for the more shrill metal variety.

It was to show that orchestral performance and orchestral sound did not have to follow this apparently inexorable path that John Boyden, together with his associate James Thomson, founded the New Queen's Hall Orchestra. The choice of name was not made out of pure nostalgia; the intention was to replicate the kind of sound and style of performance that its predecessor would have produced at the turn of the century for musicians to play, as John Boyden puts it, "in a way that Wagner, Dvorak and Elgar would recognise".

To this end, instruments of the correct period are employed, along with the requisite playing techniques, the recordings have been made with just three Neumann microphones placed above the conductor, the orchestral balance has been restored to something of an equal partnership, and the barest minimum of editing has been employed. But all these points could have been made on a single disc, so why two? It is here perhaps that John Boyden makes his most important observation, that in the current quest for the 'ultimate' performance, as perceived by conductors and record companies, if not always by the customer, we have lost the very spark of imagination, intuition, feeling - call it what you like - that makes for a memorable, affecting, enlightening musical experience. And for what it's worth, I believe Boyden is right, witness the immense popularity of reissues from the fifties, sixties and earlier.

Here, conductor Barry Wordsworth demonstrates how even Wagner overtures and preludes can respond to different, but equally valid approaches, in terms of tempos, dynamics and phrasing. Compare and contrast the more measured approaches to Tannhäuser (successful, I feel) and Rienzi (less so), or the radiant Parsifal excerpt which concludes the second CD. The recording lives up to the expectations aroused by John Boyden's treatise in the booklet, which also contains a challenging essay on contemporary Wagner performance by his son, Matthew Boyden.

The concluding track on the first CD has several members of the orchestra's brass and wind sections demonstrating the differences between their older instruments and the newer variety, and - believe me - you need no special expertise to appreciate them, or for that matter to appreciate the special colours and timbers that the older instruments possess. Unintentionally, this track also provides a telling test of the accuracy of the reproduction system employed.

However, this set is not wholly groundbreaking and challenging accepted attitudes, it is also musically rewarding. As John Boyden puts it: "It's not simply a matter of recreating a period orchestra as an exercise in accuracy. It's about a return to balance, beauty and above all musicianship." Amen to that.
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• MAIL ORDER DIRECT 1-10 DAYS

• COMPETITIVE PRICE (inc P&P)

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If you are a doubting Thomas, you should take our specially made kits, and we are sure you will be convinced. For example, a full kit will cost you £32.50, including a special power transformer to supply the kit with power. We have a large number of requests for the circuits of the AUDIO NMAC paragraphs, and we hope to be able to supply these kits soon. A full kit will cost you £32.50, including all the parts and instructions.

In the past we have been the strongest proponents of the high power 'high quality' amplifier, and it is only fitting that we should also supply the circuits of the AUDIO NMAC paragraphs. These kits are available at £32.50 each, or you can buy a set of four kits for £125.00, which will give you enough parts to build a complete amplifier. We also have a range of kits available for the AUDIO NMAC paragraphs, and we hope to be able to supply these kits soon. A full kit will cost you £32.50, including all the parts and instructions.

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B: Use hot air to remove heat from the body, the body becomes warm.
C: The interesting effects of magnetic fields on the body, the body becomes warm.
D: Applications of magnetic fields in medicine.
E: The effects of magnetic fields on the body, the body becomes warm.

1. The meaning of the term "magnetic field" is best explained by which of the following?
A: Use hot air to remove heat from the body, the body becomes warm.
B: The interesting effects of magnetic fields on the body, the body becomes warm.
C: Applications of magnetic fields in medicine.
D: The effects of magnetic fields on the body, the body becomes warm.
E: None of the above.

2. The use of magnetic fields in medicine is often referred to as:
A: Magnetic resonance imaging (MRI).
B: Electrotherapy.
C: Magnetic therapy.
D: Ultrasound therapy.
E: X-ray therapy.

3. Magnetic fields are commonly used in:
A: MRI for imaging.
B: MRI for therapy.
C: Electrotherapy.
D: Ultrasound therapy.
E: X-ray therapy.

4. The effects of magnetic fields on the body, the body becomes warm.
A: Use hot air to remove heat from the body, the body becomes warm.
B: The interesting effects of magnetic fields on the body, the body becomes warm.
C: Applications of magnetic fields in medicine.
D: The effects of magnetic fields on the body, the body becomes warm.
E: None of the above.

5. Magnetic therapy is often used for:
A: Treating musculoskeletal disorders.
B: Treating chronic pain.
C: Treating cancer.
D: Treating mental health disorders.
E: Treating all of the above.

6. The use of magnetic fields in medicine is often referred to as:
A: Magnetic resonance imaging (MRI).
B: Electrotherapy.
C: Magnetic therapy.
D: Ultrasound therapy.
E: X-ray therapy.

7. Magnetic fields are commonly used in:
A: MRI for imaging.
B: MRI for therapy.
C: Electrotherapy.
D: Ultrasound therapy.
E: X-ray therapy.

8. The effects of magnetic fields on the body, the body becomes warm.
A: Use hot air to remove heat from the body, the body becomes warm.
B: The interesting effects of magnetic fields on the body, the body becomes warm.
C: Applications of magnetic fields in medicine.
D: The effects of magnetic fields on the body, the body becomes warm.
E: None of the above.

9. Magnetic therapy is often used for:
A: Treating musculoskeletal disorders.
B: Treating chronic pain.
C: Treating cancer.
D: Treating mental health disorders.
E: Treating all of the above.

10. The use of magnetic fields in medicine is often referred to as:
A: Magnetic resonance imaging (MRI).
B: Electrotherapy.
C: Magnetic therapy.
D: Ultrasound therapy.
E: X-ray therapy.

11. Magnetic fields are commonly used in:
A: MRI for imaging.
B: MRI for therapy.
C: Electrotherapy.
D: Ultrasound therapy.
E: X-ray therapy.

12. The effects of magnetic fields on the body, the body becomes warm.
A: Use hot air to remove heat from the body, the body becomes warm.
B: The interesting effects of magnetic fields on the body, the body becomes warm.
C: Applications of magnetic fields in medicine.
D: The effects of magnetic fields on the body, the body becomes warm.
E: None of the above.

13. Magnetic therapy is often used for:
A: Treating musculoskeletal disorders.
B: Treating chronic pain.
C: Treating cancer.
D: Treating mental health disorders.
E: Treating all of the above.

14. The use of magnetic fields in medicine is often referred to as:
A: Magnetic resonance imaging (MRI).
B: Electrotherapy.
C: Magnetic therapy.
D: Ultrasound therapy.
E: X-ray therapy.

15. Magnetic fields are commonly used in:
A: MRI for imaging.
B: MRI for therapy.
C: Electrotherapy.
D: Ultrasound therapy.
E: X-ray therapy.

16. The effects of magnetic fields on the body, the body becomes warm.
A: Use hot air to remove heat from the body, the body becomes warm.
B: The interesting effects of magnetic fields on the body, the body becomes warm.
C: Applications of magnetic fields in medicine.
D: The effects of magnetic fields on the body, the body becomes warm.
E: None of the above.

17. Magnetic therapy is often used for:
A: Treating musculoskeletal disorders.
B: Treating chronic pain.
C: Treating cancer.
D: Treating mental health disorders.
E: Treating all of the above.

18. The use of magnetic fields in medicine is often referred to as:
A: Magnetic resonance imaging (MRI).
B: Electrotherapy.
C: Magnetic therapy.
D: Ultrasound therapy.
E: X-ray therapy.

19. Magnetic fields are commonly used in:
A: MRI for imaging.
B: MRI for therapy.
C: Electrotherapy.
D: Ultrasound therapy.
E: X-ray therapy.

20. The effects of magnetic fields on the body, the body becomes warm.
A: Use hot air to remove heat from the body, the body becomes warm.
B: The interesting effects of magnetic fields on the body, the body becomes warm.
C: Applications of magnetic fields in medicine.
D: The effects of magnetic fields on the body, the body becomes warm.
E: None of the above.

21. Magnetic therapy is often used for:
A: Treating musculoskeletal disorders.
B: Treating chronic pain.
C: Treating cancer.
D: Treating mental health disorders.
E: Treating all of the above.

22. The use of magnetic fields in medicine is often referred to as:
A: Magnetic resonance imaging (MRI).
B: Electrotherapy.
C: Magnetic therapy.
D: Ultrasound therapy.
E: X-ray therapy.

23. Magnetic fields are commonly used in:
A: MRI for imaging.
B: MRI for therapy.
C: Electrotherapy.
D: Ultrasound therapy.
E: X-ray therapy.

24. The effects of magnetic fields on the body, the body becomes warm.
A: Use hot air to remove heat from the body, the body becomes warm.
B: The interesting effects of magnetic fields on the body, the body becomes warm.
C: Applications of magnetic fields in medicine.
D: The effects of magnetic fields on the body, the body becomes warm.
E: None of the above.

25. Magnetic therapy is often used for:
A: Treating musculoskeletal disorders.
B: Treating chronic pain.
C: Treating cancer.
D: Treating mental health disorders.
E: Treating all of the above.

26. The use of magnetic fields in medicine is often referred to as:
A: Magnetic resonance imaging (MRI).
B: Electrotherapy.
C: Magnetic therapy.
D: Ultrasound therapy.
E: X-ray therapy.
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MEASURED PERFORMANCE

It's important to measure products to assess performance, find explanations of sound quality and warn of peculiarities or faults. Only Hi-Fi World has an advanced in-house laboratory with digital signal analysis for this purpose. In conjunction with this facility we assess sound quality in our own acoustically treated listening room. We measure most products reviewed. Here's a simple guide on our test results.

LOUDSPEAKERS
Smooth, flat frequency response is important to ensure a balanced sound. Look carefully at overall trends; rising treble will give a bright sound, falling treble a dull sound. A rise through the midrange normally corresponds with good projection.

High sensitivity (better than 86dB) means less power is needed for a certain volume, meaning a low power amp. can be used.

The impedance curve tells us how easy loudspeakers are to drive. Low or wildly varying impedance is bad; a flat impedance around 82 is good.

CD PLAYERS
Even small trends in frequency response of CD players can affect their subjective results. Here's a simple guide on our test results.

Power output is easy to understand: the higher the figure, the louder it will go. Just make sure there's enough power output to drive any loudspeakers you intend to use.

CD separation need to be less than 0.3% (according to harmonic structure) and better than 25dB.

Hiss level must be lower than -70dB for Radio 3 silences to be just that - silent. And full quieting, the strength of aerial signal needed for optimum results, should be around 1mV or less.

Selectivity, the ability to separate stations under the most difficult conditions should be better than 60dB and sensitivity better than 30μV on stereo.

AMESSETTE DECKS
Replay performance is measured to IEC 94 Standards using IEC test tapes. This ensures that recordings made on a machine transfer to a car player, personal stereo or another domestic recorder properly, as well as ensuring optimum results with commercially prerecorded tapes. Look for a quoted replay response of 40Hz-10kHz, no more than 1% speed error and hiss in the replay amps lower than -58dB.

Recording quality considers frequency response, bias variation, head performance and alignment. Frequency response should stretch from 40Hz-15kHz or so. Head overload (MOL315) must be above 0dB. Head load (often lower than -58dB, to represent a typical music signal).

From the transport mechanism look for less than 0.15% wow or flutter. Overall (DIN weighted) wow and flutter should be no more than 0.1% or so.

TUNER

DENON TU-215RD
I wasn't surprised to find the new 215RD had slightly falling treble - Denon seem to understand that with tuners this is the best choice, giving them an amenable sound. Some bass fall will mean this tuner will lack bottom-end oomph, however.

Distortion was low at 0.1% overall, mainly second harmonic, an impressive result for so inexpensive a design. At -72dB, hiss was low too, with 1mV or more from the aerial, a good result. There was plenty of audio output; it measured 800mV.

The RF performance was up to scratch as expected with excellent selectivity at 80dB (alternate channel), if not quite class leading sensitivity at 35μV, due to the presence of RDS which always seems to compromise this parameter.

The TU-215RD measured as well as Denon tuners usually do. It's a fine all-rounder. NK

TEST RESULTS

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<td>Distortion (50% mod.)</td>
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<tr>
<td>Hiss (CCIR)</td>
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<td>Signal for minimum hiss</td>
<td>1mV</td>
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<td>Selectivity (at 0.4MHz)</td>
<td>80dB</td>
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Continued on page 115
As any hi-fi specialist will tell you, to get the maximum benefit from your loud-speaker / speaker stand combination, you should fill your stands with a suitable material. Until now, the most common medium has been sand or a sand-based alternative. The other option was lead-shot that, although very dense, is extremely expensive and difficult to source.

Now available to fill this gap are SOUND-BYTES, uniquely shaped steel chips that once poured into the speaker stand, effectively provide a solid steel core within. This makes the stand an extremely dense heavy platform, ideal for getting the best out of your speaker system.

Once your stands are filled, you will immediately notice an improvement in lower frequencies, resulting in a tighter bass response, sharper vocal reproduction and enhanced imagery.

- interlocking steel delta-shaped bytes
- suitable for all hollow speaker stands
- suitable for support tables
- superb sound isolation
- superb value for money
- four times the density of sand
- very nearly the full density of lead
- suitable for many floor-standing speakers

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AMPLIFIERS

ALCHEMIST AXIOM
The Axiom measured well enough in most areas, having wide bandwidth and low noise, but low sensitivity too at 400mV, meaning some budget cassette decks and tuners of 300mV output or so won't match.

But I was most worried about this amplifier's peculiar distortion behaviour, which drifted significantly with device junction temperature, changing its harmonic structure with level. Distortion was severe at high frequencies (around 1.4%), with an extended harmonic structure - not a good omen; it raises the possibility of rough sounding treble. The two channels were quite different from each other as well.

This amplifier appears to be a low feedback design whose basic circuits are unable to support such a purist approach.

Whether the benefits of low feedback can balance the innate problems of solid-state devices - their variability, thermal instability and non-linearity - can only be judged by listening tests. NK

TEST RESULTS
Power 32 watts
CD/tuner/aux.
Frequency response 4Hz-47kHz
Separation 80dB
Noise -102dB
Distortion 1%
Sensitivity 400mV
dc offset 4/6mV

McINTOSH MA6800
The MA6800 is massively powerful, producing 200 watts into 8ohms and 326 watts into 4ohms. That's easily enough to drive insensitive loudspeakers (i.e. 82dB) loud in a large room, as Americans might. Output overdrive (clipping) was held in check usefully by an auto-gain reducer and distortion at all levels and all frequencies - even 35V at 10kHz - was extremely low, a very good feature. This amp is likely to sound clean, smooth and composed.

The tone controls were pedestrian, with poor low level behaviour - unlike Arcam, Audiolab, etc. The Loudness control offers bass boost only and must be hard on its end stop to not affect bass output; a bypass switch is needed. DC output offset was low, as was noise.

The phono stage is MM only and reasonably quiet, if a not a class leader (judged by equivalent input noise).

Frequency response was sensibly wide with good but not excessive bass extension, sensitivity normal and overload margin high.

At heart, the MA6800 is very well engineered, a powerhouse for insensitive loudspeakers, with plenty of lights and buttons and a sleek performance to match. NK

TEST RESULTS
Power 200 watts
CD/tuner/aux.
Frequency response 14Hz-46kHz
Separation 77dB
Noise 77dB
Distortion 0.003%
Sensitivity 280mV
dc offset 1.2/1mV

TEAC A-BX10
The A-BX10 is a bridge amplifier that delivers no less than 112 watts into 8ohms and 200 watts into 4ohms - enough to drive the most insensitive loudspeakers, even in large rooms.

Bandwidth on CD was wide, albeit with some curtailment of subsonic bass, the -1dB limit being at 18Hz, where some amplifiers reach down to 3Hz or so. This will give speedy bass. Distortion was low at all output levels and frequencies, hitting just 0.02% at full output, 10kHz - a very good result. I'd expect a smooth sound.

With low noise, good channel separation and low DC output offset, the Teac measured well all round. NK

TEST RESULTS
Power 112 watts
CD/tuner/aux.
Frequency response 18Hz-70kHz
Separation 86dB
Noise -90dB
Distortion 0.006%
Sensitivity 280mV
dc offset -1.6/1mV

Continued on page 117
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CD PLAYERS

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CD PLAYERS

**ROTEL RCD-975**

A CD player with gently rising bass output and smoothly rolled off treble normally makes for a fine subjective balance - and this is exactly how the RCD-975 measured. These characteristics help give good subjective weight to bass lines and smoothness to the treble. But because the overall response is tilted downwards it may well result in an over-warm presentation.

Distortion was low at all levels, although not quite as low as the best. In the plot below, taken at -30dB, there are just a couple of harmonics visible. At -60dB harmonic distortion appears to be extremely low at 0.22%, giving a wide dynamic range of 109dB (EIAJ test). But there was a lot of inharmonic 'distortion' which, when summed, came to around 0.8% and this may well have an effect on the sound. Output was 2.2V.

I'd expect the Rotel to have a smooth sound with a full bass, but perhaps it may be just a little too warm, losing treble attack and detail. Only listening tests will tell. DB

**TEST RESULTS**

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<thead>
<tr>
<th>Frequency response</th>
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<tr>
<td>Distortion (%)</td>
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Distortion

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<tr>
<th>Separation (dB)</th>
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<tr>
<td>20kHz</td>
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Noise

<table>
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<tr>
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</table>

Dynamic range

| 115dB             |

Output

| 2.2V               |

---

**TECHNICS SLP-5840**

Like most Japanese CD players at this price, the Technics SLP-5840 turned in a fine set of measured figures. Frequency response was nearly flat, with just a gentle lift in the bass and smooth roll off in the treble. These are characteristics that will help it to develop a solid bass, along with smooth treble.

Distortion measured low right across the board, but had a wide harmonic structure at all levels, which may be more audible than distortion restricted to one or two harmonics. At -60dB distortion measured just 0.47% giving a wide dynamic range figure of 109dB (EIAJ test). In all other areas the Technics measured competently. Output was higher than the Philips standard at 2.5V, but this gives useful extra headroom where passive preamplifiers are used. DB

**TEST RESULTS**

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<thead>
<tr>
<th>Frequency response</th>
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Distortion

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Noise

<table>
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<th>with emphasis</th>
<th>-118dB</th>
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</thead>
</table>

Dynamic range

| 109dB             |

Output

| 2.5V               |

---

**LOUDSPEAKERS**

**REVOLVER COLT**

As you'd expect from a box this size, bass isn't the deepest around. Our response plot shows a falling bass response below 100Hz, but this will be boosted somewhat by near-wall positioning. To balance this subjectively, Revolver have engineered a response that falls gently through the midrange and treble, which should prevent them sounding thin. Their overall response is very smooth, so I'd expect a natural and balanced presentation.

The Colts are relatively easy to drive too, having a high overall impedance of 9.8Ω, which means they won't draw much current, and around average sensitivity of 86dB. I'd recommend partnering with amplifiers capable of delivering approximately 20-30 watts for best results. DB

**Impedance**

**Frequency Response**

Continued on page 119
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MISSION 734
Essentially a 733 with an extra bass unit, the 734s should offer better power handling with a clearer, more focused sound. The 734s have a reasonably balanced response, that is to say, although lumpy, energy is distributed evenly across the audio band. There are some notable trends; I suspect the most obvious in subjective tests will be the treble peak around 12-16kHz, but this may well add a pleasant brightness to some systems.

The 734s are sensitive; I measured 89dB at 1m using a nominal watt (2.83V) pink noise signal. This means that for the same volume control position the 734s will go louder than most, and should fill larger rooms well.

Overall impedance is low though at 6.2Ω, most of the impedance curve sitting well below 8Ω, which contributed to the sensitivity. I'd recommend a good amplifier capable of delivering 30watts or more into low impedance loads for best results. DB

CASTLE SEVERN
Castle's Severns are a small two-way floorstander, with reflex port tuned bass. They show quite well extended bass for their size, so I'd expect a reasonably full and powerful bottom-end. Above this the smooth and even response is marred by a strong peak centred around 2-2.5kHz, the crossover region. This suggests that the two drivers are overlapping to produce a lift; Castle may need to inspect the tolerances of their drivers and crossovers to produce a flatter, more consistent response.

Typical of British loudspeakers, the Severns have a high overall impedance of 11Ω. This means they will draw little current from partnering amplifiers. The impedance curve shows the high overall trend, and a notch just above 2kHz where both drivers are drawing power to produce the peak in the frequency response.

Sensitivity isn't as high as some recent Castles, measuring a lowish 85.5dB at 1m for a nominal watt (2.83V) pink noise signal.

The Severns are reasonably engineered, but Castle would do well to tighten crossover alignment more tightly and generally be a bit more rigorous. DB

AMBIENCE CADENCE ES
Being a hybrid design, combining a 10" bass driver in a reflex loaded cabinet with a curved electrostatic midrange and treble panel, the Cadences are difficult to measure accurately. With the microphone positioned directly in front of the centre of the electrostatic panel, the only place where there was good integration, there is a treble peak. In practice this will not be as strong at the listening position, so the Cadences should sound reasonably balanced, especially as the rest of their response is so smooth.

Being an electrostatic, notoriously inefficient beasts by nature, I was surprised to measure 88dB sensitivity at 1m with a nominal watt (2.83V) pink noise signal. This is very good, better than a lot of conventional 'cone' designs. Impedance measured spot on 8Ω overall, but the plot shows a strong fall above 5kHz, passing through 2Ω at 20kHz. The Cadences may well sound overly dull with some amplifiers which will not be able to develop full power into this kind of load.

The Cadences are an interesting loudspeaker, but like many high end designs have their quirks that require caution if a good match is to be found. Partner with care; think Naim. DB

Continued on page 121
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**Hi-Fi World**

September 1995
PHONO

ORTOFON MC25E & FL

Like any good fine line - and Ortofon make some of the best - the MC25FL suffers less change in treble response between outer and inner grooves than the less expensive MC25E. Superior tip contact spreads the load, dampening down tip mass resonance and tracking shorter wavelengths better. Subjectively, this usually results in smoother and more detailed treble. And by any standards, the MC25FL has a flat frequency response, as our analysis shows. By contrast, the MC25E tracking outer grooves exhibits a +4dB treble lift at 20kHz, which will probably be heard as a little spittiness in the treble.

Both cartridges tracked extraordinarily well, at low and high frequencies, staying secure in a 25cms/sec torture groove, for example, that nearly all other cartridges fail to negotiate. I'd expect a confidently stable sound, even on 1812 cannons and vocal peaks.

The fine line tip exhibited half the distortion of the elliptical, but at 1% overall it was again exceptional in performance and the E version just normal. Correct vertical tracking angle (22degrees) helped toward a good result.

Output was good at 0.5mV at 3.5cms rms (0.7mV at 5cms/sec), but channel balance mediocre at 26dB for the FL and 30dB for the E.

Both these cartridges measured very well, as Ortofons usually do. The FL in particular was impressive. NK

TEST RESULTS

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<th>FL</th>
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<td>2gms</td>
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<tr>
<td>Weight</td>
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<tr>
<td>Vertical tracking angle</td>
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<tr>
<td>Frequency response</td>
<td>20Hz-16kHz</td>
<td>20-20kHz</td>
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<tr>
<td>Channel separation</td>
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<td>26dB</td>
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<td>Tracking ability (300Hz)</td>
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<tr>
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<tr>
<td>vertical</td>
<td>1.7%</td>
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<td>Distortion (45µm)</td>
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<td>Output (5cms/sec rms)</td>
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<td>Channel imbalance</td>
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CASSETTE

NAD 614

Bias at normal setting was low for today's metal tapes, TDK MA showing a +3dB treble lift at 10kHz and treble overload (SAT10k) measuring higher than midband overload (MOL315). Bias variation was unusually large with metals, but the head couldn't handle it, distorting badly as bias was increased.

Performance was more impressive with chrome. Frequency response was admirably flat and overload levels (MOL315/SAT10k) impressively high. TDK SA chrome-bias tape managed +4/-2, for example - almost as good as metal tape on a budget Nakamichi.

Ferric tape suffered earlier treble overload, but had excellent midband output. TDK AR hit +8 in the midband and exhibited just 0.8% distortion (DVU), even at 40Hz.

The transport performed satisfactorily, but it was a bit erratic, as budget designs often are. One minute the analyser screen looked like a horror movie, the next a clip from Bambi. Our analysis shows the latter - the NAD in a better moment. Longer running-in may have smoothed things out, but all the same, performance was mediocre, wow and flutter measuring 0.08%. Speed was +0.8% fast.

Replay equalisation was accurate and head azimuth correct, giving extended treble output to 16kHz. Pre-recorded tapes will sound balanced and if they don't, Play Trim - a great idea - offers +/-3dB treble lift/cut.

The NAD614 is well engineered and adjusted. It will provide satisfactory recordings on all tape types and good replay of pre-recorded tapes. But it has some obvious limitations. NK

TEST RESULTS

REPLAY (pre-recorded tapes)

Frequency response (-2dB) 30Hz-16.5kHz
Speed accuracy +0.8%
Hiss (70uS, Dolby out) -60dB

RECORDING (blank tapes)

Frequency response (IEC Primary Refs.)
- ferric (IEC1) 30Hz-16kHz
- chrome (IECII) 30Hz-16.5kHz
- metal (IECIV) 32Hz-17kHz

Separation (1kHz) -45dB
Distortion (315Hz) 0.8%
Hiss (70uS, Dolby out) -55dB
Speed variations (DIN total) 0.08%
Flutter energy (3-13kHz) -25dB
MOL/SAT (IEC Refs) 315/10k
IEC I (ferric) +5dB/-7dB
IECII (chrome) +3.3dB/-3dB
IECIV (metal) +2dB/+3dB

Speed Stability

WRH
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**OIL FILLED CHOKES**

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</tbody>
</table>

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an ECC81 is used, and an ECC83 in the STEREO 20, valves that have
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of anode resistor, which results in DC imbalance. All of which makes
the amplifier sound slow, lifeless, and lacking in both bass and treble
frequencies, not to mention attack. I change these valves for an
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Mission Freedom Speakers £175
Pilark Broadwords £854

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- How to buy home theatre systems.
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For details on how to place a Classified Advertisement, please see page 146
ACOUSTIC ENERGY AE2 speakers - externally bonded to plate glass and wrapped in lead sheet (removable) £350. Rotel M-1000 transport w/RS-100 turntable. £500. Bel Canto DC4 pre-amp boxed, excellent condition, £800.

QUAD ELECTROSTATIC loudspeakers. Black, with custom stands, original wooden feet, quality cable, manuals and Quad boxes. Good condition, will demonstrate. Best offer over £200. London NW3. Tel: 0171-722 2736 (evenings).

QUAD 605 POWER AMP £325 ono. Quad 306 power amp (£175.00, Spendor BCI loudspeaker, CVV speaker stand £150.00.


PINK TRIANGLE Da Capo with DC stands £275. Marantz CD63 sealed box £185. Possible P/X.

REVOX B620 HT tuner (two aerials. Inputs 60 pre-sets £720. North Bucks: 01908 376966.


JOHN SHEARNRE PHASE II. High class integrated amp. Six months old £360. Rotel BX 990 200 W.P.C. £300.00. Meridian 215 phono stage, boxed £70.00.

Linn Keltiks walnut £2695. Tel: 01792 280061.

WANTED: Cyrus 2 PSX. Cyrus tuner. 50s mint condition £530.00 ono. 50s vintage, Mint £530.00 ono. Wanted. Naim NAC72 Preamplifier, immaculate. Buyer must collect.

ARCAM DELTA 170/3 and Black Box 5 £500. Meridian 215 piano stage, boxed £30.00. Meridian 215 piano stage, boxed £30.00.


WANTED: Saras, NVA perfect, guaranteed. £350. NVA amplifiers: Gale 301 s £95. Arcam Delta 70.3 £70.

JAZZ LOVERS! 26 Original 10" LPs, by Glenn Miller. Harry James etc. £10 each, various "12" LPS. Please ring for list, may swap for decent DAC.

MUSICAL FIDELITY F22/15 pre/power amplifier, Maccy £2195.00. Tesseract TA MATA head amp and power supply. Maccy. Cost £1,800- accept £800.00. Kostan Tabyrinth arm £95.00. Tel: 0181-949 6733 evenings.

BOSE 901 SPEAKERS with Equaliser £185.00.

TRIPOD 900T valve power amp. EL34, EBC33, parasitic transformers, etc. Early valve Audiophile product. Cost £700, best offer secures. May P/X quality record deck. Plymouth (01752) 619095.

NATIONAL 4420, MINT condition. £400. £375.00 ovno. Contact Sunday or Monday day or any evening.

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<td>MBSi off-board power supply</td>
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Please telephone or write for more information and a copy of Mumbo Jumbo

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**MANTICORE AUDIO VISUAL**

Manticore Audio Visual’s range of power supplies suit all turntables fitted with the Philips Impex range of AC synchronous motors. This includes Manticore (of course!). Linn, Logic, Ariston (not all models), Systemdek and many more. Our power supplies can also be adapted to other AC synchronous motors and we have built up a lot of experience over the years in this area.

The entry level model, the MB5, is a quartz crystal based amplifier that runs at 33 and 45 RPM. The highly sophisticated MB6 in addition, has a computer referenced phase lag and separate amplification for each set of poles of the motor.

Manticore has the policy of helping our customers to progress along the upgrade path, and we will always take an MB5, or MBsi in part exchange at full cost price against an MB6. Consequently, we often have pre-owned MB6 or MBsi in stock at very good prices.

A detailed specification sheet is available for both current models.

We believe the MB6 to be the finest turntable power supply on the market. Our customers agree, and we have many testimonials to that effect. A sample of these is contained in the product information pack.

Our products are very reliable. At the time of placing this advert, no production MB6s have ever gone wrong in the field.

Manticore Audio Visual products come with a lifetime guarantee. This is qualified in the following way - electronic components, such as transistors, are guaranteed until the end of their reasonable working lifetime. Mechanical assemblies for the most part manufactured by us are guaranteed until the reasonable end of their specified design life. The first Mantra was produced 12 years ago and is still in fine shape.
Hi-Fi World

SONY TAP 50E amplifier built specially for Bolivia man, black, very heavy, minimalist design, genuine 90 W.P.C. Will drive any Bohm speakers M4/MC photo stage, boxed, manual, two year old, £110 (250W).
Tel: 01268 479 744.

QAD ESL - 63 speakers, dark brown, excellent condition, £1,200. (26x796)

Tel: 0181-949 7809 (Kingston).

GARRARD 401, SME 3009/11 in substantial plinth. Very good condition, deck unmarked.
Tel: 01781-476 474.

REGA PLANAR 2 with AT10E cartridge boxed £95, Linn Itch with Linn K18 cartridge £195 boxed. Target (26 inch) black £40 each. £10 in excellent condition.
Tel: 01257 263403 (Lanes).

Tel: 01752 789100 evenings/weekend (Plymouth).

ARCAM ALPHA 5 CD player/mmcjcondition, boxed £250 o.n.o. Linn amplifier, with power module, mint condition, boxed £500 o.n.o. Will accept £700 for the pair.
Phone 01628 900950 (dynamo).

NAIM NAC72 NAP 180. SBL speakers. Linn Sondek, Mission arm. Ortofon cartridge, five months old. Will demonstrate.
Tel: 0181-888 2337 after 6.00pm.

Tel: 01443 811456 (evenings and weekend).

WANTED: PROAC. EBS loudspeakers and stands. Must be in mint condition, late model (1998) and preferably one owner. Excellent price paid for the right pair. Vincent Poole.
Tel: 0151 423 1391 (work) or 0151 782877 (home after 7pm).

AUDI0 TECHNOLOGIES T2 moving coil transformer, absolutely brand new, genuine reason for sale, happy to demonstrate.
Tel: 01784 447354 (work) or 01734 669886 (home).

Tel: 01273 515095.

ARCAM DELTA 290 integrated amplifier, boxed, £300 ono. Apollo 3 tier equipment rack, square section construction 200mm, 200mm shelf spacings. £25. All as new.
Tel: 021-605 5218.

Tel: 01206 864157, Jim.

MUSICAL FIDELITY " Studio T" power amp. £400. MMT pre-amp with Stan SR84 headphones £450. AI integrated amp. £125. Marantz CD 873 LE disc player £125. Technics ST E450L tuner £75.
Tel: 01635 36019 evening (Newbury).

MAGNEPAN 1.55E, 1 1/2 years; Date-In-The-Box, once used, Yamaha tuner TX 580; new, Chord Company Fawlor 4 x 8; Monster Phono Link 1000, 3 pairs; all 30% off.
Tel: 0171 439 7986.

RADOFR STA25 valve pre, power amplifier with matching valve tuner, excellent £75. Cambridge R50 speakers £240. Oracle Delphi with Synix arm and Ortofon MC cartridge £450.
Tel: 01274 543219.
After many years of listening to various audio systems, I have concluded that for ultimate sound quality the amplifier involved in the system should be pure class 'A' in it’s operation.

A bold statement, and I can feel the readers of this, cringing in their armchairs, however think on this. If you go along to your local High St. friendly dealer, and audition say, 4 amplifiers in the same price range, it is no wonder that you will become confused.

Unfortunately what we, the listeners end up with, is masses of products that all sound much of a muchness! It is no wonder that I come across so many companies miss the point completely, perhaps because of commercial decisions.

This leads to the next question, why aren’t there more class ‘A’ amplifiers available. Well I reckon it’s because not enough designers have ‘conceded’ on yet. Class ‘A’ incidentally means that the output devices are constantly in the ‘on’ position, therefore electrons are available to carry the smallest of signals, without the interaction of switching distortion. I believe this is a major contribution to “mechanical sounding” hi-fi, which is the culprit that gives us with the best sounding class ‘A’ single ended valve amplifiers on the planet. No switching distortion, means less listener fatigue.

If you have read this with bewilderment the the only way to understand my ramblings is to book a demonstration, and experience for yourself, non-mechanical hi-fi. You’ll be surprised to find, that it costs less to get it right, than to make a dreadful mistake.

As ever, a musical month to you all.

Kind regards

David W. Speirs

PROPRIETOR

STOCKISTS OF THE WORLD’S FINEST AUDIO EQUIPMENT: ABSOLUTE SOUNDS, AUDIO NOTE, AUDIO INNOVATIONS, MICHELL, LYRA, J.E. SUGDEN, PRO-AC, IMPULSE, VOYO, WILSON BENESCH, ORTOGON, KINSWASH, KEWICK AUDIO, STAX, ROKSAN ETC. ETC.
RESTORED CLASSIC EL84 valve power amp. Extensively upgraded with high quality components. Very good sound quality. £240  Tel: 01403 891349 (Sussex).


LINN LP12, Valhalla, Ikusa, Troika. £1000 Tel: 01293 553170. Sutton-Croydon.


MISSION ESL63/AUDIONOTE PI: ESL63 loudspeakers, black, custom stands available. Immediate sale (D/R new) £1400. Audionote PI valve power amplifier, new, sadly unwanted price £69 ($99) new £690. Call Simon 01-603 3755.

ROGERS STUDIO IA monitor speakers plus stands £235 (cost over £700), REI 'Stadium sub' bass speaker: £350 (cost £500). Would exchange either for Quad 607. All wanted included.

Southampton (01) 738935.

KOETSU RED MICRO cartridge (careful, limited use) £225 o.n.o. Koetsu tonearm £50 + Miki board. boxed. Mission 733 high output MC £60. Wanted: Naim MC boards (late).

Tel: 0191-4877796.

WWW HI-FI! We have £350 ono. Naim 753p preamp, £195, Roun D9010 CD player (boxed). £225. £150 o.n.o. Wanted. Naim M/C boards (boxed) £170, Denon 325.5 MC boards £100, Nairn 32.5 MC

Tel: 0191-4877796.

Tel: 011-1971-37616 (office).


Tel: 0181-341 7037 evening weekends.

ION AMPLIFICATION SP-9X/S-2/ 4x75/4x60/4 active crossovers. Stunning sound £1,295.00. FMT-2 tuner £150. Immediate condition. Guarantee and professional service back-up. Wanted: fiveier Mina Acoustica; Rotakian tall tables; Phat record cleaning machine.

Tel: 061-432 0742.

SUGAR ST-D-1 integrated power amp in excellent condition £50.00. Mandarin Short S-4 30 speakers (shielded magnets) with excellent crossovers. Immediate condition. £220. £220. £220. £220.

Tel: 0171-724 6775.

DAVID AUDIOTAPE 700 integrated amplifier, excellent condition, recently serviced £150. Very good quality components. £150.

Tel: 01934 626695 (Wessex super Mar)

WHARFEDALE SPEAKERS, one pair Dovedale IIis, solid mahogany cabinets 14" x 12" x 24", very good condition, £250.00. Tel: 01405 768845.
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Extreme Neutrality Extreme Musicality TE60/Comete Tze “There aren't many systems which convey this much detail regardless of price”
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Kamla Tottenham Court Road,
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Tel 01868 748632 Fax 01868 748281

SEPTEMBER 1995
Hi-Fi World

NAIM SBL Loudspeakers, black Ash, in original unpressed condition £100.
NAIM BL3 black Ash £350. Naim Mixx 24k active crossover with Avantone power. Tel: 01483 825334. (private)

CAMBRIDGE CD3 (grey) MC remote £350. Spendor P6 speakers (real walnut veneer) £150. Cliff Stone Foundation speakers boxed, £50. All boxed. Excellent condition including instructions.
Tel: 01344 881005 (Cotswold Audio, Blandford Forum).

ARCAM ALPHA 5 Plus CD player £135. Micromega Microdisc £125. Theta TIC J Fever £175. Authentic Crystal speaker cable 4m single bi-wire £60. All items vgc and postage included. Tel: 01534 66238.


LINN LP12 (Black), Itok, Salton AT-9, boxed £550. Meridian 2010/3, boxed £549. SD Acoustics SDI floorstanding loudspeakers, superb, boxed £659 (£1,700 new). Mission Cyrus 1 amplifier £125. (Tel: 01449 676335).

REGA PLANAR 3 with RB300 arm £175 ono. Tel: 01352-754274 (Chester, North Wales).


Tel: 01622 82 2006.

REL STRATA Subwoofer, active, 7 months old, excellent condition, £340 ono. NAD 3300 amplifier, 1 year old, vgc, £130 ono.
Tel: 0171-387 7189 (London).

WANTED: MUSICAL RIDEALITY MC4 loudspeakers (transparent cones), also Audiomaster mooxblack valve amplifier (onix) with Paramax Airformers and cherry red back. For sale: Royal 695X8 CD Player £150 (09) 01656781375 Cornwall.
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- **SME IV Tonearm - Boxed, unused - Save £100**
  - Price: £690
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- **Yamaha HSE 80 Centre Channel speaker - new, boxed**
  - Price: £800
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- **Audio Innovations 1st Audio 17/2w Triode - ex dem**
  - Price: £300
  - RRP: £400

- **Sony 715 CD player - 30 hours use - HiFi Choice Best Buy**
  - Price: £1250
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  - Price: £600
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- **Audion 300B Silver Night (pip) 2 pairs**
  - Price: £400
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- **Audio Innovations 200 pre power**
  - Price: £350
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- **Audio Innovations Series 1000 MC Transformer**
  - Price: £650
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- **Ortolan MC 2000 boxed, unused**
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- **PAIR OF NAIM 135 MONOBLOCKS (OLD STYLE)**
  - Price: £1200
  - RRP: £1300

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  - Price: £350
  - RRP: £400

- **NAIM 72/HiCap/180 (1YR OLD)**
  - Price: £1500
  - RRP: £1700

- **All should be on display at Ramada, and I expect to be flitting wish to have a chat leave a message.**

**AMERICAN MAKE EXCELLENT HIFI, BUT WE MUST NOT IGNORE THE REST OF THE WORLD. OF COURSE THE AMERICANS MAKE EXCELLENT HIFI, BUT BY THE TIME IT Reaches THE UK, THE PRICE CAN BE INCREASED BY 50 TO 100%. IT’S very frustrating reading reviews in ‘The Absolute Sound’ of all the US equipment that doesn’t reach these shores!**

**SALE OF P/E EQUIPMENT**

- **QUAD ESL63’s (TEAK - IMMACULATE)**
  - Price: £1500
  - RRP: £1700

- **MARTIN LOGAN AERIUS (6 MONTHS OLD)**
  - Price: £1500
  - RRP: £1700

- **TRESHOLD FET 10e + PHONO (6 MONTHS OLD)**
  - Price: £350
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- **RUARK ACCOLADES (BLACK)**
  - Price: £1500
  - RRP: £1700

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Hi-Fi Consultants

**INTERCOMPAIGN NEWS**

- In comparison the Electrocompaniet amplification from Norway, has been more expensive with their line stage pre-amp (EC-4) at £1315 and their least powerful amplifier the AV100 at £2030. However, the integrated amplifier ECI-1, which offers comparable performance to the above pre/power, i.e. 100 watts/ch + 80 amps current, comes in at a more affordable £2100, while the new ECI-2, which should be in by the time this advert appears, gives 50w/ch and 35 amps for £2990. The great thing about these amps is the large current delivery which allows them to handle speakers with low impedance characteristics; for example, the large AV250 will deliver 1100 watts into 1/2 ohm! Also due in are the Quad ESL63, 89db sensitivity at £1265 and an interesting DAC, with user adjustable clock, and input impedance trimmer for £1240. All should be on display at Ramada, and I expect to be flitting between their room and those of ATC/AVI and Ruark, so if you wish to have a chat leave a message. Happy listening!
KOESTIU ROSEWOOD cartridge, recently rebuilt by Koestiu, superb £290. Fisher 500x valve receiver (18 valves) £250 with original walnut case and serial number, £250. Will consider part exchange. Tel: 0181-835616.

PAS EQUIS. BRONZE, good condition, never overdriven £300. Quad Is and 22, resistors and capacitors replaced, recent new valves £300. Tel: 0203 576073 Chesterfield.

FOR SALE: SPENDOR BC1 new reflex £70. Linn Ineska pre-amp still under warranty. Boxed £280 ono. Tel: 01733 854609.

BRYSTON 48 NRB £1,150. Audio Research SR14 £1,500. Gradientes sub-woofer for Quad ESL=63s with crossover £1,000; Bryston 10 professional crossover (newly refurbished) £1,000; all boxed and being sold by original owner. Tel: 01865 63160.


AUDIO ALCHY D.DE V.O DAC £260 and Linn Lpgo power amp. Definitely a collectors item. £1,000. Talley Kenton £9087628 (evenings).

LINN SONDEK LP12, EKOS. AT OCS plus Linn LPgo power amp. Linn customer service August '94 - boxed since £750.00. Ring Dave 0161 799 0710 evenings only.

NAD 1000 PRE-AMP, NAD 2100 power amp. One & half years old £300. Rotel RXR 62 CD player £175. SEA 392 tweeters. £15 pair. Tel: 01205 750314.

AKAI M9DX REEL TO REEL stereo tape recorder with 35 tapes. Cross flow head, VU meters and many more features. Definitely a collectors item. Offers - 01423 774174.


MARANTZ CD 94 II with Trichord clock mod, instruction manual and repairs. A classic. £475. Tel: Guildford (01483) 267516.

SPECIAL OFFER! Now you can advertise in the Classified Section for only £10 or £15 in a display black box (incl. VAT). Maximum length is thirty words, each additional word 50p extra.

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