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Hi-Fi WORLD

JULY 1995 £2.00

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NEW & IMPROVED HEYBROOK SEXTET LOUDSPEAKER

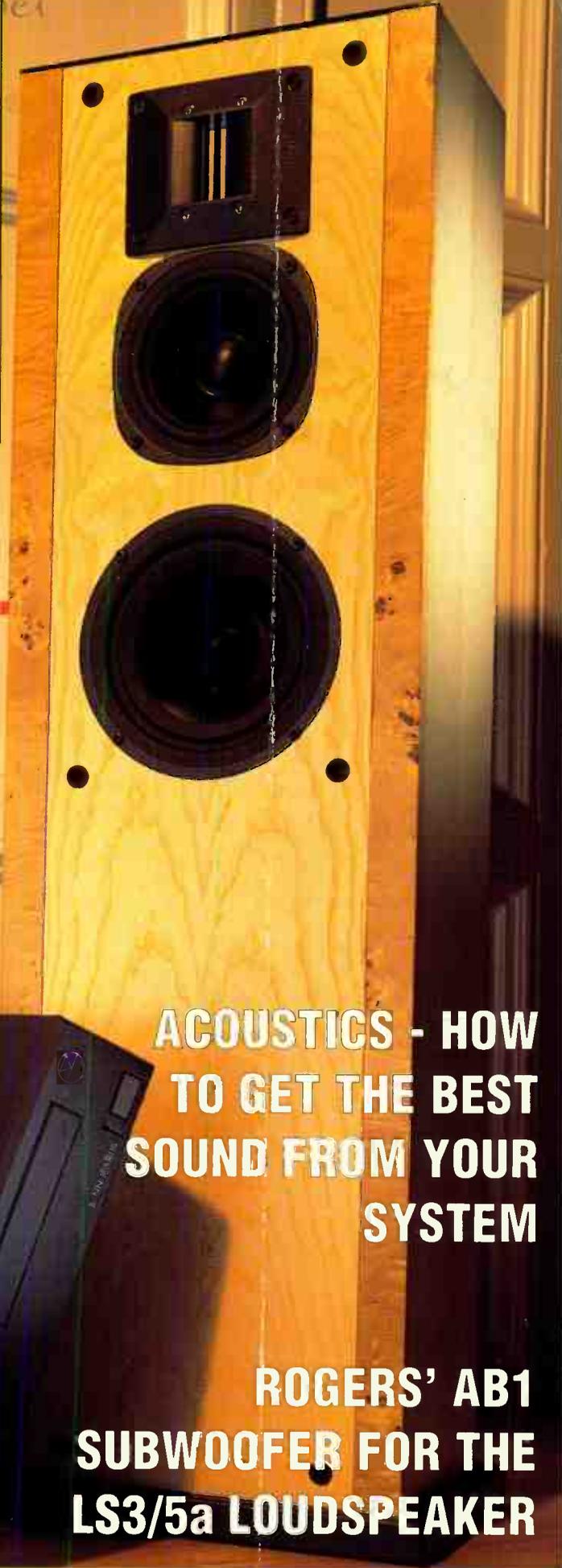
SCOOP!

**OMAK'S MASSIVE
RUSSIAN VALVE
AMPLIFIER**

**SIX PAGES OF
BARGAIN USED HI-FI**

SCOOP!

**LINN KARIK III
CD PLAYER -
UP WITH THE BEST**



**ACOUSTICS - HOW
TO GET THE BEST
SOUND FROM YOUR
SYSTEM**

**ROGERS' AB1
SUBWOOFER FOR THE
LS3/5a LOUDSPEAKER**

COMPETITION - WIN EPOS LOUDSPEAKERS WORTH £2775



The **TEAC** VRDS Range

The One System You Can't Beat!

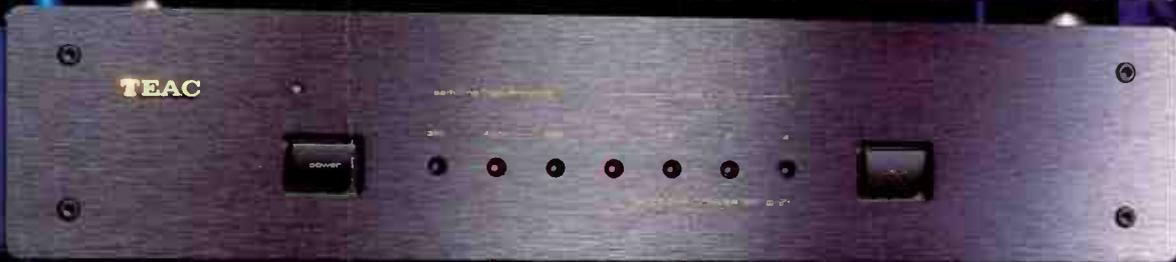
Everybody is aware of the huge success of the VRDS range of integrated CD Players and Transports. Now the VRDS players are complemented by a range of components which share the same outstanding build, engineering and sonic qualities

Everyone knows that the VRDS mechanism is the best CD transport in the world - Now there's no need to compromise with the rest of your system!



VRDS T-1 CD TRANSPORT

With the acclaimed VRDS mechanism, Highly rigid chassis and remote control - the TEAC ethos of sonic performance, build quality and ease of use are typified in the T-1



D-T1 D/A CONVERTER

The matching DAC for the T-1 uses Bitstream Conversion* in dual differential operation, a copper chassis to minimise RF interference and offers 4 digital inputs



V-8030S Cassette Deck

The latest example of TEAC's expertise in tape engineering features a 3-Head Dual -Capstan drive transport, Dolby S Noise Reduction and separate Bias and Level controls - proof indeed that the cassette is still a viable source. Also available is the V-6030S



A-BX10 INTEGRATED AMPLIFIER

An Audiophile amplifier which gives superb dynamic power and performance. Featuring a balanced stereo input and a fully balanced circuit configuration, the A-BX10 offers 100 Watts per channel and an optional phono board for MM and MC cartridges

Please send me information on the TEAC VRDS range

Name _____

Address _____

TEAC 5 Marlin House, The Croxley Centre, Watford, Herts
WD1 8YA TEL: 01923 819630 FAX: 01923 236290

* Bitstream Conversion is a trademark of the Philips Corporation.

This Month's World

Russia is going to be a strong player in audio. Forget Rigonda, we're talking about serious kit like the Omak. It uses C-core transformers - difficult to build and sophisticated. We were impressed - the Russians know what they doing. With low labour costs, Russia will become a powerful player in the next decade.

● From Russia with love, courtesy of Air Ukraine, comes the Omak valve power amplifier - see p34. Built like a T27 tank, it's impressive. We don't commonly see such characterful or effective products.

● Linn started out as a turntable manufacturer. Next month we'll be covering the history of their famous Sondek turntable. This month we review the superb Karik CD player, which is right up with the best - p52.

● It's the Heybrook Sextet again, one of my favourite loudspeakers. Now it has stronger bass and a richer sound, whilst retaining glorious stereo from a great ribbon tweeter. I'm happy! See p13.

● From France comes the interesting part-digital Micromega Tuner. We were confused: it's analogue but digital, and it hasn't got a name or model number! But it's different - see p16.

This month we have products from Canada, France and Russia, as well as Britain. I'm reminded just how strongly music appeals to everyone and that hi-fi, as a result, knows no borders. Our DIY Supplement in particular (be patient - next month!) generates enormous interest overseas and we ship valve amp kits by mail order to the most obscure places. The news that British exports are growing strongly and that electronics performed particularly well wasn't missed on us, as we struggled to ship kits to Malaysia, The Philippines, Hong Kong, America, Australia and New Zealand. Its a Hi-Fi World!

And we've got a new World Verdict globe rating system - see p4.

Noel Keywood, Editor

SHOW! SHOW! SHOW!

Hear our DIY kit designs at the London Sound & Vision Show, Cumberland Hotel, Marble Arch, London. It's a great venue for real hi-fi, held from 21st-24th September 1995 (the same time as Live 95, so you can go to both). We'll be there, with a stand and a room.

TEST EQUIPMENT



- Hi-Fi World has its own advanced test laboratory and acoustically treated listening room. No other hi-fi magazine has the benefit of such facilities.
- Hi-Fi World has a dedicated in-house team of experienced listeners, and uses selected freelance professionals. We review thoroughly by extensive auditioning, rather than by quick-fire group listening tests.
- Hi-Fi World's engineering team designs a wide range of products in-house. We export kits, parts and built-up products around the world, delighting buyers in far flung corners of the globe. No other hi-fi magazine is so expert and dedicated.

LISTENING ROOM (TREATED BY RPG ACOUSTIC TOOLS)



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see page 68 for details

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THIS MONTH'S REVIEWS

AMPLIFIERS

MOTH THIRTY SERIES INTEGRATED 22

This interesting design from transistor maestro Stan Curtis gets its first review from David Price.

OMAK JEWEL ONE 34

It sounds like a character from *Blake's Seven*, but the Omak is a burly Russian valve amp, auditioned here by Dominic Baker.



THORENS TTP/TTA2000 58

Thorens' new black and gold pre-power amplifier needs a key to turn it on! Douglas Floyd-Douglass takes it for a spin.

COMPACT DISC

TEAC VRDS-20 19

David Price listens to one of the chunkiest looking CD players money can buy, TEAC's range-topping VRDS 20.

SONIC FRONTIERS TRANSDAC 29

Dominic Baker auditions Sonic Frontiers' new £699 Transdac along with the imaginatively titled UltraJitterBug.

LINN KARIK III 52

Can Linn's surface mount technology, allied to the Brilliant power supply, put the latest Karik CD player on top? David Price finds out.



TURNTABLES

DUAL CS505/4 UK vs. PRO-JECT 0.5 50

A decade ago a Dual turntable was a compulsory first purchase for those after real hi-fi. Dominic Todd pits the latest version against Pro-Ject's popular 0.5.

LOUDSPEAKERS

HEYBROOK SEXTET 13

Noel Keywood, long time admirer of the Sextet, finds many of their little peculiarities have been ironed out in the revised version tested here.

KEF LS3/5A & ROGERS ABI 42

Eric Braithwaite auditions KEF's Raymond Cooke series LS3/5as, allied to an interesting pair of dedicated subwoofers.

RDL RA LABS MINI REFERENCE 57

These diminutive £99 bookshelf 'speakers are sold direct to your door with satisfaction guaranteed. Peter Downs checks them out.



CASSETTE

CASSETTE TAPE PLAY OFF 33

Noel Keywood switches on the Nakamichi to test a batch of the latest ferric formulations.

TUNER

MICROMEGA TUNER 16

Although famous for their CD players, Micromega produce a wide range of separates. Noel Keywood and Eric Braithwaite audition their upmarket tuner.

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.
- POOR - Seriously flawed. Not worth considering.

REGULARS

NEWS

New products and background from the hi-fi world.

LETTERS

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QUERIES

Once again, the team get to grips with your hi-fi problems.

COLUMNS

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Comment, criticism and overviews on the ever-changing hi-fi scene.

NEXT ISSUE

August's Hi-Fi World must surely be *the* magazine to have on the beaches of Europe this summer?

COMPETITION

The chance of an instant 'speaker upgrade courtesy of those awfully nice Epos people!

SUBSCRIPTIONS

No more tedious trips to the newsagent and you'll have the pick of the Classifieds. What other reasons for subscribing do you need?

SPECIALIST HI-FI DEALERS

No box-shifting purveyors of midi systems here! These are real hi-fi dealers offering expert advice and service.

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81 GREAT BRITISH HI-FI SHOW 26

Haden Boardman gives you all the news about this small but perfectly formed hi-fi show.

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Some excellent new releases for your perusal.

ROCK RECORD OF THE MONTH:

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CLASSICAL RECORD OF THE MONTH:

Szymanowski/Poulenc: Stabat Mater:
Altanya Symphony and Chorus:
Robert Shaw, Conductor.

ROCK AND POP 73

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CLASSICAL 93

COMPETITION

Win one of three pairs of Epos loudspeakers worth £2775 in total.
1st prize: ES25s, 2nd: ES14s, 3rd: ES11s.



CONTENTS

It's official!

The 'Awesome' Coda 7.

UK's No 1*

Serious stuff.

*According to the official GFK market survey for March, more KEF Coda 7s were sold through UK hi-fi shops than any other speaker outselling the nearest competitor by more than two to one.



KEF AND CODA ARE REGISTERED TRADEMARKS. FOR DETAILS ON THE KEF CODA SERIES PLEASE CONTACT KEF AUDIO (UK) LIMITED, FREEPOST MA 1332, ECCLESTON ROAD, TOVIL, MAIDSTONE, KENT ME15 6BR. TELEPHONE (01622) 672261.

World Radio History

AMERICAN SUMO

Cast your mind back to the late seventies, and think of the superamps of the time. Not those monster Japanese receivers with more chrome than a '57 Cadillac, but the occidental likes of SAE, Amcron, Macintosh and GAS (Great American Sound), responsible for the famously monickered Ampzilla and Thaedra, not forgetting Son of Ampzilla!

Following the demise of GAS, SUMO emerged from the ashes, its name a reverse acronym for Only Made in the United States. SUMO now have a range of products imported by Adusa, including the £891 Polaris II, which produces a hefty 120 watts into 8 ohms. Also featured are the £781 Axiom CD transport and the £875 Theorem convertor.

Adusa & Co.,
4 Arundel Rd.,
Kingston Upon Thames,
Surrey KT1 3RZ.
Tel: 0181942 6241

ARCAM RETUNE DELTA 280

Arcam's mid-price Delta 280 tuner has been substantially modified, with claimed improvements to sensitivity and overall sound quality. It also gets an improved auto-tuning circuit, twin aerial inputs and a better signal strength meter.

This £399 tuner now looks impressive value supplied complete with Arcam's remote controller, providing tuning and display controls, as well as operating other remote-compatible Arcam CD players and amplifiers.

A&R Cambridge Ltd.,
Pembroke Avenue,
Denny Industrial Centre,
Waterbeach,
Cambridge CB5 9PB.
Tel: 01223 861550

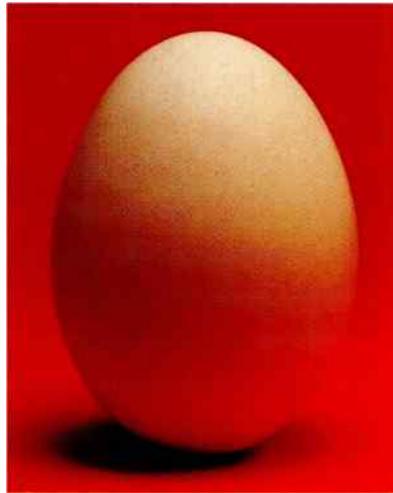
PERFECT FOR THE (BAU)HOUSE

Aesthetic modernism is alive and kicking in hi-fi! Looking rather like a product of the early twentieth century Russian avant-garde, Wharfedale's new £299.95 Acumax 3 satellite/subwoofer system has a claimed high efficiency, wide dynamic range and a high 400W power handling.

This package of "masterpieces in miniature" comprises a pair of Modus Micro Plus two-way satellites with improved 19mm ferro-fluid cooled dome tweeters, and a single Modus sub-woofer. Optional Modus pillar stands are available for £39.95.

Wharfedale International,
Sandless Way, Crossgates,
Leeds LS15 8AL
Tel: 0113 2601222





Can sound be this simple ?

- 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.

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

NAD

pure. and simple.



KEF: THE STORY CONTINUES

The new Coda 9 loudspeaker from KEF completes their reborn Coda range.

At £299, the 9 is a two-way floorstander with an additional internal sub-bass driver. This is the same 165mm coated paper cone unit that performs bass/mid duties in conjunction with KEF's familiar 25mm soft dome tweeter.

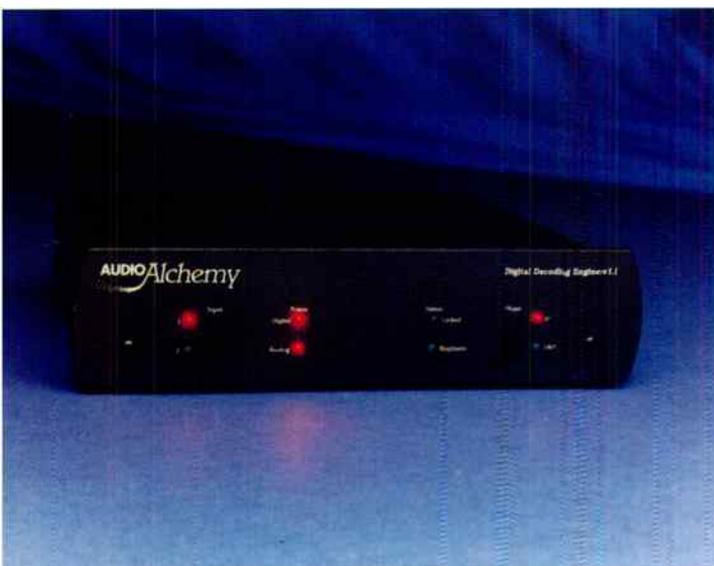
This design boasts impressive 91dB sensitivity, meaning it can be used with relatively low powered amplifiers. The new Coda 9 measures 850x200x288mm (hwxwd).



KEF Audio (UK) Ltd.,
Eccleston Road,
Tovil,
Maidstone
Kent ME15 6QP
Tel: 01622 672261

NOT MAGIC BUT ALCHEMY

In summer 1991, a diminutive black box curiously entitled Digital Decoding Engine appeared on British shores, quickly establishing itself as a popular convertor upgrade for budget



CD players. The Audio Alchemy DDE v1.0 has now been upgraded to version 1.1, featuring a simpler circuit design with a pure Class A output stage. Audio Alchemy claim this results in a "highly transparent but sweet sounding audio

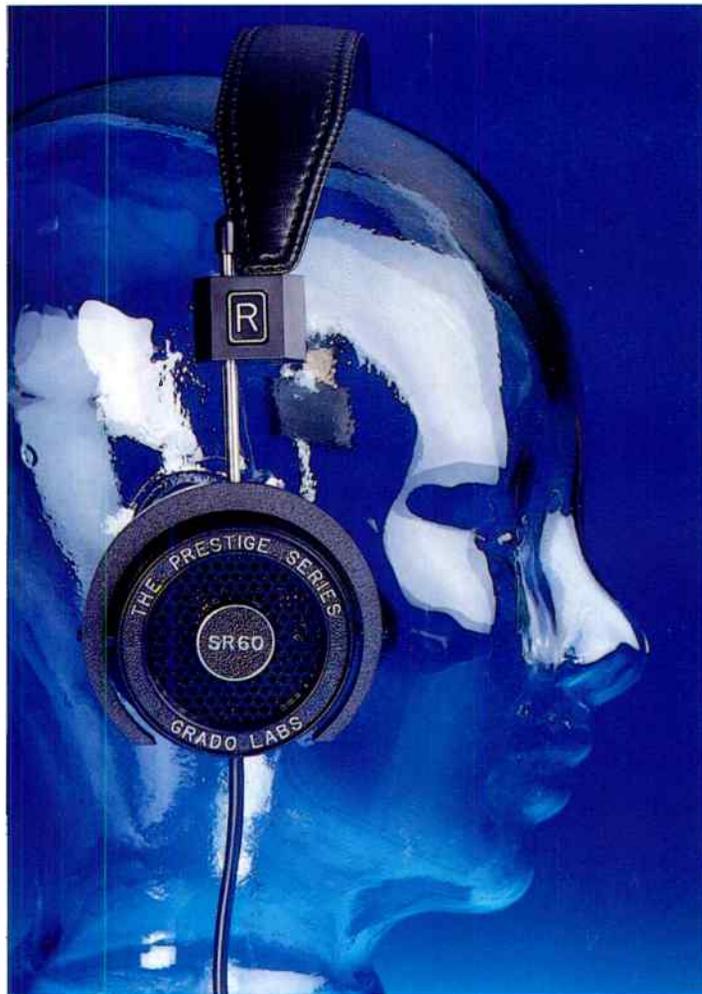
stage". The DDE is now available with a choice of power supplies, at £399.95 with Power Station One or £599.95 with Power Station Three.

Path Premier
Unit 2,
Desborough Industrial Park,
Desborough Park Road,
High Wycombe,
Bucks HP12 3BG
Tel: 01494 441736

UPGRADO YOUR PHONES

Grado, the New York company famous for its range of cartridges, has announced an entry level headphone to the UK. The £89.95 SR60, which has already received various accolades from US publications, is a hand assembled, open back, vented diaphragm design weighing 7 ounces.

Grado UK distributors:
Goldring Products Ltd.,
8 Greyfriars Road,
Bury St. Edmunds,
Suffolk IP32 7DX
Tel: 01284 701101



BOOTHROYD STUART

MERIDIAN



The Meridian Audio system has been designed to provide a musical performance in your home - the equal to a live concert. The benefit is that you can choose when to listen and you can build a system from just a CD player to a complete digital home theatre surround sound system. All the products are matched which means that they are easy to use and can even be networked around the house.

If you are looking for the best in sound quality and convenience, call **Meridian Audio Ltd** 13 Clifton Road Huntingdon Cambridgeshire PE18 7EJ

Tel 01480 52144 Fax 01480 459934

HFW 5.95

TEAC AUSTERITY MEASURES

Those aspiring to TEAC's VRDS CD players, but finding themselves momentarily impoverished may be interested in TEAC's new CD-P3200, which at £150 is an indication of the seriousness with which they take entry-level products.



Interestingly it avoids bitstream and its ilk, using instead a 16bit convertor with 8 times oversampling. The new TEAC is well specified, with the usual remote control, shuffle play, repeat and auto-space functions.

TEAC UK Ltd.,
5 Marlin House,
The Croxley Centre,
Watford,
Hertfordshire WD1 8YA
Tel: 01923 819630

DENON'S AFFORDABLE RDS

What's black, costs £149.99, is neatly styled and packed with facilities? Every entry-level Japanese hi-fi separate on the market? No, Denon's new budget tuner. The TU-215RD boasts a full set of RDS facilities, including EON capabilities. It has 40 presets, and features a remote sensor which can be operated by any Denon remote commander.

Hayden Labs,
Hayden House, Chiltern Hill,
Chalfont St. Peter, Bucks SL9 9UG
Tel: 01753 888447



MARANTZ ANNOUNCE VALVE AMP!

Marantz of Japan have announced they are to market a top flight, valve monoblock power amplifier in Japan. This is a remarkable move, meaning one of the world's premier manufacturers (Marantz are a part of Philips) is placing a valve amplifier at the top of its hi-fi range, above all solid-state designs. Rivals will doubtless be watching closely, since valve amplifier sales are increasing rapidly world wide, at prices generally well above those currently obtained for solid-state products. Marantz are doubtless looking to establish a presence and improve their image as a specialist, apart from substantially improving their yearly corporate profits.

Priced at an astonishing 5 million Yen (£33,500) per monoblock and available in Japan exclusively, its only price rival will be Ongaku. Believe it or not, Marantz claim to have 33 on order already, equivalent in profit to selling 3000 midi systems, we calculate.

This push-pull, all-triode amplifier utilises the awesome 845 audio power valve to deliver 50watts. Its 100watt graphite anode is enclosed in a huge bulb, together with a visually impressive bright emitter heater. Having very low gain, but needing to work at more than 1000volts, the 845 needs a power valve just to drive it: Marantz use a 300B.

Adopting the same philosophy as World Audio Design, Marantz use sophisticated driver transformers for inter-stage coupling, rather than driver valves. Transformers are purer, but both expensive and difficult to design. Due on sale September 1995, top Marantz audio engineer Ken Ishiwata said this amplifier is a statement that "a company like us are telling people *audio* is the one to enjoy".

WELL CONNECTED

In a sea of interconnects with telephone number price tags, Connections UK announce an affordable way of upgrading those unspeakably poor cables bundled with most hi-fi separates. At £21 for a 1m pair, Jade (so named because of its colour) is a good quality 7 x 0.2mm copper interconnect. Connections UK are also looking for a number of "consumer testers" for a forthcoming higher specification version of Jade, which is available direct from:

Connections UK
49 Bishops Road,
Peterborough,
Cambridgeshire PE1 5AP
Tel: 01733 897379

EPOS CAP IT ALL

Epos Acoustics have announced an upgrade to their Epos 11 model, a new custom-wound capacitor claimed to bring a significant improvement in sound quality. Why so important? Well it's actually the only component in the 11's crossover! Existing ES 11s can be upgraded for £50 at local dealers.

Epos Acoustics
3 Ridgway, Havant,
Hampshire PO9 1JS
Tel: 01705 407722



Just what you've always wanted. Speakers that don't make a sound.

And so it was written that the advanced "silent" cabinet design of Tannoy Profile speakers should offer a purity of sound and absence of distortion that other manufacturers could only

dream of. Allowing the powerful drive units to produce a volume of music sufficient to bring down the walls of Jericho. And the people heard this, and there was great rejoicing.

TANNOY PROFILE

RING THE PROFILE HOTLINE ON 0236-425407. OR WRITE TO TANNOY LTD., ROSEHALL INDUSTRIAL ESTATE, COATBRIDGE, STRATHCLYDE ML5 4TF.
World Radio History

Heybrook hadn't planned on changing their top of the range Sextet loudspeaker released in 1991, then the original bass drivers and production equipment went up in smoke! A new bass driver with higher output has been found, supplemented by a revised crossover and altered port damping. So successful are the revisions, I suspect they will be around a lot longer. It's a great 'speaker at a very competitive £1129 finished in black, or £1159 in the rich, red hued walnut of our review samples.

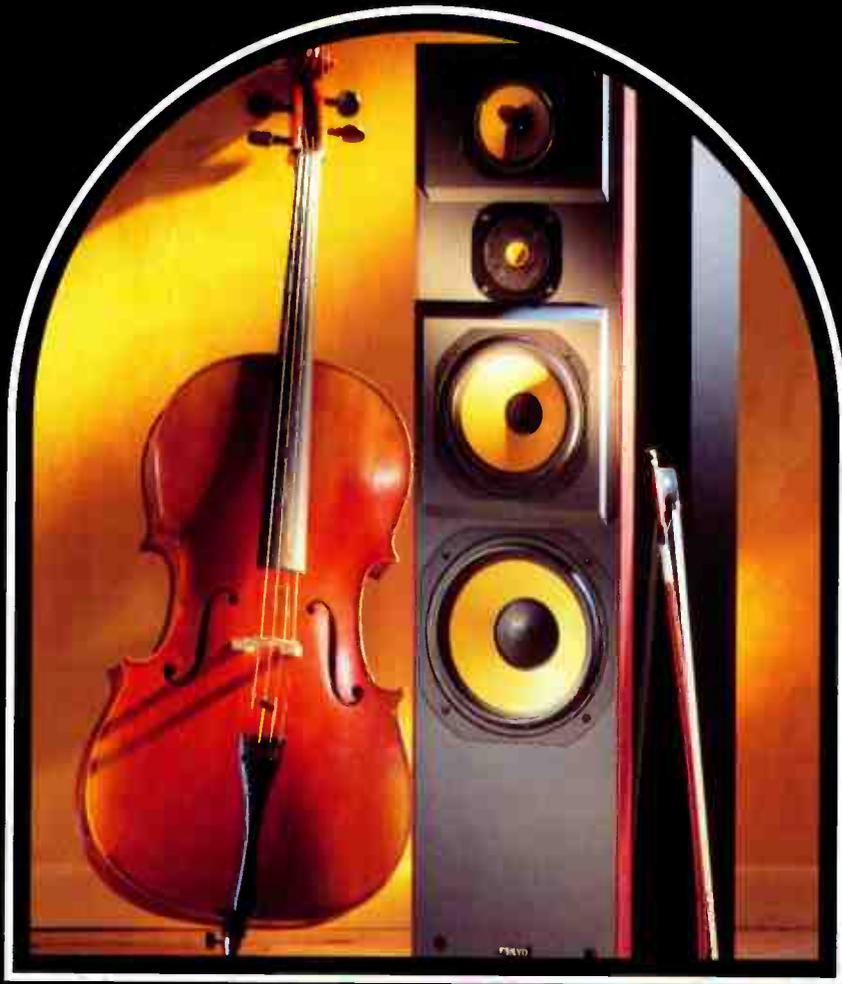
I've used Sextets since they were first launched, during which time a sea of loudspeakers have failed to destroy my regard for them. Even when made aware of failings by more modern designs like KEF's Reference Series, the Sextet's rare qualities have saved it from the realms of those I have known and loved (past tense!).

Part of my addiction to this 'speaker is down to the Tonigen ribbon tweeter. Used to electrostatics and ribbons, I've got great problems with conventional dome tweeters, which sound distinctly splashy or vague by comparison. It might seem odd

ETERNAL FLAME

A fire was responsible for Heybrook's latest version of the acclaimed Sextet loudspeaker. Noel Keywood listens to them hot from the factory.

AUDIOVECTOR



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
- = more clarity, articulate bass
 - = better transient response, greater dynamics
 - = easy load for amplifier
 - = unrivalled depth of sound stage and imaging

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.

AUDIOVECTOR 2X Black Ash	£850	AUDIOVECTOR 5 Cuba	£2500
AUDIOVECTOR 3X Cuba	£1500	AUDIOVECTOR 5 Black Ash	£2500
AUDIOVECTOR 3X Black Ash	£1500	AUDIOVECTOR 6 Black Piano	£4600

For more information and demonstration, contact:

The Chord Company Ltd., 30a Sarum Business Park, Portway, Salisbury, Wiltshire SP4 6EA. Tel: 01722 331674 Fax: 01722 411388

Distributors of Audiovector speakers for F3/LYD, Meinungsgade 8, D2, DK-2200 Copenhagen N, Denmark. Tel: 01 39 60 60

to be hooked into a tweeter, but this one brings outstanding focus and clarity to treble. Its influence is wide ranging: transients have a razor edge quality that makes strummed guitar come alive. Cymbals, hi-hats and tambourines are outlined with startling resolution and clarity, especially with aggressive rock percussion. The Tonigen is easily out in front here, and to my ears it tells. Last but not least, this tweeter brings a sharpness of focus to sound stage images, placing them with a watchmaker's precision.

The flip side is one we've discussed more than a few times in the office. The

“On the almost impossibly difficult task of reproducing violin the Sextet is better than ever.”

Tonigen tweeter can stand out in rather sharp relief unless it's damped down. First time listeners can find it sharp or glassy sounding, but in our experience once you've acclimatised, this becomes addictive. All the same, Heybrook have wisely tamed its output in the revised Sextet to make it better integrated and less obvious. And they've done a very good job in finding the right balance, keeping the Sextet clear, open and sparkling enough to make its strengths unequivocal, whilst pulling the tweeter back from being too much of a good thing.

As you might expect from any "reference" 'speaker, the original Sextet had a tidy, analytical sound without too much loss or contrivance. Its greatest weakness was tight, over-damped lower bass and some loss of upper bass/lower midrange richness identified in my original review. By any standards the Sextet was light, even arid in this region. Heybrook recommended use close to a rear wall to reinforce output, but I've since found my standard 16ft x 12ft lounge complemented this speaker. In a larger 14ft x 20ft lounge with high Victorian ceilings however, the original

Sextets sound dry and a little shrill.

The new Sextet's bass is significantly stronger with greater extension and, most importantly, superb fluidity and control. The peculiar rumbling deep bass of Angelique Kidjo's Aye album best illustrated this. Under-damped and mistuned speakers get into a real state with it, booming badly. The Sextets resolved it well, showing a fine sense of note definition, making for impressively articulate bass lines. Where the original design conspicuously failed to reproduce the single, seismic drum strike at the start of Aye - something many 'speakers miss with surprising

alacrity (big TDLs and KEFs excluded) - the new one clearly revealed its existence, if not its full power.

The new bass driver's higher output brings other gains. It better integrates with the midrange to give a richer, smoother,

more cohesive presentation overall. Midrange detailing has improved significantly, yet the Sextet was never short of detail. Midrange dynamics have also expanded out to impressive levels. A vocal push on John Mayall's Looking Back album came over with such sudden and unexpected force, it made me jump.

Most importantly, Heybrook have retained the Sextet's wonderful imaging, close to that of the Quad electrostatic. It projects music out of the box like few others, producing a glorious sound stage with lifelike images, now with even more body and believability. Designs like the Mission 752s and KEF Reference Series image superbly, but the Sextets remain ahead in my view. Quite why, I'm not sure, but the narrow cabinet and superb ribbon tweeter must contribute substantially, plus the fact that this is a well engineered three-way 'speaker - and there's no beating a good three-way. On the almost impossibly difficult task of reproducing violin the Sextet is better than ever - and something of a class leader. The pure, high pitched solo of Samuel Magad at the start of Rimsky

Korsakov's Scheherazade, with its testing sustains, managed to show how this instrument can be both challenging to listen to, raw in the way its strings rasp under the bow, yet at the same time natural and unfatiguing through the Tonigen tweeter. Superb insight into the surrounding acoustic, gasps for breath by Magad and the most deliciously precise and sure stereo image all added to the excellence of the Sextet's performance.

A lovely woody richness to bassoons and plenty of weight behind timpani showed how the Sextet has now become full bodied, but not overblown. Finding its bass strong enough to drive my large-ish lounge, I ran it in our medium sized listening room as a precaution, finding that bass stayed under control and in balance - an unusual property. Speakers that drive in a large room often, but not always, boom in a smaller one, but not the Sextets.

In their original review in October 1991's World, I described the Sextet as dramatic, entertaining, fast and very revealing. Now, without compromising any of these strengths, Heybrook have done a wonderful job of eradicating the weaknesses. The overall presentation is as clean, controlled and accurate as you could wish. With a stronger, more articulate bass, improved sensitivity, better integration between the drive units and less obvious treble, they retain superb imaging and a wonderful sense of cleanliness and control. As such, I suspect they'll continue to survive in my lounge for a lot longer ●

Heybrook Sextet £1129
Heybrook Hi-Fi Ltd., Estover Industrial Estate, Plymouth PL6 7PL
Tel: 01752 731313

WORLD VERDICT

●●●● The Sextets have strengths that make long term listening a joy, well engineered too.

Measured Performance
 see p105-113

DIGITAL TUNE

Fitted with digital filtering and a digital output, the Micromega Tuner looks sophisticated. Eric Braithwaite and Noel Keywood tune in to check it out.



Digital circuitry in an analogue FM tuner is new to us and caused some puzzlement in the office. Which bit of the £700 Micromega Tuner could possibly be digital - and why? It turned out that the final audio signal is converted to digital, to remove unwanted signals above 15kHz within a digital filter, before being converted back to analogue. So there's an analogue output for stand-alone use, and a digital output for direct connection to Micromega's £700 Concept DAC. We tried it both ways.

In itself, Micromega's Tuner is a conventional, FM-only synthesiser design, possessing no Medium or Long wave bands. It has few facilities, other than remote control - surprising in view of its price tag. Push button station selection accesses 39 memories, plenty enough for Britain. Essentially stereo only, the tuner can be switched to mono from the remote handset, although this does not lift noise muting, so weak stations are unobtainable. Facilities such as selectable IF bandwidth and RDS, commonly available on expensive tuners, were missing.

The question is: does digital filtering offer a significant benefit? Our measurements showed the filtering was effective, but improvements were sufficiently small to be academic. It brings arguable benefits in reduced phase shift, something best assessed in listening tests. In all other areas measured performance barely matched that of budget designs like the NAD402 or Denon TU-260L. Treble lift in the audio frequency response produced a bright sound. This may suit the home market better than Britain, since French loudspeakers also have raised treble and a bright sound, we have found from measurement and experience.

In our view, with digital filtering Micromega have used a hammer to crack a nut. Although it's important to remove signals above 15kHz, conventional notch filters do a fine job. Going into digital at a low 32kHz

sampling rate (for 15kHz bandwidth) then back out again just to use a slightly improved filter is unwise, because digital processing introduces its own, unpleasant degradations. There are other better ways of ensuring good sound quality. A disproportionate amount of the build budget seems to have been directed into this scheme.

SOUND QUALITY

Assured by Micromega's importers that the Tuner comes to life through their Concept DAC, a £1400 combination, we tried it this way, as well as direct via its own analogue outputs. It was connected to a five element aerial in central London and fed an Audiolab Q preamp with 8000M monoblocks, hooked up to Heybrook Sextets. For reference we had our trusty Leak Troughline.

Lucky to catch a talk show on Radio 4, we were treated to the full, deep, resonant tones of a male announcer talking live into a studio microphone. It's on this sort of programme that the

“With digital filtering Micromega have used a hammer to crack a nut.”

Leak Troughline shows its mettle, bringing the studio feel into the living room, placing the announcer onto a patch of carpet about 6ft in front of you - spectacular! In comparison, solid-state tuners generally present a planar sound stage which seems compressed and devoid of atmosphere. In this respect the Micromega failed to lift itself from the norm, sounding competent but unexciting. The characteristic atmosphere of the studio didn't materialise.

Through the Micromega Concept DAC, three listeners felt the sound thinned, becoming hard. More subtlety

would have been appreciated, particularly in tonal and vocal colour. Instead, both male and female announcers had a cuppiness or nasality to their voices, marred also not so much by spitchiness or sibilance but a 'tsk tsk' palatal aberration to their pronunciation.

I favour fine imaging and stereo detail. The clarinetist in Poulenc's clarinet concerto was less clearly placed *vis a vis* the piano than might have been expected. The piano itself failed to cohere between left and right hands: the one somewhat dulled and boomy, the other rather sharp. This disjointed tonal effect also happened with a piano on a Chris de Burgh track on Virgin FM, momentarily put down to being electric or synthetic.

Too often in fact, I was reminded more of electronic processing than real acoustic sound, making it difficult to focus attention. A couple of tracks on Jazz FM produced doubts, rhythmically a mess. The vocalist's melody failed to relate to her accompanists, and they to the drummer. And no, this was neither avant-garde jazz nor aleatory music, random though it turned out.

Our final verdict was that the tuner in stand-alone form sounded a little easier and more amenable on the ear than through the convertor, but that by current standards it showed little to justify a £700 price tag ●

Micromega Tuner £699.99
Micromega D.A. Ltd.,
P. O. Box 13,
London E18 1EG.
Tel: 0181 502 1416

WORLD VERDICT

An unusual design from Micromega that's well built but sonically unrewarding and expensive.

Measured Performance
 see p105-113



HEAVY METAL

Although this mammoth £1300 TEAC is a top-end player here in the UK, such is the nature of the Japanese hi-fi market that at home, the VRDS 20 is a mid-market design, and a particularly affordable one at that. In the frantic environs of Tokyo's discount hi-fi chainstores it will set you back around 180,000 Yen, which thanks to Sterling's propensity to head floorward coupled with the Yen's perpetual ascent, means it's now cheaper here than its native Japan.

With more metalwork than your average battleship, TEAC's VRDS 20 brings its peculiarly Japanese approach to the CD player market.

David Price weighs up its abilities.

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As a mid-price Nipponese product, it has all the essential accoutrements for showroom success. First are the enormous proportions - the TEAC's a front runner in the perceived value stakes, its bulk undiminished even next to my well endowed Michell Gyrodec. It also sports the usual hewn-from-Mount Fuji build, weighing in at around 14kg, with expanses of internal copper plating, thick aluminium side panels and a triple top plate. If that wasn't enough, there's a little window on top of the player allowing proud owners to see the disc clamp spinning around inside at frantic speed! In front of this inspection portal is the legend, lest we forget, "Vibration-free Rigid Disc Clamping System".

Inside, the VRDS 20 sports a 20-bit 8-times oversampling digital filter with bitstream conversion, and TEAC's "mid-range" VRDS transport mechanism, to which many column inches have been devoted already. The TEAC also features little pillars at each corner, called "Aluminium Isolation Poles" sitting on brass and rubber feet. Round the back, further evidence of *CD-Playerus Expensivus Japonicus* is found, with every connection imaginable, including switchable digital outputs and the compulsory, sonically superior balanced XLR outputs.

In the same way that the aesthetics and build are quintessentially Japanese, the VRDS 20 has a distinct sound aimed at its home market - big, sweet and open. Indeed I was surprised just how good it was, considering how much of the player's cost has been conspicuously devoted to showroom appeal. Just after switch-on, it sounded a touch crude, but sympathetic positioning on a Base isolation platform and an overnight warm up improved things dramatically.

Unfortunately for the TEAC, it happened to be sharing my listening room with the take-no-prisoners Linn Karik CD player, tested on page 52. Although a couple of hundred pounds

more expensive, comparisons were both inevitable and useful. The Linn makes a beeline for rhythms regardless of what's playing, while the TEAC's brighter, more 'hi-fi' presentation isn't the last word in musicality. Starting with The Prodigy's 'Out of Space', the VRDS 20 produced a large sound stage with a fair degree of stage depth. Hi-hats were undeniably bright, sounding as if TEAC engineers have built in a slight treble peak intentionally to make this player sound impressive in the showroom, yet the top end couldn't be called harsh - indeed cymbals had a satisfyingly silky gloss.

As with most Japanese players at this price, midband was clear, with

“The TEAC's a front runner in the perceived value stakes, its bulk undiminished even next to my well endowed Michell Gyrodec.”

detail excavated like it was going out of fashion. There was an airiness to the acoustic, possibly due to the treble emphasis, that tricks you into thinking the VRDS 20 images better than it really does. Indeed, despite the expansive left-to-right sound stage, front to back depth was mediocre, lacking the sense of scale and perspective of the Karik.

Bass quality was tuneful and extended, but lacked both the tactility and slam of my similarly priced Sony player or the rhythmic fluidity of the Karik. Losing the force of kick drums, it substituted real, earthy bass lines for imprecise 'generic' bass notes which failed to describe the envelope of the genuine article.

Despite its airbrushed quality, the VRDS 20 still proved satisfying to listen to, as Linn's recording of Purcell's incidental music to *The Indian Queen*, played by The Purcell Simfony (sic) demonstrated. While the Karik dived to the centre of the acoustic and conveyed every last rhythmic and dynamic inflection, the TEAC relaxed back in the best seat in the house and followed

things from a safe distance.

The listener was also treated to more tonal colour than the Linn could muster, giving violins a more natural woody tone with greater body, and real warmth and richness to the harpsichord. However, the trouble with having the best balcony seat is you lose much of the performance's physicality, a count on which the TEAC was guilty. Despite the pleasing tone, gone was much of the counterpoint between oboe, violins and harpsichord.

Such a silky presentation goes down well in Japan, complementing their rather dry sounding domestic loudspeakers, and can be useful here too. Loading Lush's 'Black Spring EP' into the Linn, I was greeted by a remarkably emotive performance, but the TEAC made this arid recording more palatable. Further from the front line, the sweeter percussion and guitar sound and the gentle gloss to Miki Berenyi's vocals were all the more enjoyable. This said, in the final analysis I lost concentration half-way through with the TEAC, while the Linn kept me listening to the end of the song.

And therein lies the key to the TEAC's sound. It's satisfying to listen to on a variety of music, but isn't the last word in musicality or grip. Whether it is value for money depends on your point of view. If absolute sound is your goal, you could do better auditioning certain home-grown players, but if it's a room filling expanse of hardware you want, the TEAC VRDS 20 gives you plenty of metal for your money ●

TEAC VRDS 20 £1299
TEAC UK Ltd.
5 Marlin House, The Croxley Centre,
Watford, Herts WD1 8YA
Tel: 01923 819630

WORLD VERDICT

Great sound - if it's what you like. Solidly built and engineered quite well too.

Measured Performance
 see p105-113

SOLID TIMBRE

Despite its genteel Elm fascia, Moth's Thirty Series integrated amplifier is tough enough to hit the opposition, finds David Price.

In a world of integrated boxes designed to look as impressive as possible in dealer showrooms, Moth Marketing have, in the shape of their £320 Thirty Series Integrated, an unusual looking amplifier with a front panel fashioned from a slice of Elm. Despite such aesthetic imagination, its build quality can't be described as impressive. The crowded rear panel flexes easily, while the front panel switches don't exactly have the precision of Mercedes switchgear. It's when you

Berry's 'Washington Square' confirmed.

The opening tom-toms came across with an unrespected sense of rhythm, the sound of hands hitting skins extremely well defined and striking with impressive accuracy. The snare drum, too, was defined with no false emphasis, and lesser budget amps will prey on it. In April's test of budget superamps, the winning Pro-Ject 7 and Aura AU-80 were the only ones that didn't imbue her voice with intrusive grittiness, putting the Moth in distinguished company. Indeed the midband is one of this amplifier's strengths, remaining clear and highly detailed at all times, separating out disparate strands of the mix and putting them back together with the emphasis firmly on rhythms.

Lower down and further up, the Moth wasn't quite so accomplished. Upper bass was taut with a Naim-style grip on proceedings, but tended to get soggy as the notes dived floor-ward.

This said, despite its modest power and current driving ability, the Moth was at least the equal of the well respected and considerably more expensive Audiolab 8000A in this respect - no mean feat. Treble was good, but nothing to write home about, lacking the Pro-Ject's effusive smoothness and precision. The gently struck triangles that run through 'Washington Square' were slightly blurred, lacking the midband's hear-through clarity.

Moving onto Grant Green's 'Ease Back', a slice of beautifully recorded late sixties acid jazz, and the Moth dived into the groove with spirit. Such was the breadth of sound stage and imaging precision that it was hard to believe this was a budget integrated amplifier. The Moth instantly got hold of Green's every guitar inflection, and imbued Claude Barte'e's tenor sax with vigour, projecting it far into the room.

Once again though, the Moth's failings, however modest, became clear. Although its immensely enjoyable presentation diverted attention away from the fact, there was a slight lack of airiness to the acoustic. This was most noticeable at frequency extremes, especially in the upper regions where Idris Muhammed's cymbal work lost some of its texture, with ride cymbals sounding a touch splashy.

Blur's 'Tracy Jacks', from their massive selling Parklife album, was no less fun, with one of the best displays of rhythmic integrity I've heard at this price. Indeed, the way the snare drum, cleanly separated out from the mix, was bouncing off the bass line was better than our benchmark Audiolab 8000A. The opening synthesiser was finely etched, while guitars were tightly located and bass as voluminous as any amplifier at this price has a right to. Singer Damon Albarn's voice was captured with unusual clarity, conveying his tunefulness in its entirety.

The more music the Moth was asked to play, the more its strengths shone through. Although an impressive, big sounding device with a clean, expansive sound, it's certainly not all show. True, there could be more atmosphere in the treble regions, and more grip at the very bottom, but considering the Moth's price, it's almost churlish to criticise. Although ultimately not as capable as the best of the £500 amplifiers, it makes the most of its limited resources to give an extremely capable performance at a surprisingly low cost. Despite its unusual appearance, you'd be foolish to overlook it ●

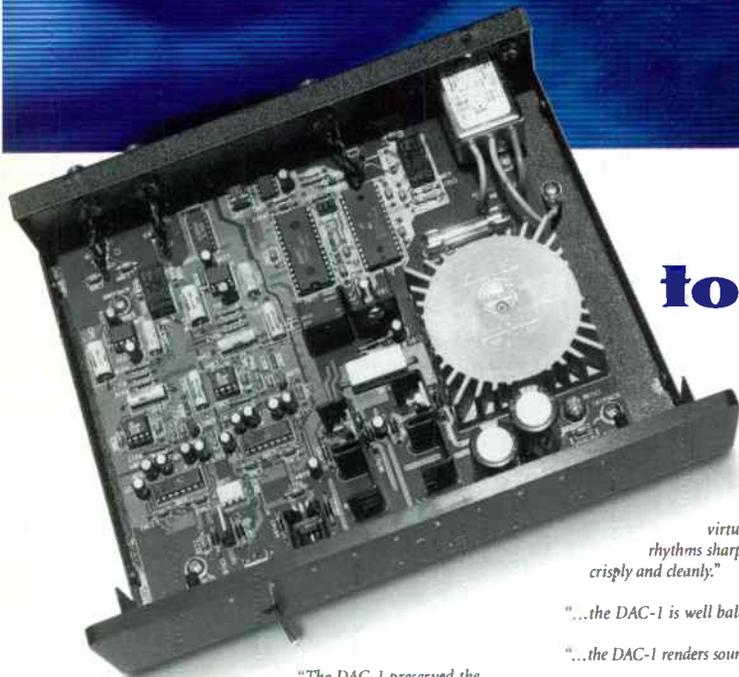
Moth Thirty Series £320
Moth Group, 10 Dane Lane,
Wilstead, Bedford MK45 3HT
Tel: 01234 741152

WORLD VERDICT

●●● A big open sound sets the Moth apart at this price point, low powered though.

Measured Performance
 see p105-113

power up this baby that it starts to endear itself, as you're greeted with a powerful, dynamic sound that belies its 36watts power output. Connected to an easy to drive pair of UKD Divinas, it was impressive. It's certainly not from the warm and woolly English cottage industry school of amplifier design, as the powerful, expensive Sans from Heidi



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Tom Müller, *The Audio Adventure*, Vol. 2, #1

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Bill Weigel, *Positive Feedback*, Vol. 5, #3

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"I suspect [The Parts Connection] will have a lot of success with the Assemblage DAC-1. It is easy and fun to build, competitively priced, and delivers fine sonic results too."

Dominic Baker, *Hi-Fi World*, DIY Supplement, Jan 1995

"The DAC-1 preserved the transparent nature of the recording nicely; I was especially impressed with the sheer depth of the sound stage. The midbass was rich and lustrous - oh those cellos!"

"...the pace, the progression of note to note in the music, was magnificent."

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Wes Phillips, *Stereophile*, Vol. 18 No. 4, April 1995

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It comes in a small package (the DAC-1 is only 9.5" x 2" x 7") but packs quite a punch. With its fully assembled and tested board and comprehensive, fully illustrated assembly manual - the DAC-1 Digital Processor goes together in a snap (typically

about one hour) and requires only a soldering iron and a few hand tools. We've even included the solder!

The DAC-1's component list is exemplary. It employs a potted toroidal power transformer, low ESR power supply capacitors, Crystal CS8412 input receiver, NPC 5813 digital filter, and two Burr Brown PCM1702 20 bit DACs. The output stage is a direct coupled, Class A design, utilizing high speed Analog Devices AD844 and AD847 op amps, film and foil polypropylene capacitors, and 1% metal film resistors. It accepts both Co-ax RCA and Toslink digital inputs.

We challenge you to find a digital processor anywhere near this price with better measured performance, component quality, and most importantly, sound quality. Call us for more information, or to order.



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0.22uF/600V	West-Cap	Axial 0.62" D x 1.75" L	\$5.00 ea.
0.22uF/600V	Vitamin Q	Rad. screw mount 0.6" D x 1.6" L	\$8.50 ea.
0.22uF/1000V	Vitamin Q		\$12.50 ea.
0.27uF/400V	Sangamo	Axial 0.7" D x 1.6" L	\$7.50 ea.
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1.0uF/300V	Vitamin Q	2-1/8" L x 3/4" dia. axial	\$15.00 ea.
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8	E82CC/12AU7A/CV4003	Dual Triode	Mullard (U.K.)	Mil.-Spec. M8136	\$19.50 ea.
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The Great

Visited by Haden Boardman

With absolutely no AV, Home Cinema, camcorders or portable audio, the Great British Hi-Fi Show, held at The Palace Hotel, Buxton, is truly the show for all dedicated audiophiles. A goodly selection of vinyl was on display; Martin Bastin's "Black Plastic" room was complete this year with his re-styled "Maxplank" plinth (complete with perspex lid). Martin shared the room with Richard Moore who was displaying his new horn loudspeaker system, the Icon, as well as the Chroma, both marketed under the Resolution banner



Arion Acoustics had their latest amps on display: an integrated, preamp & poweramp, priced from £1050 to £1650. They are also joining the single-ended set with a new prototype PSE amp on display - although no other details were available. Arion also had the new Audio Mecca CD transport called the "Damnation".



In the Audio Produktion room was a vintage Kerr Mc Cosh preamp, under an Opus 3's Continuo turntable - a product being re-introduced to the UK, priced at £550. This was fitted with a Cantus linear tracking arm, at what seemed a bargain £350 price tag. This has to be the cheapest parallel tracker since the days of Rabco. Other Opus 3 stuff included a range of concrete loudspeakers, and of course an excellent range of records. Peter Sheehan of Pentacone was at hand with his audio cable system & prototype valve preamps (based on the above mentioned Mc Cosh) and valve poweramps based on Quad IIs.

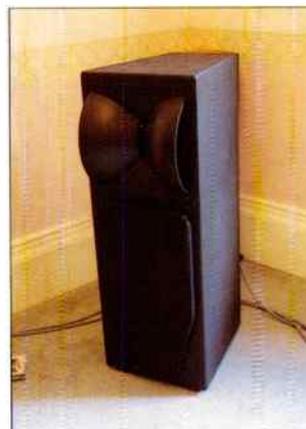
Nottingham Analogue's Tom Fletcher had no new turntables this year, but he did have the funkdest new product of the show: his yet unnamed preamplifier. Electronics by Glen Croft, but casework most definitely by Tom. Just look at the picture! It would be rude to call it "pan head" but I found Tom's styling a major relief from the normal "black box" approach. The whole thing is machined from a solid 10" block. Tom mounts the unit on a wooden base sourced from an old Lancashire cotton mill. He says the wood actually dates back to 1740! History with hi-fi. Perhaps he should call this thing Tudor.



British Hi-Fi Show

Lorricraft Audio had on display a new record cleaner. Based on the old Keith Monks designs, Terry hopes to offer this professional piece of kit for less than £1000 with all of the vacuum pumps and paraphernalia that go with it. If that is a bit much, Terry pointed out he does offer a record cleaning service. Terry also had his plinth systems for Thorens & Garrard on display, as well as a Beam Echo amplifier. He also revealed one of his secrets at the show, his two pieces of test equipment: hound dogs Pebbles & Sam!

More fancy woodwork & valves could be found in the UKD room. They had the range of Italian Unison Research & Monrio solid-state equipment. The Audiophile Club were also displaying valve amplifiers from Cary Audio, with a few new models. These included a new CD player with anti-jitter circuits, a dual 20 bit converter and a new pair of speakers specially for those who like their amplification to light up. The SP301s are an easy load, if not massively sensitive (91dB/watt).



A new horn design from Chantry Audio aims to cross over between professional and domestic loudspeakers. The Hi "Q" SM121 looked very elegant with its pressure unit HF and ported bass. At 94 dB/watt and high power handling it should suit a very wide variety of equipment.

Chelmer Valve Company had on display a new poweramp called the G.A.T.E. (Glass Audio Tube Engineering). They also had on display a prototype 300B amplifiers.



Lindley - Tyson filled their room with a pair of monster electrostatics (retail from £15,000 to £30,000!) played through beautifully made amplification (tube & transistor). Also on display was a new (!) Williamson design, which looked very nice.

Esoteric Audio had the new 834L line stage preamplifier on show for the first time (£449) alongside the matching 834P phono stage, 834 & 859 integrated, 509/II monoblocks and solid state £40,000 Yoshino XXXA amplifiers. Music was coming off a Garrard 301 or an old "first generation" Meridian MCD.



design on display for public evaluation.

Other interesting new products included Concert Corner's "Quadrostatic" loudspeaker system, based on original Quad ESLs, with a quarter wave bass system actively crossed over at 120Hz. The original idea was by Michael Furmedge at Concert Corner, although the design work was undertaken by Colin Walker - with P. J. Walkers blessing. Keswick Audio Research showed their new Figaro Evolution and Amber loudspeakers, which fit in above existing models. They also had a prototype semi-omni directional

On the whole, I found the show very enjoyable and much more relaxed than most others. People had come from all over the UK, and seemed generally very impressed with what was on offer. It is unsure whether the organisers plan to move the show back to Chesterfield, or leave it at Buxton for next year. Overall, I think the Palace Hotel was far better than previous venues, making the whole event a Great British Hi-fi Show not to be missed.

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THE FINAL FRONTIER?

Together, do Sonic Frontiers' Transdac and UltrajitterBug represent the last word in CD convertors? Dominic Baker listens in.

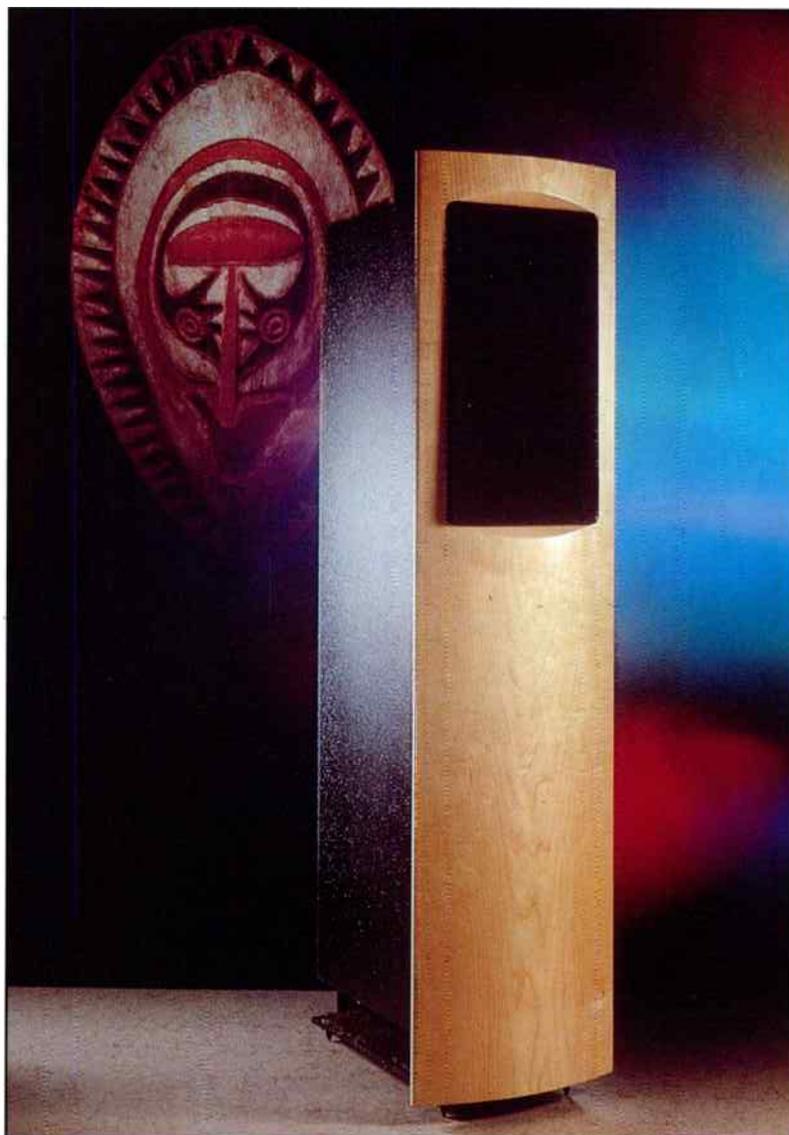
Sonic Frontiers are part of the same group as The Parts Connection in the USA, who specialise in supplying audiophile grade components. So it came as little surprise to find their Transdac CD convertor and UltrajitterBug CD interface were built to an extremely high standard under the covers.

Both Transdac and UltrajitterBug (UJB) share the same slim, attractive

case which is nicely built with a solid and chunky feel. The front panel of the Transdac holds just a single toggle switch, for selection between optical and electrical digital inputs. On its own the Transdac is connected directly to a CD player or transport, but for improved sound the UJB interfaces between the two, reducing jitter by re-clocking the signal from the transport, supplying a 'cleaner' signal to the

convertor. Generally, in my experience, these jitter cleaners smooth CD sound, but the improvement isn't quite in the same league as sync-locked transports.

To assess the Transdac I auditioned it alongside DPA's similarly priced discrete Enlightenment DAC. Both have quite distinct characters - where the Sonic Frontiers was tonally rich and full in the bass but lacked weight, the DPA was drier and deeper with more power behind individual notes. The superbly recorded double bass intro to Lou Reed's 'Walk on the Wild Side' had a warm, rounded tone with the Transdac which oozed out the notes fluidly. The DPA was harder and crisper, catching more leading edge detail to give a



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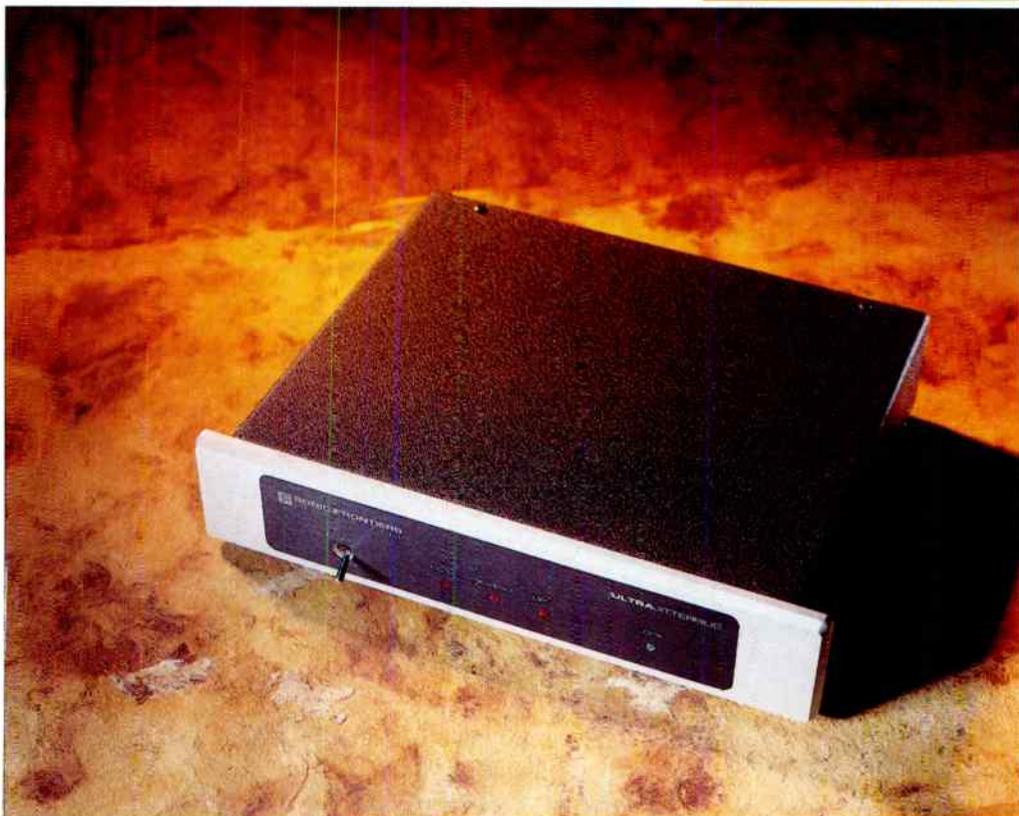
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sharper envelope around each note.

Through the midrange and treble the two continued to offer a different perspective on a recording. Fone's I violini di Cermona, a collection of simple pieces for violin and piano, again showed the crisper, fresher quality of the DPA, which exposed more of the harmonic signature of violin and the wide open acoustic of the recording environment. The Transdac was more ordered in its approach, not opening out quite as far as the DPA to allow the recording to breathe, but holding images with greater clarity within the sound stage. And where the DPA could occasionally over-stretch, dispersing images a little too wide and adding a brightly lit edge to upper harmonics, the Transdac stayed in check, giving greater body and a sweeter tone, with notes more cleanly defined.

Their differences continued in more delicate areas of performance too. The DPA definitely resolves more detail, especially the subtle ambient information that helps to set the acoustic around a performance. Where the DPA gave a reasonable description of stage depth and height, the Transdac was more two dimensional in presentation. Weezer's 'Say it Ain't So' was stripped bare by the DPA which fully exposed the recording's grunge with great resolve. The Sonic Frontiers was the more musically relaxing of the two, less ruthless in approach but still with plenty of fine, delicate detailing to acoustic instruments. Although not strictly as accurate, the Transdac was certainly a better musical all-rounder. Detail freaks will love the DPA, but it takes more care in terms of system matching to exploit it to the full.

Both the DPA and Transdac are fine convertors as they stand, but both offer a further upgrade route. The DPA offers sync locking, and the Transdac the UltraJitterBug, both designed to



reduce jitter levels, which in turn tends to give a smoother, more cohesive sound. Using the UJB the Transdac became even more controlled and cohesive, image sharpness focused just

“ Although not strictly as accurate as the DPA, the Transdac was certainly a better musical all-rounder. ”

that little bit better to place it well ahead of most competition. The UJB also seemed to help the Transdac through the bass, dynamics becoming more so and timing better synchronised to give a more succinct performance. The

DPA still sounded dispersed by comparison even when sync locked to its own transport, with most benefit coming from the cleaner midrange and treble which now had less of a tendency to overstep the mark and exaggerate.

The only thing which really lets the Transdac down is its price. Were it £100 or so less it would be super value. But there's some serious competition around the £700 mark, from DPA in the form of the Enlightenment and Pink Triangle's Ordinal. And £700 for the UltraJitterBug, good though it is, will be

a little too much to stomach in the face of Monarchy's equally competent DIP at £245 and various other jitter reduction devices available below £500.

In combination, the Transdac and UltraJitterBug add up to a Pink Triangle Da Capo, or an Enlightenment Transport and DAC, against either of which it can't compete. The Transdac has a really coherent and balanced sound though, so it will suit a wider range of systems and remain more consistent within them, making it worthy of audition at the very least ●

Sonic Frontiers Transdac £699
Sonic Frontiers UltraJitterBug £699

MPI Electronics
13 Weston Road, Guildford,
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WORLD VERDICT



The Transdac has a smooth and focused sound, but partnered with UJB is expensive.

Measured Performance
see p105-113

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Winning Formulations

Noel Keywood assesses today's best selling ferric tapes.

Here's a comparative test of ferric cassette tapes. Rather than test every type, we've kept it down to those commonly available across a wide range of music and hi-fi stores. It looks like TDK have won the marketing battle, having a 49% share of the blank tape market; every shop had a full range. Sony came a poor second (13%), Maxell are disappearing from view (5.6%) and brands like Fuji, Scotch, JVC and BASF are as rare as Tory voters. So we've tested TDK, Maxell and Sony tapes here.

Ferrics are the mainstay of the British market, accounting for around 70% of sales. Why? Simple - they're cheap! You get five for £4.99 or so. They have two main drawbacks: ferrics are hissier than chromes and good metals, and can suffer earlier treble overload, giving a dull sound if recording levels are pushed too far. Well, this used to be the case, but most ferrics here performed well in this

respect, Maxell UR being worst with its -5.2dB SAT10k figure.

So what should you be looking for in a good ferric? If you don't record higher than 0VU, you need a tape with low hiss, which varies from -55dB in budget Maxell UR, to -57dB for TDK AD - just 2dB difference. You'll hear this, but only just, so whilst TDK AD wins on hiss, its advantage isn't devastating. There are other properties to consider. If you record above 0VU, hiss is less audible but maximum recording levels become important. You'll need a proper hi-fi recorder to get above 0VU, costing at least £160 or so, since cheaper devices will overload before the tape. Make test recordings to see how high you can record, taking level up a little at a time, while listening for muddle and dulled, messy treble as a sign of overload setting in.

Our tests show TDK AR takes more recording level than any other ferric by a significant margin, except at

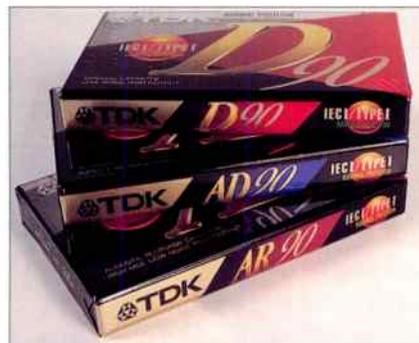
high frequencies. It has a bass/mid-band overload ceiling (MOL315Hz) of +6.5. Only Nakamichis can exploit this, but try +4 or so. TDK AR will give you a soft, warm, smooth sound on most good recorders, with a hint of treble muddle. Hiss will be low though, providing you exploit its potential.

For a brighter sound with cleaner treble, try Maxell XLI-S or TDK AD, both of which have rising treble in their frequency response and a good treble overload ceiling (SAT10k). TDK AD is a great ferric, less warm sounding than AR but able to accept high recording levels - one of the best.

Of the other tapes, TDK D, Sony HF and FX-I are all much alike - simple, respectable budget ferrics. Why Sony HF and FX-I should be so alike I don't know. Both have a warmer sound than TDK D, as their frequency responses show. So if you want to save pennies, get the one that sounds tonally right.

Finally, we come to Maxell UDI, whose frequency response has substantial treble lift (+2.5dB at 10kHz). This tape sounds brighter than any in the group, by an obvious degree. On a hi-fi cassette deck with user adjustable bias, increasing bias will lower this peak and raise the midband overload ceiling at the same time, giving +4dB or so MOL315Hz, resulting in a balanced and good performance.

My simple, if brutal conclusion is that TDK have it in the bag these days. Not only are their tapes on every shelf but buyers appreciate the quality. TDK AD and AR are between them likely to best satisfy ferric users' needs ●



**Measured Performance
see p105-113**

Built like a Russian tank, Omak's Jewel pre-power amplifier is a hefty chunk of metal. The massive alloy rack case of the power amplifier, housing kilograms of transformers, arrived in a sturdy wooden case (presumably to stop it doing damage to anything else it travelled with) stamped "Air Ukraine". The Russians aren't the most commercial when it comes to hi-fi, but the Omak, obviously hand assembled, was extremely tidily put together.

I guess it's no surprise that one of the first Russian amplifiers we've seen is a thermionic design. Those familiar with valves will know Russia is one of the few countries that still produces them, with Sovtek in St. Petersburg well known for the quality and reliability of their valves.

Omak's £899 Jewel One power amplifier is a chunky design using the powerful EL509 line fly back (TV) pentode in push-pull configuration. Unlike many valve amplifiers though, with this you needn't worry about your loudspeakers. The Jewel One produces 50watts into 8Ω and 80watts into 4Ω thanks to the high emission current of the EL509, enough to drive most loudspeakers including Quad electrostatics.

The £250 Jewel Two preamplifier is a simple passive affair with separate record and listen selectors making home recording easier and more flexible. There is provision for five line inputs and volume is controlled by a precision 24-step attenuator. The importers aren't sure whether they will be importing the preamplifier yet, but suggested that if they did, it would be available as a package with the power amplifier at the very reasonable price of £999.

With its heavy build, pro-style grab handles and high power I was half expecting the Jewel One to be a scaled down PA amplifier. But when I first powered it up, it showed just how wrong appearances can be. The Jewel is as sweet and gentle as the sugar plum fairy herself, with an impressively large but warm, sweet sound. There's a subtle grace to the way the Jewel carries along music, Sherryl Crow's



Omakulate Conception

silky vocals were richly textured, the Omak capturing the mellow mood perfectly.

Pink Floyd's 'What Do You Want From Me' had great weight and power behind it, the bass guitar sending out a shock wave of bass into the room while the lead soared above. The force behind every bass note was quite

something, the Omak seemingly having limitless bass depth and power with which to produce it. Dynamically though, the Jewel is a bit blunted. The notes are full and tonally smooth, but the blow is softened a little too much, meaning the Omak can sound a touch sluggish. The leading edge crack from drums was dulled and drawn out, and



Courtesy of Ukraine Airlines, this enigmatic Omak valve pre-power amplifier combination has just arrived in the UK. Dominic Baker is impressed.

loudspeaker than the Audiovector 6s I'd started with, and to classical music, its minor blemishes became more apparent. When pushed hard with a full-scale orchestra some grain set in. It was a curious effect, not the normal sharp or gritty distortion of solid state, or the more euphonic tonal unbalancing you get by pushing a valve to hard, but a sharpening of tone and a blurring of the image through the upper midrange. It was almost as if the Omak went out of focus trying to stretch too far out of its depth of field. But this was deliberately pushing the Omak so if you stick to loudspeakers with sensitivity higher than 85dB in a normal size listening room, you shouldn't run into problems. And at the price you can hardly complain.

The Omak Jewel One has all the characteristics of a good valve amplifier, coupled with the drive and force of a hefty solid state device. Midrange and treble are free from grittiness, while the sound stage is large and open, filling all corners of the room. Although a good triode or single-ended design can reveal more atmosphere around a recording, and a powerful solid state amplifier has more control with greater transient attack and stronger dynamics, the Omak is a superb compromise. It combines some qualities of both technologies in a package very attractively priced in comparison to its competition, and powerful enough for any modern loudspeaker. I can't think of another valve power amplifier within £500 of the Jewel One that offers anything like as much ●

Omak Jewel One	£899
Omak Jewel Two	£250
Omak One/Two	£999

154 Chiltern Ct.,
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WORLD VERDICT

●●● A lot of amplifier for the money and a big, warm, sweet sound place Omak ahead of most.

Measured Performance
see p105-113

lower notes bloomed larger than life. It wasn't an unpleasant effect and could well make this the ideal remedy for systems in need of warmth and body.

Moving to a harder, more snappy recording, the Omak gave a far more convincing performance. Blur's Parklife gave it something to get its teeth into. Although no less impressive in terms of

scale and power, the crisper recording gave it less time for indecision. 'London Loves' had good attack from its electronic bass line, and Damon Albarn's voice had just the right balance of warmth and clarity, giving good projection without becoming uncomfortable.

Swapping to a less efficient

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HOMELY ADVICE

Acoustics consultant Douglas Floyd-Douglass shows you how to upgrade your listening room.

So you've just heard a pair of loudspeakers that sounded fantastic in your friend's listening room. "Funny that", you think, "even his old Leak Sandwiches sounded great there once upon a time". In fact, you rarely remember leaving his house without thinking just that. How can you get the same experience?

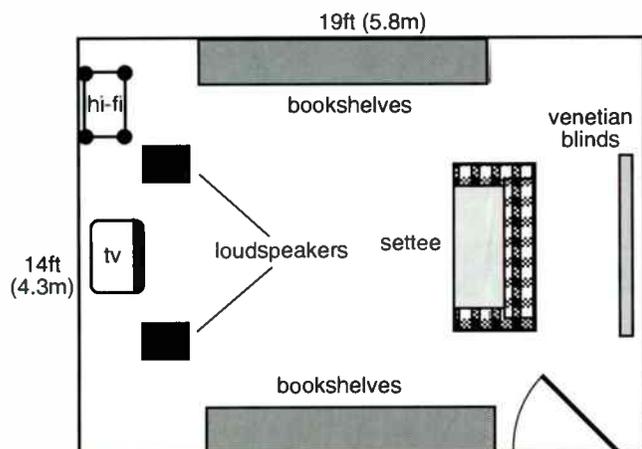
Matching speakers to rooms properly can bring dramatic improvements to the sound of your system. In this article, I want to discuss common listening room characteristics that seriously influence loudspeaker sound quality. Standing waves and modal degeneracy affect bass quality and can cause boom and absorption, rendering music lifeless, dull or muddy.

Let's take a look at three rooms, of various proportions and with different furnishings, but fitted with essentially the same equipment.

Room 1

Size: 19ft long x 14ft wide x 10ft high

Description: A Victorian classic, with high-ish ceiling, ornate covings and large, ornate ceiling rose and pendant



light fitted with a fabric shade.

Furniture: Sofa, bookshelves down either wall, a settee with venetian blinds behind, plus various items of furniture. The floor has a fitted carpet.

Characteristics: Widely differing length, breadth and height dimensions in 1:1.4:1.9 ratio, a characteristic that staggers room resonances so they do not add to give a dominant boom.

Reasonably high volume (2660 cu. ft.) gives a low resonant amplification (Q) as well.

Excellent diffusion (equal dispersion of reflected sound energy) from random surfaces of bookshelves, ceiling and blinds behind listener.

Avoids selective high frequency absorption of curtaining. Diffusive boundaries ensure no 'dry' or 'sweet' spots, so that the listening experience is pleasurable from a number of positions.

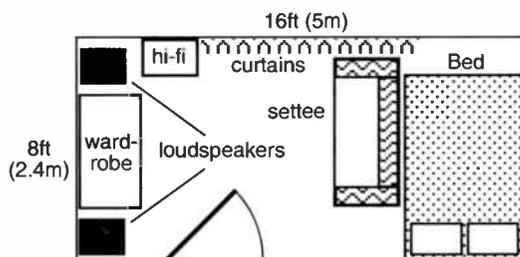
Sound Quality: Noticeable sound stage that reaches beyond the speakers. Linear response evident due to broad bandwidth and distinctive dynamics. The design of the room optimises intelligibility by ensuring accurate perception of primary signals

and good diffusion of reflected signals.

This preserves the integrity of the original 'mix', portraying the music as intended, and minimising possible colouration and distortion arising from strong reflections off room boundaries and hard furniture.

This room is also 'bilaterally symmetrical', i.e. the left side is a mirror image of the right. Bilateral Symmetry is presently the most favoured approach to professional studio design, for obvious reasons, and shares the same benefits in a home environment.

Room 2



Size: 16ft long x 8ft wide x 8ft high

Description: Within a modern house with low (8ft) ceilings, this long (16ft) but narrow (8ft) room serves as listening room and spare bedroom. Furniture: Bed at one end, with a feather duvet. The window is covered by heavy curtains. There is a large settee and the floor is covered by a thick pile carpet. A wardrobe sits between the speakers.

Characteristics: The height and the width are identical, which causes standing waves between these parallel surfaces. To make matters worse, the length of this room is exactly twice its width and height. This relationship will produce severe audible distortion, due to the room amplifying overtones of the basic resonance by up to ten times.

These standing waves can also cause phase-cancellation (apparent

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disappearance of musical content) and 'louder' resonance and boom in some areas of the room.

The abundance of selective absorbers (bed, curtains, carpet) in relation to the size of this room will result in mid/high range detail being indiscriminately absorbed and lost, worsening matters.

Sound Quality: The modal symmetry of this room will cause boominess at around 140Hz and multiples thereof, giving lumpy upper bass.

The soft furnishings remove high frequency detail, which destroys directivity cues and location of instruments within the sound stage, wrecking the stereo effect. The projecting wardrobe edges will ruin stereo effect.

Comments & Solutions: Mounting the 'speakers on stands sited away from the wall and forward of the wardrobe goes some way toward relieving the boominess, by driving the room modes less efficiently, and will improve stereo image sharpness. Ensuring the speakers are at ear height increases mid/high frequency energy, improving clarity.

Removing or changing items responsible for high frequency absorption (e.g. soft furnishings and heavy curtains) will improve clarity. Appearance of a friendly 'flutter-echo' (clap your hands) will indicate that you have retrieved your high frequency energy.

Adding, say, eight inches to the rear wall by installing high bookshelves filled with books would successfully cure much of the room-boom problem and provide useful rear wall diffusion.

We also need to preserve precious mid/high frequency energy and distribute it around the room efficiently. Using a mirror to track spectral reflections (HFW Nov '94) locate the points on the side walls and especially the ceiling. At these points install cardboard egg-box diffusors, effective in the range around 2kHz, which will improve clarity and intelligibility!

Note: If you need higher frequency treatment, you can varnish the surface

of the boxes to decrease their absorbency and increase reflection. On the other hand, if treatment of 2kHz and below is required, you will need to increase the surface area and absorptive characteristics of the unit by backing it with carpet or underfelt.

Room 3

Size: 29ft long x 21ft wide x 15ft high
Description: Baronial dimensions, with very high ceiling, bay window, parquet floor with various individual rugs and carpets. Furniture: Ceiling to floor, heavy velvet drapes by bay window, heavy traditional cloth furniture, plants, tables, chairs and numerous pendant lights with ornate shades.

Characteristics: This room has identical proportions to Room 1, but dimensionally it is one-and-a-half times larger. However, its volume is more than three times greater (9135 cu. ft) and will require much more acoustical energy.

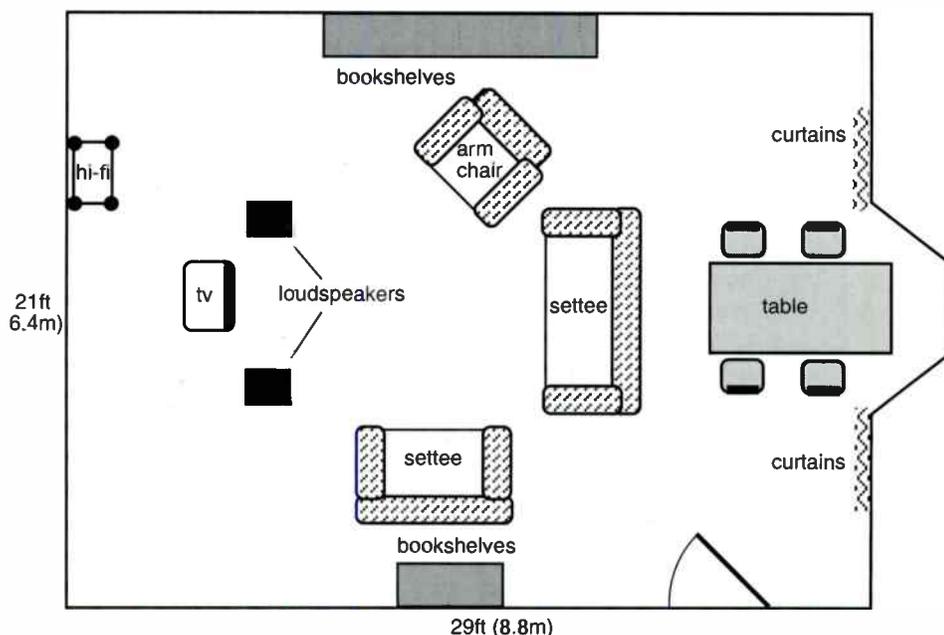
Sound quality: Potentially wonderful, though loudspeaker location and type, as always, will be important. Also, to generate a stereo stage at the seating position, the loudspeakers are sited well away from the walls, deriving no bass reinforcement from them, nor from enhancing room modes. Consequently,

most hi-fi loudspeakers will sound bass light in it, and two-way designs will have a hard job going loud enough without strain setting in.

Comments & Solutions: This room has few limitations in terms of modal response or even boundary reflections. The room ratios are right and despite velvet drapes and bay windows (both eek! points) the room will perform well. This is because it's too large for boundary conditions to have any really detrimental effect on the sound. It will also support deep bass, whilst the enormous enclosed volume will ensure room modes have low amplification (Q), meaning little boom.

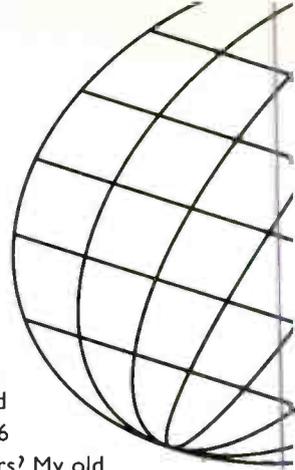
However, only big loudspeakers with copious bass will sound right (they'd sound bass heavy in smaller rooms). Small, bass light two-way designs will sound lost in this room and are also unlikely to have enough power handling to go loud gracefully.

It is worth contacting a specialist who will be able to advise on an appropriate loudspeaker, plus powerful amplifier, in order to fill this room with music. Anyone that can afford to own a drawing room of this size should find the cost of compatible audio equipment a mere sniff in the background of Berlioz's Symphony Fantastique ●





World



WORLD DISAPPOINTS A/V ENTHUSIAST

Having read your response to Mr Tony Hicks in the May issue (page 41), I am very surprised and disappointed with you.

I, like Mr Hicks, have an A/V amp as the central component of my system, and yes I do like to watch movies/videos just like other A/V enthusiasts. However, I also spend as much time with the effects off listening to music from CDs, tapes

and vinyl.

I wouldn't put my A/V amp in the same league as any similarly priced hi-fi amp, but my point is it's still an amp. From your response to Mr Hicks' letter this means that because it has Dolby Pro Logic and video switching in it, it ceases to be *hi-fi*. How can you so strongly reject the A/V amp on these grounds when in the very same issue we are given news of an Amphi-sound processor and Richard Brice gives us a

video switching circuit for the Maximalist preamp?

Well, that's me sounded off. I would ask the same of you as Mr Hicks did, test A/V amps as hi-fi amps for us. We value your opinions. I could understand your scepticism if we were asking how the explosion scene in *The Fugitive* sounds, but we're asking the same questions as everybody else.

Whilst on the subject of source components, what CD player would you recommend to match my

Yamaha amp and B&W P6

'speakers? My old Philips has given up the ghost - how about the Marantz CD63?

Thanks for taking time to read this letter. If you print it at all, I'll be surprised, but this time pleasantly!

Paul B. Furze
Cumbria.

Thank you for your candour, but we feel that tested as hi-fi products,

THE AUTHOR OF ITS OWN DECLINE

The remarks you made in the April edition ("CD's hard, sterile presentation is now acknowledged as deficient, and the race is on for improvement") will have many people breathing a sigh of relief and hoping the CD curse is now at an end. Not just the long suffering paying public, but those in the industry - and indeed those who are not.

We can make all manner of excuses, but only if we are prepared to face up to the mistakes of the past can we hope to revitalise the industry and recapture the enjoyment, pride and satisfaction we had, and the honesty that once was the very heart of the hi-fi industry.

People bought equipment because the

sound excited them. Now the salesman is forced to be more interested in "Random Select Memory Recall" or some other meaningless feature. People are buying hi-fi to listen to music. Music is what matters, and it is our love of music and our desire for enjoyable reproduction of music that will in the end dictate the market. Any market based on profit dependent manipulation is doomed to failure. You MUST give something in return, otherwise people will stop spending their hard earned cash.

CD does not have listenability. The direct result of this is, those already interested in hi-fi have become bored and dissatisfied. Would-be new recruits have looked, listened and turned away.

The excitement has gone and it is that ability to hold our interest that we need to put back into the listening experience. It would appear we have a great opportunity to do so in the new formats Noel writes about. Let's hope this time that the paying public will get the recognition, results and rewards they so rightly deserve.

I believe CD has done us all a great injustice and I sincerely hope that promised improvements in HDCD will bear fruit, to the benefit of us all.

Colin Whitely
Otley,
West Yorks.

Mass produced audio has become another commodity, like TVs or microwaves, and CD has

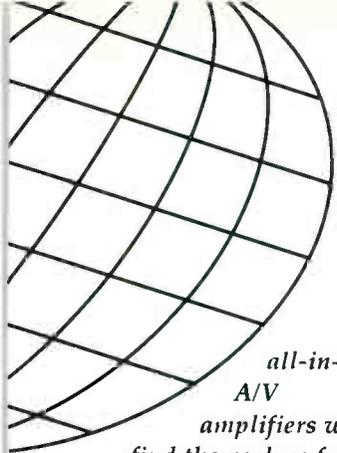
been strongly integrated into it. A commodity is sold by specs., such as power output, appearance and facilities. The market is addressed through advertising. In terms of sound quality there isn't really much of consequence to offer, because everything is built down to the lowest price. Instead, you get conspicuous gimmicks, like remote-controlled, motor-powered tweeters or digital signal processing that adds Church Mode and such like. It's depressingly facile stuff, designed to appeal at a superficial level. Sound quality is not a foremost concern.

In this world also, hi-fi magazines act purely as buying guides, by the

Letter of

Send your letters to Hi-Fi World Letter Page,

writes



all-in-one A/V amplifiers would find themselves facing dedicated hi-fi separates from specialist British manufacturers, and frankly I don't fancy their chances. The additional cost of the processing circuitry means savings have to be made elsewhere, which doesn't auger well for sound quality.

In Britain, the A/V market is struggling for

credibility, as large Japanese manufacturers cram DSPs into crude amplifiers and market them as "quality" audio, which is insulting to manufacturers of the genuine article. Funnily enough, most of this Nipponese bargain basement A/V equipment isn't actually available in its domestic market, as Japanese buyers prefer to invest in quality hi-fi and separate decoders, referred to as "Hi-Vi". Happily,

this is catching on here as UK specialist manufacturers like Arcam start to make decent A/V separates with an eye on sound quality.

The Amphi-sound system is, as Kinshaw state, designed for hi-fi (music only) systems, while Richard's Maximalist preamp is his personal DIY project. As for your CD player, I'd go for an Alpha 5 Plus or Marantz CD63SE, either of which could make your DSP as redundant as an integrated circuit in an Audionote Ongaku. DP

design forms the heart of most mass produced amplifiers - including AV amps - and it is no wonder to us that as a result they mostly sound flat, compressed and boring.

I have personally spent years reviewing mass market hi-fi of this sort and can assure you that differences are often quite small and the overall standard of reproduction depressingly low.

As editor I do make some apparently peculiar (to outsiders) selective decisions about certain matters and one, that irritates some in the audio industry, is that we will not devote precious time, paper and space giving editorial coverage to mass produced, poorly differentiated, mediocre commodity products like A/V and micro/mini/midi

continued on page 44...

the Month

way, or even as free publicity. This too is very commercial and most readers of Hi-Fi World find the approach as much of a turn off as we do. For example, "editorial endorsement" (i.e. a good review) is said to have three times as much impact as an advertisement.

As far as we are concerned, hi-fi is a fascinating and rewarding hobby and as such I'm convinced it has a great future, because music affects people equally - and deeply - world-wide. And hi-fi ultimately is about enjoying music; it isn't about generating acoustic wallpaper from a shoddy midi-system, sold by lavish exposure in Toot Hi-Fi.

There is strong grass roots interest in real audio, an interest "the industry" just cannot see. Our DIY post bag testifies to this: it is intimidatingly large, rich in variety and almost frightening in complexity. Yet few people in the industry know about this - and if we tell them, their eyes glaze over as they mutter something about it being "tweaky"!

Ultimately, I hope that, as you say "the paying public will get the recognition, results and rewards they so rightly deserve". But the industry has a lot of work to do in trying to understand and serve its buying public. NK

Being engineers as well as journalists, we know how to design and build a reliable solid-state amplifier that measures perfectly, but uses a few pence worth of everyday (i.e. not audio) parts (hardware like chassis work and transformers excluded). This type of

64, Castellain Road, Maida Vale, London W9 1EX.

WIN HI-FI WORLD INTERCONNECT CABLES OR PERFECT PITCH'S FRANCINSTIEN CD ENHANCER

The writer of the most interesting or funniest letter will receive a choice of either: a free set of Hi-Fi World's silver plated copper interconnect cables, worth £69.95, or a Francinstien CD convertor enhancer worth £150.

Of all the loudspeakers around, the BBC's LS3/5a is probably the only one to have made it from model to supermodel. Though not entirely in looks: with its cloth grille it's still more seventies than etiolated Naomi Campbell nineties style. Now, their Signature version comes with a fancy plaque on the back. It may not be quite as expensive as Elizabeth Hurley's notorious Versace dress, but it certainly doesn't look as though it's constructed mostly of safety pins.

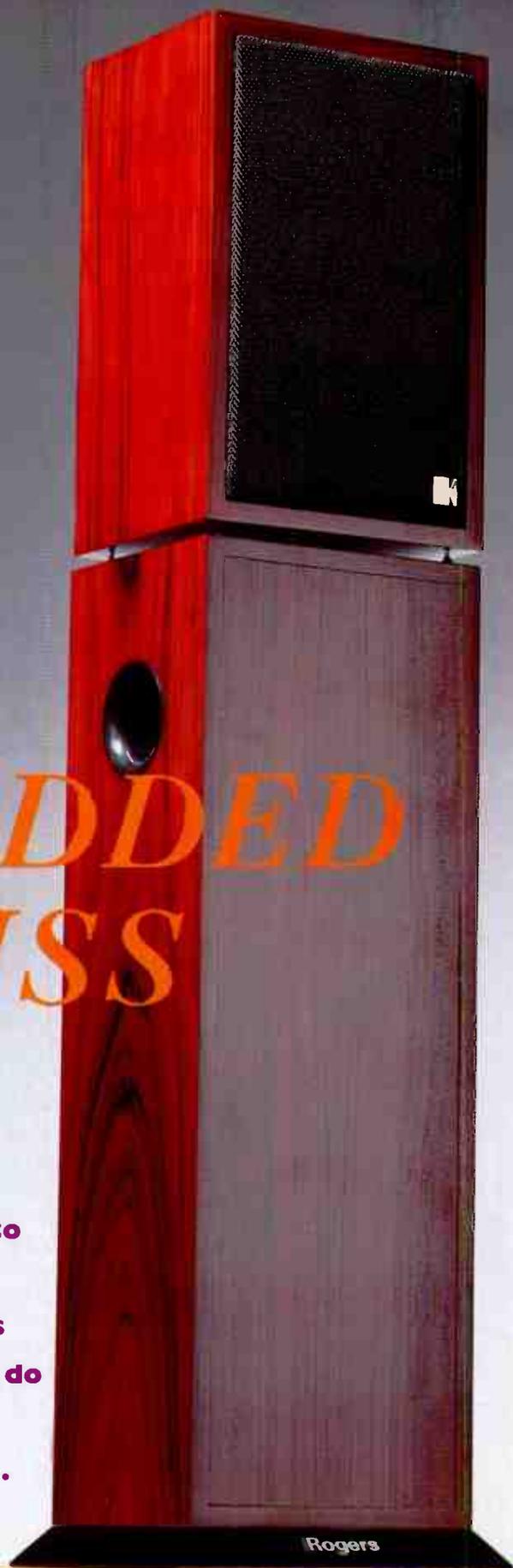
For this review, Rogers also sent over a pair of AB-1 subwoofers, fashioned out from similar Rosewood veneer. On their spiked plinths they look rather like something a Ming vase or bust (of Raymond Cooke, whose signature gives the KEFs their nomenclature?) would sit on in a museum.

The point about reminding readers that the LS3/5a was originally a scale model for research is to emphasise that in BBC parlance they are Grade 2 monitors. The current more expensive LS5/12a, mini-monitor, is a Grade 1. The difference is that you wouldn't rely on 3/5as alone to find out the truthfulness of a music balance. In BBC parlance, the 3/5as 'honk', 'quack' and 'bark', pretty self-explanatory terms, but these little misdemeanours are 'tuned out' by sound balance engineers who adapt to them. If you want to identify the give-away animal noises, as one listener did within minutes of their insertion into her system, try Vivaldi's flute, oboe and bassoon concertos, instruments that are prime triggers for all three. One of the more irritating effects - though a listener rapidly drops into forgiveness and tunes it out is when staccato piccolo or flute notes do a kind of 'hop skip and jump' up the scale, some notes recessing, some coming fractionally more forward. As domestic speakers, this hasn't stopped over 40,000 being sold.

Why? Because of all the loudspeakers on the market, this miniature has a naturalness allied with pin-point imaging that still puts it up with top ranking loudspeakers at any price. Especially for jazz: as a listening

WEDDED BLISS

**The marriage of
KEF's Raymond
Cooke LS3/5a's to
Rogers' AB-1
subwoofer looks
happy 'til death do
they part, finds
Eric Braithwaite.**



friend enjoying a third Miles Davis album said, "I could live with this." Somehow the 3/5as produce that splendid 'out-of-the-box' experience, transforming the living room into a breathing, smokey club. Even when the album isn't live and you only hear the occasional tap of a foot or a "Yeah. . .!" somewhere at the back, you are absorbed enough to imagine the sound of your own glass clinking was actually recorded. Very Zen-like, that experience.

All alone and subwooferless, the 3/5as possess one other domestic flaw. They're by no means as free and easy with dynamics as their newer 5/12a stablemate. Here they betray their miniature size, scaling down the Vienna Phil to something rather smaller. Even on solo instruments, particularly brass or lower strings, the effect can be of something that needs a bit more body building. Years of devoted experimentation on the part of many owners has come up with some cures, by far the most effective I've heard the use of heavy slate stands with the birch-ply cabinet mass-loaded with another lump of slate on top. Then, saxophones, timps or the resonances of solo cello in Bach's Suites really rip free. But this is an expensive cure. Which brings us to the AB-1.

Here, we have stands and subwoofer in one, although strictly speaking the AB-1, not plumbing the depths of Hertz down to serious organ pipe frequencies, is more a woofer than a sub. What it does very effectively is put on muscle. More *Superman* than *Supermodel*, with one bound the LS3/5a was free! The mid-range is opened up quite remarkably, putting a spurt on dynamics that respectably increases pace and crispness. It also goes louder more easily; despite feeding the pair with up to 150V, and

a wide variety of amps of both valve and transistor persuasion, I never heard the notorious 'crack' the 3/5a's main driver produces when overcome.

In position, no visitors wanted the coupling undone. In strict hi-fi terms, although the addition to the lower registers turns these miniatures into a pretty good floorstander, with a much broader span of orchestral dynamics, they produce something of a boom. Perhaps it's because doing double duty as stands, the proportions aren't entirely perfect. Bass guitars and timps have a rumbling quality rather than the ultra-sharp-edged definition of the 5/12a, a touch of

the 'THX' bass, even. The transition between the AB-1 and the 3/5a's main driver is near-seamless.

Once under the 3/5as, the AB-1s are not the kind of thing to suffer spats in their relationship. This marriage won't end in Reno. And unlike some supermodels, they practically wrote their own review ●

“They are not the kind of thing to suffer spats in their relationship. This marriage won't end in Reno.”

KEF Signature LS3/5a £599
KEF Audio (UK) Ltd.,
 Tovil, Maidstone,
 Kent ME15 6QP.
 Tel: 01622 672261

Rogers AB-1 £499
Swisstone Electronics Ltd.,
 310 Commonsides East,
 Mitcham,
 Surrey CR4 1HR.
 Tel: 0181 640 2172

WORLD VERDICT

●●● A musically rewarding partnership, substantially better than standard LS3/5as.

Measured Performance
 see p105-113

.... continued from page 41

systems. This is not a matter of price, so much as approach. There are other magazines that cover this sort of thing... NK

THE GOLDEN AGE OF WIRELESS

Ever since the transistor reared up on its three skinny

band set so that he could talk to his new wife when he was at sea, as he was a trawler skipper. I had just made our first wireless from some parts given to me and the old man had panicked and bought a receiving licence.

Visiting uncle soon after, noticing the state of my apparel, he got his wife to fish out a suit and some shirts which he no longer

transformers made by Varley. These were given to me by a man who said he bought them in 1929. I used two KT33C valves in push-pull (we were still on DC mains).

As this needed more room than the original cabinet provided, I put the lot in an old Murphy console cabinet I found. You couldn't get any wood in those days and I had a fight with the

resistors of 150 ohms, correct for the VMP4s, were left at that value in the later circuit instead of being increased to 500ohms. I put this right and immediately discovered why the RF stages had appeared slightly unstable. What this had done to the emission of the KTW65s I could only guess.

The AC mains arrived in the fifties and the electrolytic smoothing capacitors were changed. This was always done when an AC/DC set had been on DC for a long while. Some few years afterwards, the mains dropper fell apart and I fitted a better one.

By 1987, reception conditions were so bad that my father could not hear his racing results on the only station he listened to, so I gave him a 'new' set, my 1947 Philips 170A which was very selective. The modified Columbia had been working near-enough 39 years with the same valves and when I took it away in 1987 you could still hear it, in the old man's words, "half-way down the street". He was proud of that old heap. I had been using the Philips since 1967 and that set lasted without fault until the year before the old-man died in 1991. That's 20 years without trouble. I haven't bothered with the Philips, but a cursory glance indicates a fault in the detector circuit. The modified Columbia will still work, but the gain is down on a couple of valves. I left the cabinet behind for the descendants of the original woodworms.

No doubt many of your older readers could tell similar stories, so newcomers to valves ("tubes" go in tellies) need have no fears. Provided British and American valves - and not forgetting the old Tungram marque - are run within their ratings, the average construction should last, like the Columbia, long



Who says valves are unreliable? Certainly not John Munning who has first hand experience.

legs I have heard people talking about the unreliability of valves. So to allay the fears of would-be constructors of your range of fascinating circuits, as well as buyers of valved equipment, I would like to relate this tale.

Circa 1933 my uncle, the late Bill Blockwell of Milford Haven, bought a Columbia 352 D.C. straight four-valver. Soon afterwards one valve had to be exchanged. He used this wireless (we didn't call them 'radios' then) until 1939 whereupon he bought a Vidor trawler-

wore. He also gave me the Columbia. You can imagine the expression on my mother's face when she saw me coming down the street with this lot.

That Columbia was still functioning without fault when in 1947 I came back from the services - 14 years with one valve breakdown as the only fault. I decided to improve its performance. Using circuits from the 'Osram Valve Guide & Book of Circuits' (1939 edition). I rebuilt it as an AC/DC set with Octal valves and push-pull input and output

woodworm in the old Murphy cabinet - remember the Goon show: "Can't get the wood Minnie", 'twas true. The filter chokes came from an early thirties Pye wreck I found in a dealer's dustbin in the thirties. Two U31s rectified the AC mains which we knew was coming.

A couple of years after building it I chanced on the 1938 edition of the aforementioned booklet and noticed the same circuit for the R.F. section had appeared in the earlier edition with different valves: VMP4Gs, but the bias

after its design has become out of date.

You may ask what am I using today. Well apart from a modern radio cassette which I use for cassette and FM, I have a 1937 H.M.V. 650 ten-valve, five-waveband receiver with RT63s in push-pull (ten-watts output and you could hear it on a modern big speaker). I have been running it for ten years and it has just developed a fault, loss of bass response, but at around 56lb (25 kilos) it's getting a bit heavy to hump around on the service bench. You would think that with all those electrons boiling off the cathodes for all those years it could have become lighter, not heavier. It should have an RF gain control fitted to cope with modern conditions.

Just think, if my father had wanted to buy that old HMV in 1937 it would have cost him at least 13 weeks' wages, assuming he had a job instead of £1.20 a week dole money. You moderns can buy an awful lot of tack today with 13 weeks' wages. I could tell you about the GEC AC/DC radio that I have and first saw in 1939, 55 years with two faults, but that's another story.

**John A. Munning
Pershore,
Worcs.**

FASHION VICTIMS

A few other reasons for the increase in vinyl sales: style (it's cool and black), teenage rebellion (it's unconventional, and parents have CD players), the discovery of new technology (it could be new to a twenty-something), nostalgia, taste, snobbery (professional and otherwise), techno-phobia, one-upmanship, etc.

Don't get too carried away on the vinyl trip. Anyone investing anew in vinyl players will be rather annoyed when super CD comes along and they have

to start again. How long have vinyl and CD been around? Must be a bit of difference, and CD has almost caught up pretty quickly, don't you think?

**Nick Symonds,
London.**

I agree vinyl is fashionable at the moment- it's almost a cultural icon for many people who've yet to reach their twenties. It seems to have been invested with "authenticity", possibly because it's cheaper and needs a degree of dedication to give of its



The Audionote Soro and E loudspeakers from our March '95 issue.

best. I hardly think it's a passing phase, and in the overall scheme of things, I'd venture that vinyl will outlast CD in its present specification. That would have been greeted as a heresy just years ago.

I'm not so sure CD has caught up. With a few notable exceptions, I'm always baffled by the way certain magazines trumpet the improvements

made to run-of-the-mill new models year-on-year. The bottom line is the new Nippondenki CD301 is usually only marginally better than the CD300 it replaced - not quite the solution to the meaning of life as is often suggested.
DP

You last point succinctly highlights CD's problem: it was meant to be ahead, not "catch up". That anyone could possibly think, as so many appear to nowadays, that LP has superior sound totally undermines CD's raison d'être, relegating it to a

budget convenience medium. NK

E FOR ME

I do not often feel compelled to write letters commenting on reviews of equipment, even of items with which I am familiar. However, there were a number of points in your piece on the AudioNote Type Es and Soro SE which require some clarification. I

should point out that I am not familiar with the Soro, but that I am the owner of a pair of Type Es.

Firstly you are correct in saying that the speakers work best on eight to ten inch stands (and that they are visually obtrusive). If you reviewed them using the stands in your pictures however then I can understand some of your findings, as these appear to be around eighteen inches tall and not sufficiently rigid for such large speakers. I'm not sure this is enough on its own, however, to explain some of your comments.

Getting the best out of any system requires considerable investment in time and experimentation. Amplifiers, particularly valve types, can take a number of days or even weeks to reach optimum performance and this is also true to a lesser extent for loudspeakers. Again, if the components were just listened to straight out of the box, this might go some way towards explaining your results. I would be interested to know just how long the listening sessions lasted, and whether there was any change over the period.

Hi-fi is at least partly a matter of taste, but even allowing for this I find it difficult to square your results with what I hear on a daily basis. How a combination which sounded "musical, forthright and fun" could simultaneously be "having trouble with low level detail - there wasn't any" is a little difficult to grasp, particularly as it also apparently suffered from "harshness" and "lack of space and ambience".

I have heard and used the Type Es with amplifiers ranging from transistor designs such as the excellent Class A Sugdens through various valve systems up to seriously exotic Japanese

continued on page 47...

HEAR HOW THE LINN KARIK IS THE SONDEK FOR CD



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amplifiers such as the Ongaku. The common features in all these combinations were great clarity, particularly noticeable on voices, good definition of instrumental timbre and a wide and deep stereo soundstage. Given your reviewer's liking for 1970s new wave recordings and Noel's comment on imaging in front of the piano of the speakers, I strongly recommend listening to Lou Reed's 'Walk on the Wild Side' to see how far forward of the speakers the girl singers project by the end. A disturbing experience with the volume turned up and the lights turned off.

It did occur to me that, given your comments about the system being "light in the bass" and presenting "two channel mono" that you might have connected the speakers out of phase, but I'm sure that seasoned professionals such as yourselves would not have made such a basic mistake.

As I said before, these matters often come down to personal preferences, but if any of your readers might be put off by your review I can only say that the Type Es are capable of sounding vastly better than they obviously did on this occasion.

Alan Bateman.

I am happy to hear that the Es suit your tastes and don't fall short of your expectations. Naturally, like every other product we test, we measured them before testing to check the review samples weren't substandard and spent considerable time experimenting with placement, partnering ancillaries and tuning. They came fully run in.

Unfortunately what we heard wasn't as impressive as we'd hoped. This sentiment was shared by everyone at World,

Derek Walker's latest project is a large three way floorstander using inch thick Marine Plywood.



including World Audio design engineer Andy Grove, who has more experience of AudioNote products than most. Although they had a lively sound, considering their price, it was deficient in too many areas for them to be recommendable. DP

We said the Type Es were lighter in the bass than KEF Reference Series 2s, which have heavy deep bass; we did not say they are bass light. Quite the reverse, they have massive, resonant bass, as the review makes clear. NK

Regarding the photograph, I spend a considerable amount of time with our photographer Paul Hartley to make sure that the products look as attractive and appealing as possible. The equipment is rarely pictured in the situation it was reviewed. For example, the photograph

of the Sonic Frontiers Assemblage CD convertor in the January issue shows it hovering in mid air; for the review it was firmly seated on a proper equipment rack. The Es were shown on taller stands to suit the photo, for the review a low 10" stand was used as indicated in the text. DB

THICK PLY IS THE SECRET

I was pleased with my transmission line 'speakers, but just had to try something better! As you can see from the photo I've sent, my new 'speakers are made with a more solid 1 inch thick marine ply. I have used the tweeters and midrange from my MC4s and the crossover for the tweeter and midrange. Wire is single strand solid core Audioquest Midnight 2.

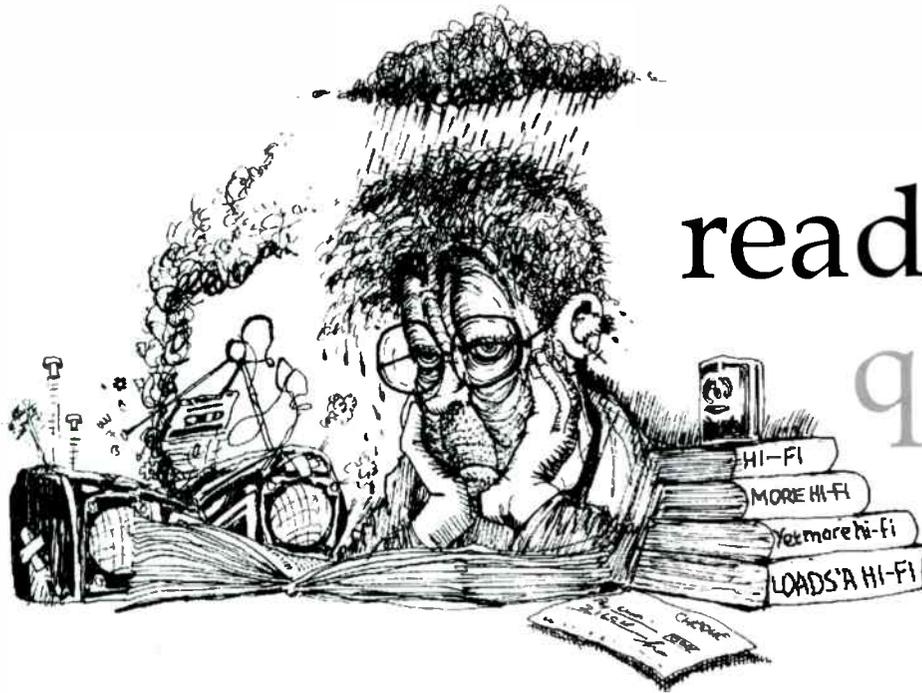
Woofers are an old 12inch pair of Wharfedales I got for £25, with the same rating as the MC4s: 90dB, 200W. I bi-wired the treble

and midrange through the crossover to my EAR834 amp. The bass driver was wired to the speaker terminals as it was too big for the MC4's crossover.

They work really well this way, with a bigger sound, and with the box being more solid 1 inch ply, treble is crystal clear. I also made wood supports for my deck and amp. The deck now has a marble support for solid bass. I also have an ART1 and am saving up for an SME V.

**Derek Walker
Hornsea.**

I'm glad to see you are still experimenting and improving your system. Although the 'cupboard' transmission line 'speakers you had just finished building last time you wrote have already been replaced, it seems as if you are enjoying and upgrading your system all the time. Keep up the good work and keep us informed. DB



readers' queries

TONE DOWN THE MIDI

I want to buy a separates system. My five year old Aiwa system was the best sounding midi I could find at the time. It consists of an Aiwa DX-666 separate CD player with ribbon interconnect to a CX-790K unit which is a tuner, integrated amp. with 5 band graphic equaliser and twin cassette deck. Loudspeakers are two-way bass reflex designs.

My musical taste is Lou Reed and The Velvet Underground. I have rare CDs and a variety of live recordings on cassette tape of concerts (1966-1970) which are surprisingly good quality. I want to build my system around these tapes, buying a deck, amp. and 'speakers, with a CD player later.

I need the lowest 70Hz bar on the graphic equaliser on maximum while other bars stay at zero. This adds necessary "warmth" to CD sound and is essential for controlling tonal balance from my tapes too. The sound is never boomy but more full-bodied and "as I believe it should be". For instance, with the bar on maximum, drums come across more forcefully.

I think you'll agree with my choice of Nakamichi

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.

DR-2 cassette deck to bring out the best from my tapes. Now, though, I need some experienced advice on what amp. up to £800 and similarly priced speakers will allow the DR-2's slight bass lift to come across which I need with my type of rock music, and give similar results when I add a CD player later.

My existing speaker size is ideal for my room but I would also consider tall floorstanders too. I want presence, dynamics and transparency, while still

having a simple bass/treble control with balance adjustment if possible. What are your opinions? How about the highly rated Castle Chesters? What would be your shortlist, bearing in mind I plan eventually to add a new CD player?

**S. Grachvogel
Enfield,
Middlesex.**

Well engineered tone controls are a great help, giving a gentle and controlled lift at frequency extremes. For top sound quality you need to be looking at a good UK-built integrated amplifier, but few of these, being minimalist in approach, have tone controls. The obvious model is the Audiolab 8000A, which offers everything you need including balance and separate listen/record selectors, useful for monitoring recording quality. It's powerful too, so will drive most loudspeakers with ease.

The Castle Chesters you mention are one of my favourites at the price, with a clean, punchy sound with excellent bass depth and power. Mission 752s are also superb, but have a different character, lighter in the bass but



TDL's RTL-3s have deep and powerful bass so you shouldn't need to add bass lift with tone controls.



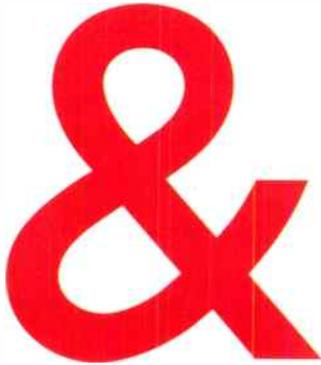
Consider the Nakamichi DR-1 for top class sound from cassette.

faster and with more presence. Both are excellent, so I recommend you take a close listen to them with the Audiolab and preferably in the comfort of your own home. Either loudspeaker with the Audiolab and Nakamichi DR-2 will give you a top quality sound and enjoyment for a long time to come. DB

azimuth on the more expensive Nakamichi DR-1 gets more from your tapes, unless they already have 'perfect' recorded azimuth (which is unlikely). The way to check is to play one of your tapes on a DR-1 and adjust azimuth, listening to cymbals and such like. Try using headphones for this test, since considerable cross-channel phase changes

You will find that user adjustable playback

Continued on page 54...



The writer of the most interesting system query will receive a free set of super Connections Jade interconnects.

SELLING THE SONDEK FOR CD

My current system consists of a Valhalla Linn Sondek LP12 with Alphason Xenon arm and Audio Technica AT-F5 cartridge, Mission Cyrus One amp, Arcam Alpha Plus CD player and Celestion DL6 speakers on spiked Target stands.

The problem is my daughter has now become mobile I now require the speakers be wall mounted. I have considered two models, namely Mission 751 and Linn Tukan speakers with dedicated wall brackets. Which would most suit my current system? If the Missions are better, which wall brackets should I purchase?

Also, for various reasons I am considering the sale of my LP12 and going CD, upgrading my

amp to perhaps a Linn Majik-I (if I purchase the Tukans). Were I to go down this route and have my Arcam Trichord modified, would this bring its sound quality close to that enjoyed from my LP12?

D Mudie Dalkeith, Midlothian.

I have heard very encouraging results with Tukans on the end of a Naim Nait 3, especially when pushed hard up to a rear wall. They would certainly be superior to your Celestions.

Although the Majik-I is a good amp, I'd still plump for the Nait 3, or if it's a more sumptuous presentation you're after, the Sugden A21a.

Regarding the Arcam/Linn dilemma, I'd

say you'll have to spend far more to approach the sound of the Sondek, let alone better it. DPA's Renaissance player at £895 is just about minimum. A Clock 2'd Alpha would have less detail, weight and swing than your Linn. Why don't you upgrade the LP12 instead with a Cirkus and a modern cartridge like the Ortofon MC15 Super II? DP

If you're thinking that CD will, in the long term, provide more enjoyment than LP, watch out; read Mr Miller's views further on.

We still find LP subjectively impressive and more amenable in the long term than CD, even if it is now more expensive and less

convenient. Don't be quick to dispose of your LPs; replacing them with equivalent CDs will be costly and offer no more enjoyment. The two mediums sound different because, fundamentally they are, and they will never sound the same. Arguments about which is best, based on technology, are specious; choose the one you get most enjoyment from. In your case it might be cheaper to upgrade LP, as David suggests. If you move to CD, I recommend caution and realism; in terms of sound quality it has its own problems, offering unequivocally better results more at the low end of the market than at your level. NK

o f t h e M o n t h

DUAL CONTROL?

Dominic Todd pits Dual's CS505/4 UK against the Pro-Ject 0.5 to see if it still controls the budget turntable market.



The Dual CS505 can probably take its place in history as the most recommended turntable of all time. For a whole decade it was the one to have for those building a budget hi-fi system. It succeeded by offering audiophiles on a tight budget good sound with the convenience of semi-automatic operation. The CS505/4 has been with us for nearly three years now, and in its latest incarnation (505/4 UK) offers an Audio Technica AT95E cartridge and felt mat as standard. Otherwise it remains unchanged, no bad thing as build quality is up to typical German standards.

The £200 Dual features switchable 33/45 speeds, a detachable headshell plus auto stop and cut-off. The antithesis of most budget decks these days, those with little more than a power switch, it was pitted against the Pro-Ject 0.5, one such fully manual machine under £160 which served as a suitable benchmark. I hooked up both to my system to see whether the no-frills approach of the Pro-Ject was really necessary, or if the Dual's convenience would win through.

The first disc spun was The Cranberries' 'No Need To Argue', where the Dual came across as a very good budget turntable. The soundstage had the necessary depth to make vocals sound convincing and full bodied. Yet vocals and solo instrumentalists could sound somewhat diffuse, lacking pinpoint positioning in the sound stage. The Pro-Ject was noticeably superior here, offering sharper definition and wider imaging altogether. As far as bass

weight and integration were concerned, it was a close run thing. The Dual had more powerful bass but was slightly softer than the taught sounding Pro-Ject. Despite a certain softness, the CS505 didn't exhibit the wooden, plodding bass of other budget designs, such as the NAD

533/Elektra combination. The Dual offered a less finely etched presentation of female vocals than the Pro-Ject but with the same AT95E cartridge fitted to the Pro-Ject, both emphasised sibilance slightly.

Tubular Bells II allowed both decks to show off their generous, enveloping sound stages and pleasing lack of compression. The 505 could occasionally appear coarse in the treble, most likely a symptom of the baby Audio Technica's exuberance. Despite plenty of presence in the higher frequencies, detail from the 505 was a little blurred, cymbals lacking the crispness and edge of the Pro-Ject. Otherwise, the Dual gave little away. Bass was up to the job of handling the lowest notes synthesisers could throw at it. Once again it was the Dual that managed to dig just that bit lower too.

Mid-range performance was just as impressive. Although the 505 could sound rather euphonic, this quality gave it an easy going nature, making it pleasant to listen to over long periods. Not just because the 505 glossed over detail - it was more the way the Dual

seamlessly strings music together, allowing it to flow from the 'speakers. Dual have certainly done a better job choosing the matching cartridge than other manufacturers. It tracked well, and despite the occasional coarse edge, didn't impose a heavy sonic footprint on the sound.

With The Commitments' album, the Dual did a fine job of presenting the

performers in an unmuddled and enjoyable manner. It didn't quite have the attack of the Pro-Ject, but nor did it feature the 0.5's occasional glossiness with brass either. Whilst drum beats weren't quite as cleanly cut as the Pro-Ject, they were dispatched speedily

enough. Acoustic guitar also seemed to benefit from the natural warmth offered by the Dual. Once again it was at frequency extremes where the 505 lost out to its cheaper

Czech mate, with tighter bass and greater treble definition.

There's something truly likeable and cosy about the Dual. It's the sort of turntable you could sit beside the fire with on long winter evenings, with a mug of hot chocolate in one hand and your favourite Trollope (novel, that is) in the other. Its appeal comes from a lack of serious faults, but Dual could do with tightening up its presentation a little.

The fully manual Pro-Ject still has the edge on sound quality, being that bit more revealing. That said, the Dual could be just the tonic for an over-exuberant system. Or if the deck is for family use, then its simple semi-auto operation is pretty much kid and granny proof! Either way, combined with Dual's reputation, the CS505/4 UK makes a pretty convincing case for itself ●

Dual CS505/4 £199.95
RAM UK Ltd.,
 16 Willan Trade Estate,
 55 Waverley Road, Sale,
 Cheshire M33 7WY
 Tel: 0161 973 0505

WORLD VERDICT

●●● The Dual CS505/4 is a nice package with an enjoyable sound. Low price makes it good value too.

Measured Performance
 see p105-113



KARIKULUM VITAE



Linn's policy of constant lifetime improvement has resulted in the latest Karik III CD player. David Price takes a listen.

Many remember the shockwaves when Linn introduced their first

Compact Disc player. Previously responsible for some highly convincing anti-digital invective, suddenly their own

version of the devil itself appeared, in the shape of the Karik/Numerik two box player.

Several years later, Linn have established quite a name for themselves as CD player manufacturers, producing finely engineered models like the £1597 Karik III tested here, their top integrated CD player upgradeable with

the addition of the £1129 Numerik converter.

As time waits for no one, especially where digital audio is concerned, Linn have just introduced improvements to both the entry-level £839 Mimik tested in April, and the Karik. They centre around the use of surface mount technology, with redesigned circuit boards featuring ultra short signal paths with high component densities, making for improved isolation of the sync link, lower jitter and (so the theory goes) cleaner sound. The latter is also one of the first Linn products to benefit from their improved Brilliant power supply.

The Karik certainly bears more than a passing resemblance to its baby brother, but as soon as you switch it on, you find the Mimik's lightweight disc tray is replaced by a metal diecast unit that moves in and out with great speed and decorum - certainly the first sign of where the extra £700 or so has gone. There's also a neat little flap which conceals most controls. True, they're small and fiddly to use, but the player exudes such a feeling of quality it doesn't seem to matter. At the back reside two sets of audio outputs, an S/P-DIF digital output, sync output, remote out and a diagnostic socket to facilitate easier servicing at Linn dealers.

Partnered with a Meridian 551 integrated amplifier and Linn's revealing Tukan loudspeakers, the latest Karik delivered one of the most impressive performances from silver discs I'd heard since the HDCD system tested in February. Compared to a similarly priced reference Sony ES player, the Karik was far more expressive and dynamic. Lou Donaldson's 'Everything I Play is Funky' assumed one of the largest, deepest soundstages I've heard from CD, with an unusually powerful Fender bass line hovering out of the 'speakers, while Melvin Sparks' guitar projected deep into the room, its texture and envelope caught with eerie precision.

Possessing a vital spark of life, this player made listening to music a real event. This is largely due the way it conveys musicians' phrasing, imparting whether drums are smashed or brushed, or how strings are pushed or plucked. This is interesting insofar as it's the traditional forte of the Linn LP12 turntable, particularly when Lingoed. While the sub-£1000 Mimik and LP12 Basik are poles apart, the presentation of their respective bigger brothers gets closer together, the Karik sounding far more analogue-like than its baby brother.

With Corduroy's 'High Havoc', it again produced a striking soundstage, with much more space than the Sony could muster around the opening drum roll. It's as if the Karik takes you right

to the centre of the recorded acoustic, with so much atmosphere you can almost hear the studio walls. Instead of the plastic caricature CD usually turns bass guitar into, it was a raw, reverberant instrument. The

brass section had a satisfying rasp, earthy but never uncouth, while tambourines came across with rare delicacy and finesse.

After such a pleasant initial surprise, I tried to wrong-foot the Karik with some tricky recordings. 808 State's 'Nimbus' is a complicated affair with many different rhythms going on simultaneously. But the Karik was iron in its resolve, and simply delivered an immensely enjoyable, detailed performance. Kick drums were tighter, more precisely located and more voluminous than any player I've heard, including top two-box machinery from DPA and Audiolab. The hi-hat sound was intricate, with its rhythms superbly carried. The Karik's adeptness at soundstaging was further reinforced, with the main keyboard pads spatially well separated from the drums.

The Karik was equally well deported with the Happy Mondays' 'Loosefit'.

Most evident was the precision with which it located singer Shaun Ryder's voice between the 'speakers, giving real three-dimensional stage depth. The big Linn player separated the vocal part out from the mix and caught both the studio reverb and the space between singer and microphone with disarming clarity.

It's difficult to fault this player. The only real criticism is its tonality. In no way grey or barren, it nevertheless lacks the sumptuousness of converters like the Pink Triangle Da Capo. There's also a touch of thinness in the upper midrange which may intrude if unsympathetic partnering equipment is used. The final point worth making concerns the Karik's timing. Where the Mimik imposes its own explicit, ordered sense of rhythm, the Karik is far more supple and human. But there's still that last *nth* degree of fluidity it loses to its LP12 Lingo cousin, with the slightest analytical edge to the way it makes music.

But this is to divert attention from the fact that this is one of the most musically satisfying Compact Disc players on the market, with the rare (for CD) ability to pull you into the music and engross you. If you found the original Karik/Numerik too clinical for your tastes, the latest one-box Karik will be a surprise. More than just a Mimik on steroids, it builds on the strengths of Linn's entry-level player but goes far further. Like most Linn products it's not cheap, but what it does to the much maligned silver disc makes it excellent value nevertheless ●

Linn Karik £1597
Linn Products Ltd.,
Floors Road, Waterfoot,
Eaglesham, Glasgow. G76 0EP
Tel: 0141 307 7777

“This is one of the most musically satisfying Compact Disc players on the market.”

WORLD VERDICT

Supremely musical player with a highly detailed sound. Well engineered and built.

Measured Performance
see p105-113

.... Continued from page 47

occur too and they have a strong effect upon imaging. The idea is to adjust for strongest, cleanest treble and solid images. The DR-1 is expensive (£800), but it seems appropriate for you.

Be careful about 'speaker choice, since your midi-system experience cannot necessarily be translated into real hi-fi. Small midi 'speakers just do not produce real bass; you were in effect forcing yours to attempt this (and they were probably "doubling" like crazy, producing at least 10% second harmonic distortion in protest). Hi-fi loudspeakers produce more than enough real bass (i.e. not doubled bass) for most people, without any need for a bass control. If you like it heavy, don't pass up on hearing TDL loudspeakers (RTL-2 or 3) or Heybrook Heystaks. A bass control with these 'speakers is a loaded gun. NK

NEWLY EMPOWERED

Just recently I have been thinking about upgrading my hi-fi components and would like your expert opinion on whether the change to the new 230 volt power supply, down from 240 volt, will make a difference to the precise running speeds of present machines such as cassette decks and CD players, not forgetting the turntables that many still value!

Elsewhere we've been hearing things like we have to cook things longer or step up the power on our cookers and microwaves to get the same results we are used to with the old 240 volt system.

**C.H. Snow
Taunton,
Somerset.**

Derek Falter, London

Electricity's Corporate Communications Manager, informed us that the mains voltage in the UK will not change in the foreseeable future, so no equipment will be affected in any way. DB

THAT OLD DAC MAGIC!

My present system comprises Linn LP12/Akito/K9, Arcam Delta 70/2 CD, Naim Nait 2 amp, Epos ESII speakers on Target stands. Due to my late night listening habits I also regularly use Sennheiser HD560 Ovation headphones linked to the Naim via 'The Can Opener'.

I recently upgraded to the LP12 from a trusty Linn Axis which I purchased new five years ago at the time of purchasing the Arcam. My problem is that the LP12 now sounds more inviting than the

but again I was less than convinced. Have CD players advanced dramatically in the last five years and would I do better to purchase a new Bitstream player from scratch with a better transport? How much better is the new Arcam 270?

Alternatively, should I upgrade my amplifier to something more CD-friendly, especially as the LP12 justifies a better amp? My musical tastes are varied and I have about £500 to spend. Your opinions would be most welcome.

**S. J. Miller
Middle Littleton,
Evesham.**

I think you are asking the impossible. Your turntable system cost the best part of £1000. Expecting to find a CD player for £500 that will sound as good is going



Quad's CD67 is one of the most musical CD players around for under £1000.

Arcam. I have been thinking about upgrading it by adding a DAC. Would this be the most sensible course of action?

I have tried an old Black Box I which I wasn't at all convinced about and I have also revisited the dealer who sold me the Arcam to audition it with the Audio Alchemy DAC-in-the-Box,

to be difficult. One of the most musical players around is Quad's 67, but this is a little past your budget at £800. Maybe if you get a good trade-in deal on your Arcam Delta 70.2 this may be a possibility though.

Otherwise I'd suggest you hang on to the Delta

70.2 and use it as a transport, spending your budget on a high quality outboard DAC. There are plenty to choose from with £500, Select Systems' Dacula, DPA's Little Bit II and Orelle's DA-188 being three of the best and definitely worth an audition. DB

Or, dare I say it, listen to the Marantz CD-63SE, but even this is unlikely outgun your LP12. NK

BETTER BY DESIGN

David Constant's comments (March letters) on the Cambridge R50 speaker were both encouraging to earlier builders of the design, and also begged some questions.

I built a pair in the late 1970s re-using the KEF units from an earlier Wireless World transmission line design, and added a super tweeter. I am still using them, and it appears from Mr. Constant's remarks about "never having heard better" that I made a sound decision about which of the then-available home-build designs to construct!

I have often wondered whether more modern speakers sound better. It is very difficult to form any judgement by visiting hi-fi shows since a direct comparison is not available, and one may be positively influenced by the novelty of hearing something different. The racket from the stands of competing manufacturers, at the bigger shows, also neutralises any hope of a decent listen.

If Mr Constant is right and the R50 is still "the best full range speaker", then have the better speakers really improved in the last twenty years or are they merely different? Have the KEF drive units used in the R50 been improved significantly?

What does the very informative Hi-Fi World, which has encouraged me to

read a hi-fi magazine again after many years, think about the subject?

Michael Newland
London.

The R50s are a very good full range loudspeaker using top quality drivers, but to make a judgement on the way loudspeakers have advanced you have to get things into perspective. Doing a rough calculation I reckon that if they were in current manufacture as a commercial loudspeaker they would cost well over £5000. If you compare them to a modern, well designed £5000+ loudspeaker of today, I think you would quickly find that loudspeaker technology has improved.

This is the same across the whole field of audio. Well designed products, especially those that were class leaders of their period, tend to last decades, continuing to offer a top class performance. Look at the Quad electrostatic, Leak Troughline, Garrard 401, etc. The Quads are now around £3000, to re-manufacture a Leak Troughline or Garrard would cost a similar amount.

The R50s have another advantage in that they were kits. If you spent around £1000 on a modern, well designed kit loudspeaker they would give the R50s a good fight. So the R50s are a top class loudspeaker, I'm sure they can be bettered, if at a cost.
DB

Ironically, this loudspeaker design propelled me into the editorial chair of Hi-Fi Answers back in Neanderthal times (well, 1972). It was Chris Rogers' version of the Cambridge R50 in fact, that we published. It was monumentally popular,

which was the problem, 'cos there were errors and omissions in the complex plans we published, generating torrents of 'phone calls. Being a bit handy at such things I was told to sort out the mess, my poor predecessor being sent to a Caravan magazine, the equivalent of Siberia. Anyway, the R50 had superbly deep bass, a clear midrange and extended treble, giving a very "wideband" sound that is impressive. It's this that smaller 'speakers, even modern ones, cannot match. However, the best of today's floorstanders do give a smoother and more cohesive sound, with better imaging and higher sensitivity. And in kits, our KLS-3 is a superior modern equivalent in my view. NK

BASS, HOW LOW CAN YOU GO?

Help! I have just inherited a large collection of classical LPs. Up to now I have listened to folk music and the spoken word, for which my system has been pretty fair. But now I realise there are some fundamental flaws, such as the lack of real bass, and the record player could do with some improvement.

I have a Naim 32.5, 160

and Flat-Cap and a pair of Linn Tukan speakers connected by Naim cable. Front ends are Linn Axis/Basik Plus and K9 and Arcam Delta 80, both connected via Chord interconnects. Speakers and record player are on stands in a room 14ft by 12ft by 9ft 6ins high.

Before sorting out the record player I would like to address the lack of bass. Two options come to mind. [1] add a REL Strata subwoofer, fed from the second preamp out on the Flat Cap [2] mount the Tukans on Rogers AB1 subwoofers.

Would either work, or do you have any other suggestions?

When I come to upgrade the front-end, would the Axis take a Naim ARO, or is the Akito arm the limit. I aim to buy a first class front end, to do justice to the records, but I will have to buy it in stages, each of £500 or less for domestic reasons.

Dave Waters
Northampton.

It seems to me that your interest in subwoofers is like fiddling while Rome burns. Your amplification and 'speakers are too good for your source components. Although an excellent package, the Axis/LVX+/K9 isn't up to the job, while the Arcam is



The Goldring 1042 has a warm and full sound with fine detail.

a good machine, don't expect decent bass from anything less than the best CD players.

Consider trading in the Axis for the latest Cirkus LP12 Basik with Akito, and retaining the K9 until you can afford to replace it. This will bring a far fuller sound, with deeper firmer bass. With your next £500, upgrade the LP12 to Valhalla specification, and swap the K9 for a Goldring 1042 which is smoother with fuller bass. Ensure your speaker cables are the latest NAC5 versions, and try a Base platform for your amplification, as Naim recommend. The Tukans will then have a far stronger front end and should really sing. If this fails, you'll have no alternative but to get a REL Strata! DP



REL's Strata has deep, taut and powerful bass. It may take some time to set up properly, but the results are well worth it.

I can see what David is heading for, the LP12 with

a better arm and cartridge will resolve a lot more bass, both in terms of level and detail. But the Tukans are only little boxes and are already missing a lot of the low bass your Axis will be producing. The REL Strata is a superb device. It has powerful, taut bass that is fast and articulate. It can be tuned in to match well with just about any loudspeaker, and although this can take many hours of fine tuning the end result is well worth it in my view.

Once the REL is installed, then concentrate on your front end. An LP12 with your existing arm and cartridge would be the best first move. DB

Or, just to show you how confusing hi-fi can be, add a Goldring 1022 or even 1042 to your current LVX+ arm. This will give you a completely different balance, one that is fuller, with strong and supple bass. If this isn't enough and you want to go LOW big-time then, as Dominic (DB) says, you are wasting your time with small-cone loudspeakers like Tukans and could well consider the excellent REL Strata to augment them.

My route lets you in gently in money terms and, if the Goldring cartridge doesn't give you all you want, it's still a valuable front-end upgrade which, as David (DP) says, you need. NK

VALVE FEEDBACK PLEASE

My system comprises Systemdek IIX/Moth/Sumiko Blue Point, Meridian 200/203, Akai GX4000DB Reel to Reel, Audio Research SP8 pre-amp and KEF 104/2 speakers hooked up with Cable Talk wire. The power amplification is a Mission Cyrus II/PSX.

The system gives a

detailed, warm and musical sound but the upgrading itch has returned and I need your advice. Whilst the Cyrus has never sounded better, the obvious thing to do is change to a different (valve) amp. What would suit this combo (new or second-hand).

Also, what would be a suitable replacement for the record player? I like the sound my current deck gives and want to improve on this up to a budget of around £800-1000. I play all kinds of music (but rarely Orchestral) although my wife prefers Jazz combos.

Finally, do I need to worry about de-magnetising the heads on my Akai? So far it has only had around 48 hours use in its lifetime (rescued from my brothers attic after 10 years neglect) How will I know if it needs it and where can I purchase one or can I build one?

**M. L. Pointon
Edgware,
Middlesex.**

P.S. In a recent supplement there was an article giving guidance on interconnect cable construction and mentioning Maplin silver cable. The only silver one I can find in their catalogue is for loudspeaker hook-up. Before I get the soldering iron warmed up, is this really suitable for interconnects? Also, no mention was made of lengths for interconnects. Nearly all commercial cable is sold in 1 metre lengths which I think is too long for tidiness. I use a Target equipment stand for my bits and the back looks awful - too much wire and very difficult to keep neat. Would making up cables to 1/4 metre affect the performance?

The KEF 104/2s are sensitive at 92dB and were the first KEFs to use conjugate loading, so they have a smooth impedance curve too; both are good news for valve amplifiers. They are a 4Ω loudspeaker

though, so it is important for optimum load matching to make sure that whatever valve amplifier you choose has a 4Ω output tap. You can often get away with using a load higher than specified (i.e. 10Ω speaker on 8Ω output), but not lower than specified.

Because the KEFs are sensitive, any valve amplifier capable of producing a healthy 20watts or more should be up to the job. Try auditioning the Omak Jewel One power amplifier, which is imported from Russia. This has a big, sweet sound with terrific bass; for more detail see the review on p34 of this issue. Also affordable is Audio Innovations' Series 1000. This uses the sweet sounding EL34s and produces 50watts, which is more than enough for your KEFs. Both will work well with your SP8.

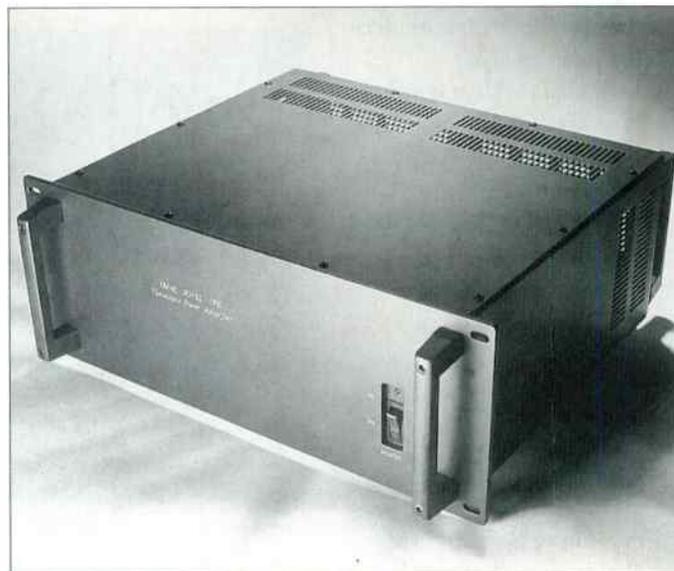
If you like the clean and neutral balance of your Systemdek the obvious upgrade would be to the Pink Triangle Anniversary. This takes things a whole step further, with fantastic detail and pin-sharp imaging. It is a little over your budget at £1200, but

your existing arm and cartridge would suit it well, and I doubt if you'd need to upgrade again for many years.

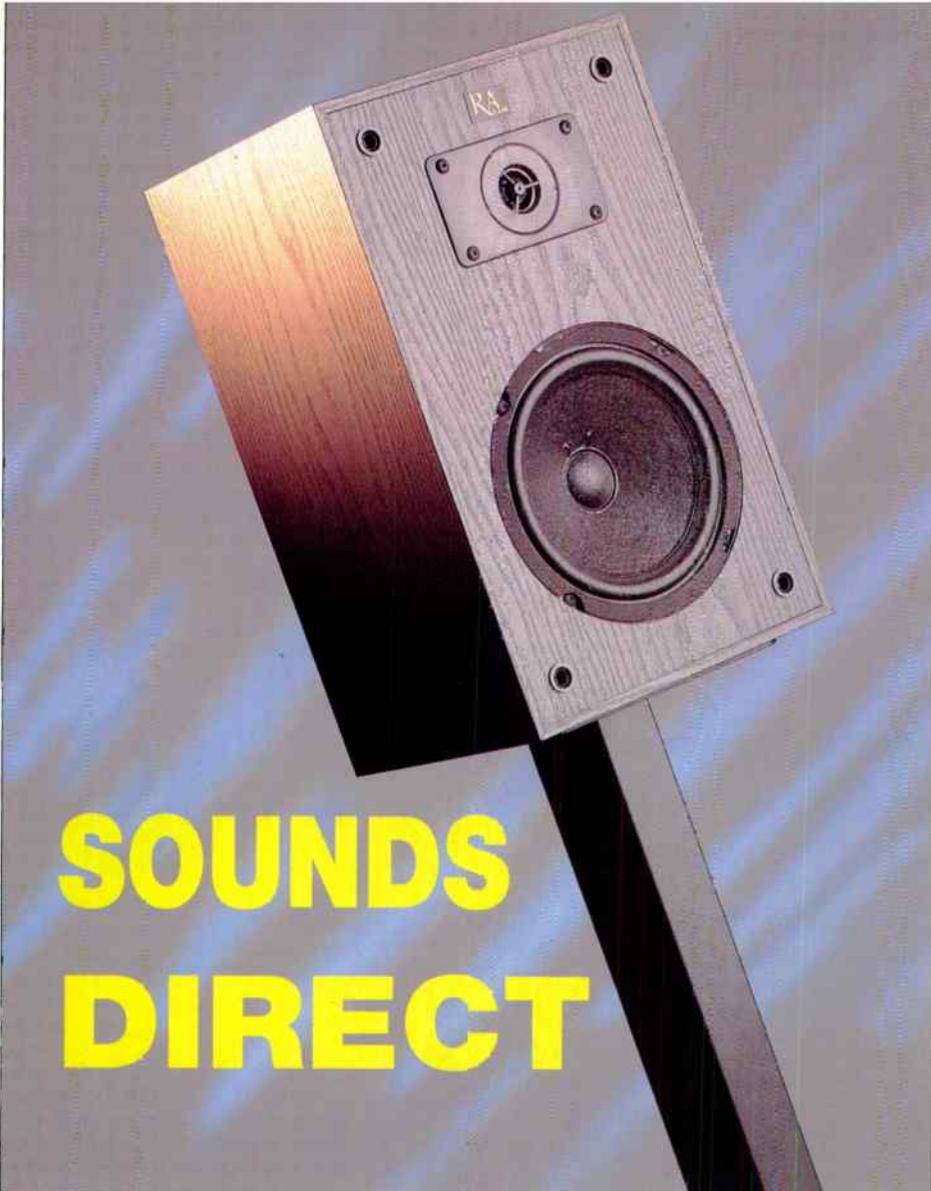
If this is a little far to stretch, Pro-ject's 6.1SA, which comes complete with the excellent Sumiko arm and Ortofon's MC30 Supreme (one of the best MCs money can buy) for £999, is super value. Another deck well worth an audition is Townshend's Rock III. This has quite a different presentation to the Systemdek or Pink Triangle, with superb timing, dynamics and super taut bass. Again this will work well with your existing arm and cartridge.

If your Akai GX4000DB open reel tape recorder has only had 48 hours use it should be fine. However, as it is quite old a clean up and service may be worthwhile. Contact Herts Hi-Fi who specialise in this kind of thing on Tel: 01923 893711.

The Maplin silver interconnect is a couple of pages on from the silver 'speaker cable in their catalogue, order code: XS56L. There is no problem shortening the interconnects; if anything they will sound better. DB



Omak's Jewel One valve power amplifier has a big, powerful sound, and is reasonably priced too at £899.



SOUNDS DIRECT

Peter Downs auditions these direct-to-your-door RA Labs Mini Reference loudspeakers.

Marketing products direct can give a manufacturer an edge over the competition, with no dealer mark ups and no problems with customers unable to find a local dealer. Also, the fact that customers can try them out in their own systems must have its appeal. RA Labs is one such company, offering a "30 day no hassle" return policy.

The Mini References tested here retail for just £99 a pair. What you get is a two-way infinite baffle speaker with a co-polymer tweeter and a 6" doped paper woofer. I positioned them on 22" stands 7" from the rear wall.

First impressions were of a clear, open sound with good depth and timing. Neil Young's 'Sleep with Angels' showed the fine live balance and naturalness of this recording. They sounded much bigger than they should, given their modest dimensions. Larry Carlton's 'Discovery' had great bass

speed, with instruments located in their own space, not spliced together or cramping each other. The undamped cabinet seemed to help upper bass warmth, adding excitement and spring to the sound. The midrange, with Larry Carlton's sometimes oddly tuned guitar, sounded quite natural, but with the upper mid sounding squashed and narrow, and treble bright.

Record surface noise was also more evident than usual. Ronny Jordan's 'The Quiet Revolution' again showed superior bass, but more importantly it didn't turn into a muddle due to the Mini References' ability to keep things in place. The vocals had good projection, but again a degree of compression reared its ugly head. Sibilance was also somewhat exaggerated.

Nanci Griffith's 'Late Night Grand Hotel' gave more of a clue to this. Vocals had an airiness, the marginally false echo not overdone, but there was

still a degree of shrillness to her voice. Percussion seemed more divorced from the rest of the mix with the drums pushed forward, eager to be heard.

This spotlighting of percussion did not appear on the next record, John Abercrombie's 'Getting There' - a wonderful quartet having a good jam. Here the Mini References got into their stride. Peter Erskine's drumming was brilliant, he was really hitting hard! The thwack of stick on cymbals gelled to John Abercrombie's bass with no fuzz around the notes. Keeping with the bass, it was interesting to hear the acoustic bass of Scott La Faro in Bill Evans' 'Waltz for Debbie' which showed excellent interplay between La Faro and Evans.

I turned to classical music next - some speakers sound impressive with rock, but give them a full orchestra and they fall apart. With Rackmaninov's Piano Concerto No.2 (Ashkenazy & Previn) it was intriguing to hear the piano, a difficult instrument to reproduce. The Mini References gave fine scale detail and the piano was good low down, but the upper keys did not sound quite right, with some lightening of tone. Borodin's 'Prince Igor' (Loris Tjeknavorian) again showed the clarity and openness of these 'speakers. The lightness of the violins and rasp of trumpets appeared somewhat hard, but really convincing.

The Mini References did so many things well that it is easy to overlook their little *faux pas*, especially at the price. Partnered with a smooth sounding system they will produce a clear and open sound, bringing music to life ●

RA Labs Mini Reference £99
RDL Acoustics, 20 Cleveland Way,
Shelly, Huddersfield. HA8 8NQ
Tel: 01484 603333

WORLD VERDICT

●● Good value and entertaining sound, but a little too bright to be balanced. Reasonable engineering.

Measured Performance
 see p105-113

Consequential Success?

Douglas Floyd-Douglass finds the Consequence pre-power amplifier combination not up to Thorens' usual standards.

The most striking thing about Thorens' new £1050 Consequence TTP/TTA2000 pre-power combination is its gold lacquered ignition switch, complete with matching key and spare. Perhaps this baby packs horses under its bonnet! With Thorens' enviable reputation for producing some of the finest turntables around, it certainly seemed that way.

Characteristic of German engineering, the individual units are solidly constructed and well finished. A sturdy steel chassis surrounds the internal components and the fascia is made from dark perspex. The preamp has two large, gold rotary knobs, for volume and source selection (four line inputs and MM/MC phono).

When suitably warmed through, the Thorens certainly forces you to prick up your ears. Pleasant to listen to at low levels, its exaggerated presence makes vocals crisp and well projected. However, soft acoustic instruments like violins and string sections suffer harshness which ultimately characterises the sound of this combination. Partnered with a Marantz CD16, my initial impression was of striking clarity. Jethro Tull's 'Warm Sporrán' is a smooth recording, but compared to our reference

Audiolab 8000Q/M combination, mandolins, cymbals and snare were far harder on the Thorens. Is this a smart marketing technique intended to grab the listener on first acquaintance in the demo room? Maybe, but I soon found myself needing a walk to clear my head of what was genuine listening fatigue.

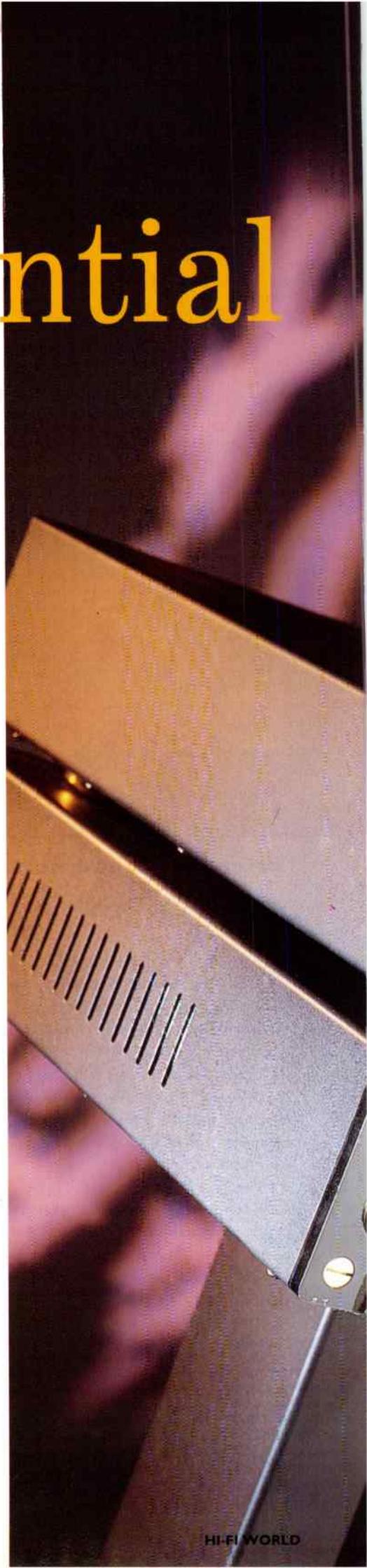
Dvorak's New World symphony sounded warm throughout the adagio, with the flute breathy and open. The sound stage was wide with good definition between first and second violins. Brass however sounded synthetic and over-recorded. The depth of the trombone in the allegro was

especially good, with notable preservation of the hall's natural reverberation. Unaccompanied strings were acceptable, but this amplifier lacks the control and dynamics necessary

in full orchestral pieces, often reaching audible distortion, especially in mid-high frequencies. This was most notable on piano, using pieces by Jools Holland and Chopin as examples. The TTP/TTA2000 seemed schizophrenic in the way bass was so restrained and the higher frequencies so extrovert.

Harry Connick Junior's voice sounded convincingly upstage on "Heavenly", with four-part backing

“Attack was so frightening it had me running for cover - I know of subtler PA amplifiers!”



vocals evenly spread behind and around the performer. Baritone and bass backing vocals were extremely well presented, but female altos and trebles lacked smoothness. On 'Blue Light, Red Light' the brass attack was so frightening it had me running for cover - I know of subtler PA amplifiers!

Trombones sounded unusually bright and unrepresentative of their natural frequency range, lacking their customary friendly, low rumble. Tenor sax on Dave Brubeck's 'Take Five' was rich with real feeling in the sound stage, but ride cymbals had too much attack, masking the central low piano rhythm and bass lines. Double bass could be clearly heard to buzz against the fret board, which for detail freaks is a must!

Switching to the phono stage, the amplifier had

shocking noise levels, and a most unpleasant broad-band hum. This seemed to be a fault, as these levels are quite unacceptable, but were still there on a second sample we tested. This aside, Thorens' curiously translated instruction manual says that in designing this amp, they co-operated with 'scientists of the hearing aid faculty'. In effect, this is just a tweaking of the disc replay frequency response to emphasise the presence region, which I did not find to be at all musical. On top of the hum, there's inherent background noise centred around the crucial mid-high frequencies, unfortunately the human ear's most sensitive region. This meant the Thorens emphasised certain instruments while others remained unaffected.

In comparison with an EAR834P, the Thorens' phono stage paled into a disappointing corner, evidently needing further development before reaching an acceptably high league associated with the Thorens name. Cymbals were again harsh and splashy, sounding like they were

being overplayed. Vocals were emphasised by the amplifier's unpleasant high frequency behaviour. Rhythm guitar was chunky, but I had to listen hard through the sibilance of the vocals to hear it.

The upside of the Thorens is its energy and life. Its attack came into its own on Eric Clapton's 'Old Love' with slapped bass sounding really beefy, as though it had just emanated from a pair of pumping 15" Trace Elliot drivers. The chimes on the bridge came as a pleasant surprise, and were a pleasing intro to the sax which played out well to the right of the sound stage. Bob Marley's 'Natty Dread' also sounded great, with The Wailers on backing vocals affording a fine live feel. Marley's vocals were strong and the drum sound tight and consistent. In 'So Jah Seh' bass went down really low, creating a stirring rhythm and a compulsion to move.

Regrettably though, this didn't compensate for the liberties the Thorens combination was taking with the original music. If recording engineers want ear-splitting sibilance for extra attack and speed, they can add it in the studio, and don't need hi-fi to do it for them, especially at this price. Although the Thorens could sound impressive at times, I got the feeling this was more by happenstance than design. However much you may like the sleek lines, sadly this Thorens hasn't got much under the bonnet to recommend it.

Thorens TTP 2000 £499.99
Thorens TTA 2000 £549.99
 Portfolio Marketing,
 67 New Road, Little Kingshill,
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 Bucks HP16 0EU
 Tel: 01494 890277

WORLD VERDICT

Poor sound quality and engineering let this Thorens pre/power amplifier down. Pricey too.

Measured Performance
 see p105-113

IN THE AUGUST ISSUE

The first week of July brings something special for all hi-fi enthusiasts, the August issue of Hi-Fi World! Packed with all the latest equipment thoroughly reviewed by our experts, your letters and queries, new product news, a fabulous competition, a free DIY Supplement, music reviews, a classified ad. section with stacks of bargain equipment, need we go on? To ensure you don't miss out, hand in the coupon to your newsagent.

NAD 514

NAD's answer to Marantz's CD63SE, the £339.95 514 uses an 18bit MASH convertor chip and a custom designed 5-pole analogue filter with DC coupled output stage. Could Marantz be about to hand over their lead?

KAR AMBER

Using anodised magnesium cones, which are lighter and stiffer than the aluminium normally used, Keswick Audio Research's Ambers are certainly different. We take a close listen to see what this new technology has to offer.

REL STORM

A beefed up Strata, the Storm uses a bigger and heavier cabinet plus a more powerful amplifier for even stronger room-shaking lows.

UNISON SIMPLY TWO

This beautifully built single-ended EL34 powered valve amplifier from Italy has the style and grace you'd expect. We take a close listen.



LPI2 REVISITED

Linn's vinyl tour de force gets a long awaited reassessment complete with an introduction from its creator, Ivor Tiefenbrun!

DIY SUPPLEMENT No. 16

As if this wasn't enough, the August issue also carries our 16th free DIY Supplement. We hope to bring you a special High Definition Aerogel driver loudspeaker that re-writes the rules, a review on the new Liberty Instruments (the people who designed IMP) Audiosuite measurement system for the PC, book reviews, reader's DIY letters and more.

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We've improved the magazine again! From this issue on you'll find World Verdicts at the end of each review. This rating system is designed to tell you in no uncertain terms how we regard the product tested.

The top score is four Hi-Fi World globes, awarded to *outstanding* products we'd be genuinely happy to live with. The operative word here is *we*. World Verdicts are a clear expression of our own view as experts rather than some notionally 'impartial' conclusion, since such things are a sham. Four globe products are few and far between, so unlike other mags we won't be handing out our top accolade like it's going out of fashion.

Three globes are awarded to *good* products which wouldn't necessarily find their way into our homes. This includes subjectively enjoyable designs with significant weaknesses in some areas. Prime examples are bass heavy loudspeakers like TDL's RTL4 and Heybrook's Heystak, deliberately engineered to appeal to listeners with tastes quite different to ours. We'll list the problems with three globe products so you can make up your own mind from our reviews and a dealer dem.

Two globes are awarded to *adequate* products that technically measure well but sound less than convincing. Many mass-market tuners and amplifiers fall into this category. Objectively they may be strong, with effective circuit design, exemplary measured performance, fine build, styling, back up, price and what have you. But switch on the product and your interest duly switches off. The reason can often be found in poor component quality, excessive use of inappropriate integrated circuits, too much feedback hiding a poor basic performance.

kaleidoscope

Reflections
from Noel
Keywood



Products like this have a horrible knack of squeezing the life and enjoyment out of music. Two globe products may also be technically shaky, such as loudspeakers with strong treble peaks, or amplifiers and CD players with strong distortion.

Finally, we reach one globe status. This is a *poor* product. It will measure badly revealing fundamental design faults, and sound objectionable under audition. Surprisingly, Thorens collect the award in this issue, with a bizarre solid-state amplifier that was nothing other than an engineering shambles, one of the worst products I've encountered in years.

An interesting point to bear in mind is that hearing something sound radically different, subjective-only reviewers are prone to assume it is better. We're well aware of this problem, what I call the 'Decca London phenomenon'! Don't be surprised that at Hi-Fi World we may appear to take a tough minded view compared to others. As engineers, bad engineering gets a rough ride, unless accompanied by some pretty convincing justifications.

Although World Verdicts are a useful way of underlining our opinions, as always we'd urge you to use your local *real hi-fi* dealer for a dem, since your own tastes and expectations are obviously

important and may differ significantly from our own.

* * *

While other magazines have giant colour advertisements for midi-systems, we've just run one of the first ever showing valves, by The Parts Connection (p24/25)! This is something of a first, a welcome sign *real hi-fi* is fighting back. There's now so much demand for valve-based products and specialist audiophile parts associated with DIY that everyone is being forced to sit up and take notice. The Parts Connection advertisement is symbolic of a new, broader approach to audio, able to cater for the interests of enthusiasts, instead of sidelining them as a penny-pinching, time wasting nuisance.

The Parts Connection are Canadian, and close by, 300B production is being restarted in America, while the rest of world is

moving in the same direction. Only a year or so ago a spokesman for Kenrad (Kentucky Radio) said valve production would never return. Now he's eating his words. That's not all though. In a delightful piece of post Cold War irony, he's also in commercial competition with the Russians who are understandably delighted that everyone wants their valves. Sovtek are about to produce a 300B clone and Svetlana a near-equivalent, adding to the 300Bs streaming out of China.

I've seen one more advertisement - really wacky this one - that I hope will someday appear in Hi-Fi World. It's a double-page, black-and-white ad. for an Alps volume control, perched on a Grecian pillar no less! I spotted this in Japan's MJ Magazine. I suppose it's the hi-fi version of a train spotter's tank loco, but so what, it's more exciting than a midi-system!



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"All theory aside, the RINGMAT really works." **Robert Deutsch (Stereophile, Vol.17 No.5 May '94)**

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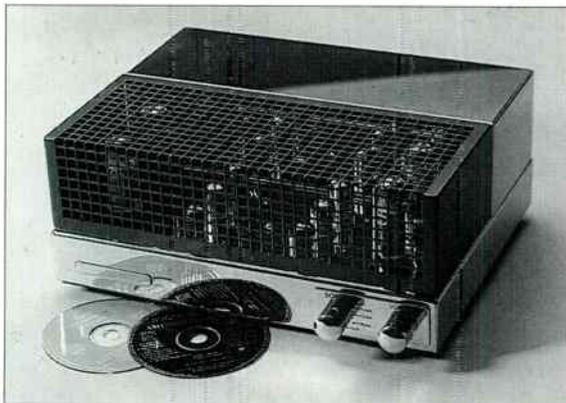


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HiFi News April '93 and November '94*

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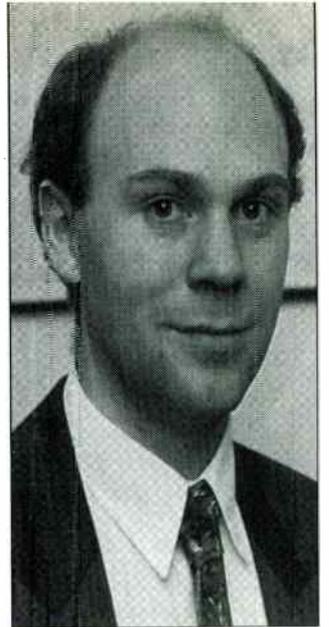
As promised last issue, this month I have described the tone control circuit for the Maximalist Preamplifier, the informal design series which has been unfolding in this column for the past half-year. Rather than design a Baxandall tone-control based around a high gain op-amp or a discrete transistor stage (an option I considered last month) I decided to look elsewhere for inspiration. I found it in a design of a vintage valve studio-equaliser, the Pultec Model EQP-IR. The blue-grey enamel fronted Pultec unit was first manufactured by Pulse Techniques Inc. of Englewood, New Jersey some forty years ago and has spawned many derivatives, amongst which are some of the *creme-de-la-creme* studio equalisers of today.

The Pultec's power lies in its ability to independently select the frequency range over which boost and cut may be applied, a degree of subtlety well beyond that of a standard tone-control circuit. Actually the EQP-IR in its original form is so complicated it offers too much of a good thing for domestic use. In the design for the preamplifier, I believe I have succeeded in sacrificing unnecessary complexity whilst preserving all-important versatility.

The diagram illustrates how the Pultec-inspired, Maximalist Preamplifier tone-control achieves all its equalisation in one entirely passive circuit of considerable complexity.

recorded message

Left by
Richard Brice



The important detail to notice is that one may, for instance, cut bass frequencies below 100Hz and - at the same time - boost sub 30Hz frequencies. Using combination of controls such as this, it's possible to clean-up a "boomy" recording (with a surfeit of energy in the 100 to 200Hz region) without emasculating the bass frequencies - a combination also extremely useful for correcting for room resonance effects from which we all suffer. The same advantages can be reaped at the top end where a conjunction of boost in the 5kHz region and treble-cut above 10kHz can help restore sparkle to cassette tapes recorded with incorrect azimuth without introducing too much tape noise in the process.

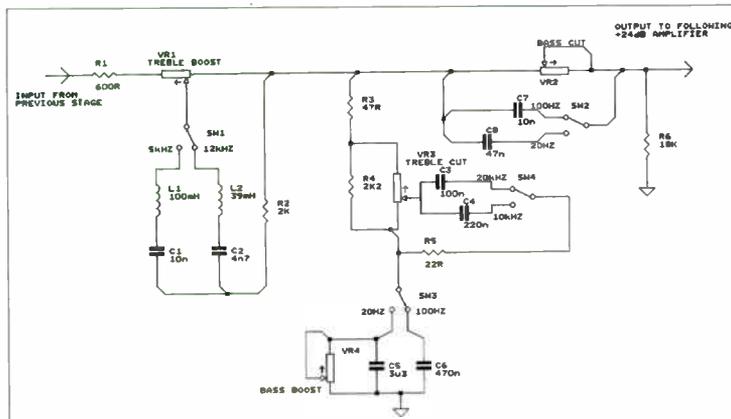
The only disadvantage of Pultec's passive approach is that the circuit introduces about 24dB of static attenuation at all frequencies when adjusted

for a flat response. In the original circuit this loss was compensated by the introduction of a push-pull, valve amplifier constructed from a 12RX7, a 12RU7 and a couple of transformers. Beautiful, but a bit clumsy for the Maximalist Preamp - especially for stereo - where I have plumbed for an op-amp circuit instead.

The design enjoys a couple of especially favourable characteristics; the first is that it cannot suffer from overloading problems or variable distortion characteristics due to reduction in feedback fraction - as is the case with a circuit like the Baxandall tone-control. Naturally, the other side of the coin is that the circuit does introduce some noise - however the impedances are very low so this is of no practical significance. The second advantage is that it does not require a bypass switch because when the controls are set to "flat", the reactive components are effectively out of circuit. The only possible source of distortion is that created by the following amplifier and that's very small indeed. Just one small technical detail, note that R2 controls the treble-boost characteristic Q. Set at 2K, the curve is pretty gentle. If you wish, you can increase or decrease the

selectivity of the boost control by altering this value.

Last month I included, for the first time, my Compuserve ID and my email address at the end of this column, inviting comments on the Maximalist Preamplifier and other hi-fi related topics. This practice has been common in the computer magazines for years. But computers affect all our lives, not just people who are involved with them for a living, hence my decision to get Recorded Message "wired". Unfortunately, the realities of publishing mean this column has to be written before last month's has hit the streets so I am as yet unable to report on any feedback. This month I have decided to go one better and provide more information on the Maximalist Preamplifier over the Internet. If you feel like a bit of 'surfing' remember to stop by. You will find all articles so far published about the Maximalist Preamplifier, as well as a host of other information by visiting my Electric Perception home page at URL, <http://www.demon.co.uk/epercept/>. You can leave messages and comments for me there or, alternatively, at Compuserve ID 100601, 1614 or via email 100601.1614@compuserve.com ●



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Epos started in loudspeakers with the ES14 in 1986. Not happy with off-

the-shelf drivers, they designed and built a special bass/mid driver that was carefully controlled so that no crossover was necessary. This approach - better driver, simpler crossover - laid down the Epos philosophy, one they follow today.

The ES14 loudspeaker was a great success. With no crossover on the bass driver and just a simple series capacitor on the 25mm metal dome tweeter, it gave a level of detail and clarity unrivalled at the price. The ES14 was followed by the more compact and affordable ES11, which quickly established itself as a class leader. The ES11 followed the same philosophy, its custom made 6inch bass/mid driver running crossover free.

The latest addition to the Epos range are the elegant ES25s which use a dedicated midrange driver for super clarity and detail. A powerful 8inch bass unit gives good bass attack and dynamics, and the smooth metal dome tweeter brings crisp highs. The ES25s are the first prize in this super competition, with the ES14s for 2nd and the ES11s for 3rd.

All three of these loudspeakers are among the best in their field, so it's a competition not to be missed. All you have to do to enter is answer the questions and complete the tie breaker opposite.

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- 1) What was Epos' first loudspeaker?

A. ES11	B. ES14
C. ES22	D. ES25

- 2) When was the ES14 first launched?

A. 1962	B. 1974
C. 1986	D. 1995

- 3) What size is the custom bass/mid driver in the Epos ES11?

A. 3inches	B. 4inches
C. 5inches	D. 6inches

- 4) What type of loudspeakers are the Epos ES25s?

A. 2-way standmounter	B. 2-way floorstander
C. 3-way standmounter	D. 3-way floorstander

TIE BREAKER (obligatory)

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- [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. Will will endeavour to publish the results in the August 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.
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There's been some interesting debate going on in our letter pages over the last few months regarding the Hi-Fi Answers R50 transmission line loudspeaker. A constructional feature describing how to build them was written by Chris Rogers and appeared way back in 1973, yet they still seem popular today. Many letter writers have suggested that loudspeakers have not made any significant advance since. I have been working on a DIY loudspeaker that challenges this, more of which later.

The R50s were essentially a three-way design with a super-tweeter that filled in above 16kHz. All the drivers were advanced for their time. There was a powerful KEF B139 bass unit, the legendary B110 Bextrene midrange driver (also used in the LS3/5a), a KEF T27 tweeter and an STC super tweeter. For those unfamiliar with the R50s, they were very similar to the Cambridge R50s and aren't too distant in driver complement from a Linn Isobarik with a super tweeter.

Like any well designed three-way loudspeaker, the R50s displayed deep, powerful bass, a clear midrange with super projection and an open treble quality. With all of this going for them, it's not surprising they stand up to modern competition. As a testament to the quality of their drivers, these 'speakers are still available today for £528 from Wilmslow, the 'speaker kit people. This is cheap considering a commercial version of the R50s today would cost well in excess of £5000 I estimate, putting them well out of the league of most enthusiasts.

So, has loudspeaker technology really been standing still, or at best

moving sideways since the 1960s? Well, yes and no.

There are some advanced materials available to loudspeaker engineers today: glass fibre, Kevlar, carbon fibre, PolyKevlar, TPX, Aerogel, various metals including magnesium and many more. But economic constraints prevent these exotic high tech materials filtering down to commercial designs.

Under £2000 you are lucky to find anything apart from good 'ole paper, plastic or metal

“Has loudspeaker technology really been standing still, or at best moving sideways since the 1960s?”

alloys being used in drivers. Rather than concentrating on better cone materials, many still use inadequate drivers in increasingly elaborate cabinet constructions. A better driver has a more neutral sonic signature, smoother, wider response, and greater sensitivity from a lighter, faster cone. This reveals more transient information, giving your amplifier a far easier time, lessening distortion. There's a clear route forward here.

Prompted by a reader

Dominic Baker



opinion

looking for a loudspeaker combining the effortless extension of the R50s with greater sensitivity, more detail, faster transients and a clearer, more precise sound stage, we're aiming to reveal an all-new design I have been working on in the next DIY Supplement (August 1995 issue).

Mike, of deepest South-West Wales, has a truly superb system, the kind most of us dream of. His TEAC P500 transport feeds a DPA 1024 CD convertor (featured in our July '94 issue). The amplifier is also from DPA, the ultra-rare 1000S pre/power. The preamplifier actually uses hand assembled, silver air-gap capacitors, the ultimate in transparency and cost! They were so difficult to make that only a handful of these amplifiers exist, one set being cherished by reviewer Paul Miller and used as a reference.

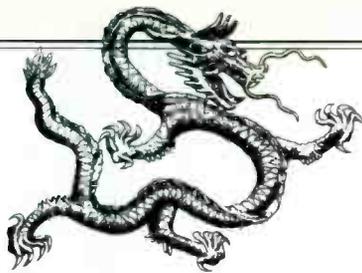
With a system of this calibre, what loudspeakers do you use? Mike called us to ask about the new Audax Aerogel drivers, which he thought might be just the thing. Having used Quad electrostatics, he was after a high level of clarity, imaging and soundstaging. With such a system, I decided he'd make a fine guinea pig for a design approach I had in mind that would likely achieve this. I had wanted to try my latest idea, to use a top quality midrange and treble unit on an open baffle, for months, but

hadn't had time to do so.

To cut a long story short, we arrived at a three-way design using the new Audax HD-P3 piezo electric, gold-dome tweeter, fantastically expensive at £225 each. All the same, Mike, Rob Watts of DPA and myself, all agree after hearing them that they are worth it. The midrange driver I selected was the new HM100Z0 Aerogel unit, used on an open baffle with felt and long hair wool curtains to absorb rear radiation and give pin sharp imaging. Bass was provided by an 8" Aerogel unit in a large, reflex-loaded cabinet, which Mike glass lined for extra rigidity.

The results from this loudspeaker were far better than any of us could have imagined. Its drivers are costly and a lot of work is involved, but the result sets new standards in many areas. It combines the best qualities of an electrostatic, notably terrific sound stage width and depth, with precise imaging, high sensitivity, fantastic dynamics and superb detail.

We hope to publish a design suitable for home constructors in the next supplement and will endeavour to have a pair on demonstration at the Cumberland Hotel for the *London Sound & Vision Hi-Fi Show* taking place on 21-24 September 1995 so you can hear what modern technology has to offer. I'm sure you'll like them ●



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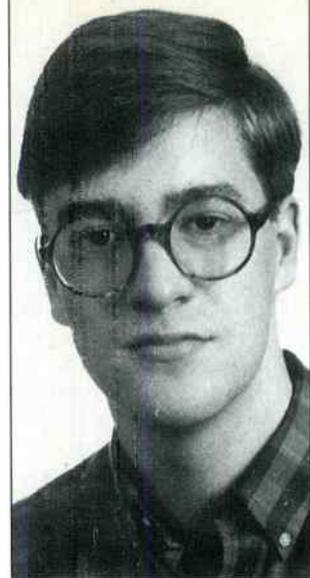
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Fair Views

- from Dominic
Todd, our man in
Scarborough



Hard as it is to believe, it's now three years since Digital Compact Cassette and Mini Disc were launched on an unsuspecting British public. Yet unlike CD, which was making notable inroads into both hi-fi and music shops in its third year, both DCC and MD appear to have made very little impression on the industry at all.

You only need to visit any large music store, and you'll be hard pushed to find evidence of either format, and if the software does exist, it's usually tucked away in the corner of the shop on a single, dusty carousel. Likewise, in hi-fi shops the hardware is given little prominence, except when being sold off cheap!

So why have both formats failed so ignominiously over the past three years, when it was thought at least one would have replaced Compact Cassette by the turn of the century?

It's certainly not through want of trying, or even a failing with the products themselves. Both Philips and Sony

Philips. Both formats have also received encouraging reviews - although admittedly DCC more than MD - in the hi-fi press and even the press at large.

The obvious reason for the formats' conspicuous lack of success is the paucity of software. Despite both Sony and Philips having large stakes in the recording industry, neither have managed to offer sufficient variety across a wide enough network of stores.

Another has been the confusion and scepticism shown by other hi-fi

DCC as standard, and MD remains firmly on the options list for Sony-equipped Audis. Further disarray followed in the in-car entertainment market as the highly respected Alpine backed Philips at first, and then later decided to produce a Mini Disc machine.

It could be argued that the depressed state of Western markets at the time of the formats' launch dampened enthusiasm. However, the greatest failing of DCC and Mini Disc has to be that the public at large were not ready or simply didn't want them. Granted, the matter of want has never got in the way of new formats in the past. But in this case the launch of the new formats coincided with peak sales of Compact Disc machines, and although DCC and MD weren't meant to compete, that's how they were perceived by many - as a replacement for CD.

To an extent Sony and Philips are victims of CD's success (quite ironic when you consider they are the same two companies which pioneered that particular format). With software widely available at a variety of prices, the increasing fitment of CD players in cars, and an army of portable machines costing no more than a decent Walkman, there seemed little need for a new

recording format.

Had the new recording format been a conventional recordable CD at a reasonable price then things may well have turned out differently. As it stands however, I see Compact Cassette remaining the main recording format at the end of the century.

The irony is that whilst different manufacturers have been battling over new formats, many enthusiasts have turned their backs on the supposed technology race, and instead focused upon classic hi-fi. By classic I mean valve amplifiers, vinyl and a return to DIY. This has been well documented in these pages before and I'm not about to go into it again, but consider this as a final twist of fate. The recording format that found itself ousted by the humble Compact Cassette, the reel to reel, is now facing its strongest revival in years.

It's true that top decks such as Revox B77/A77s and certain TEACs have always been sought after. But now it seems even the most humble of open reel tape recorders are fetching upwards of £100. One of the most sought after is the Philips Black Tulip, a superbly built three-head machine that never really took off in its day. History, it seems, has a habit of repeating itself ●

“The greatest failing of DCC and Mini Disc has to be that the public at large were not ready or simply didn't want them.”

have adapted to market needs by offering both portable and full size machines. Price has never really been a handicap either. Compared with the first generation CD players, DCC and MD machines were not that expensive. Three years down the line it's now possible to pick up either format for the price of a mid-range cassette deck, or less in the case of the

manufacturers. With the exception of Technics who backed DCC from the start, the only other manufacturers to develop products thus far have been affiliated with either Sony or Philips. We were also promised in-car machines, and although these have arrived they've yet to be fitted as standard as had been suggested. Rover and Vauxhall have yet to offer

It all started when I went to a friend's house for dinner. As the wine began to flow, a guest asked me what I did for a living. Mentioning hi-fi, she chimed: "I've just bought a hi-fi". Expecting to hear an interesting tale of endeavour in a strongly 'male interest' topic, she proudly announced a name and model number. The alarm bells rang. Hi-fis, after all, don't have model numbers, because they don't come in packages of one.

You've guessed it - the object of her enthusiasm was a mini-system. "Are you familiar with it?", she asked. "Not really, I'm afraid", I had to reply. I was faced with a dilemma: should I lecture her about what "a hi-fi" constitutes, or just feign interest and get onto the subject of the weather as soon as possible?

Naturally, being British, I went for the latter. I wasn't about to turn into a crusading pedagogue and spoil the evening with my annoyance that what she'd called hi-fi in fact cost £150 at a local High Street cooker/fridge/ hairdryer emporium. So how could I admit to not knowing her hi-fi, even though the salesman had convinced her it was "the latest thing", so popular it was "walking off the shelves"? Inevitably, London's April showers became the evening's talking point.

It wasn't always like this of course. Once, hi-fi was the third largest purchase people would make, and music centres - the midi equivalents of the day - were a sign of their owners' obvious dislike of music, or at least their inability to keep up with Jones's.

I first got into hi-fi when Malcolm McDonald was God's gift to football, Joanna Lumley was fighting the Russians in *The New Avengers* and the world's supplies of aluminium were being depleted by the need for brushed metal fascias. Hi-fi was *the* thing to have, and magazines were packed

audiophilia

David Price



with glossy double page spreads of the latest confection in rooms with Habitat sofas and orange wallpaper, obscured only by a specifications telling everything from power output to the number of integrated circuits inside.

The first hi-fi magazine I bought was Hi-Fi Sound. Opening its pages revealed a bewildering array of shiny silver amplifiers and impressive looking turntables. I was struck by SME's latest precision pick-up arm, designed to track Shure cartridges down to a millionth of a gram. Serious 'speakers of the time had sculpted foam grilles and more drivers than a fleet of double decker buses.

It all seemed a bit of a black art back then, with amplifiers that hummed like bees unless you 'matched' them properly. Which was better, DIN inputs or phonos? What about running eight pairs of speakers from a champagne gold Marantz receiver? It seemed to me that these magazines performed a vital service to the nation. Where would the British music business be if rock fans were unable to play 'Dark Side of The Moon in glorious quadrasonic sound?

Now, it seems, the British public's perception of hi-fi is a wretched £150 black box with plastic speakers that seventies music fans wouldn't consign to the boot of

their Hillman Imp. What's gone wrong?

Well, I fear the great consumer electronics PR machine in the sky has convinced hapless buyers that mini systems are hi-fi, and that's all you need for your Greatest Hits CDs to sound great.

Should we pack it all in and go home? And will the last music lover to leave please turn the Sondek off? Has it all collapsed? No, I don't think so, because there's still a formidable number of

class products, and relative newcomers of the eighties, like Audiolab, are blossoming. Meanwhile, small companies are fearlessly launching products into a market that would appear to be in decline.

Perhaps the recession of the past few years, coupled with fads like A/V, and the micro/mini/midi cul-de-sac hasn't been all bad for British companies with a sense of vision. It has served to keep them both focussed and

"The British public's perception of hi-fi is a £150 black box with plastic speakers that seventies music fans wouldn't consign to the boot of their Hillman Imp."

music lovers out there who care about how they listen to music, and they're making themselves increasingly visible to us here at World. Indeed, if it's not too bold an assertion, there seems to be a grass-roots revival in the idea of listening to music in the way it was intended.

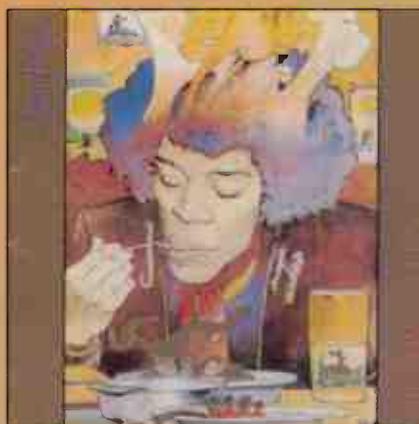
Small, specialist manufacturers of the seventies like Linn and Naim have prevailed in the real hi-fi marketplace. Established names like Quad, KEF and Tannoy are reinventing themselves with cutting edge, world-

efficient, whilst at the same time persuading the Japanese giants that bigger game lay elsewhere.

Having worked on Hi-Fi World for just six months, I can already see the dedication and enthusiasm that makes the best British manufacturers the successes they are today. I can also sense the energy of some of our more far sighted hi-fi retailers, confident in the knowledge that some interesting developments in the hi-fi world lie ahead. Maybe I should've delivered that sermon at the dinner party after all! ●

The Music Days

Giovanni Dadomo



JIMI HENDRIX
Voodoo Soup
 327 578-2

● What is this, the day of the living dead or what? Someone once said dying was the best career move an artist could ever make. In recent years the likes of Tim Buckley, Nick Drake, Jackie Wilson and a good score more (did someone mention Jim Morrison?) have sold more records posthumously than ever in their tragically brief lives. None more so than James Marshall Hendrix, the man who put Seattle on the map before the (equally defunct) Kurt Cobain was even an itch in his parents' pants.

Despite an extraordinarily brief career Hendrix, though releasing a mere handful of records while still with us, his posthumous releases could fill a small apartment building. These have ranged from ancient recordings where he was a barely audible, peripheral hired hand, to full-blown LP's proper, made by adding extra musicians to demos,

which proved veritable goldmines for whoever could get their hands on them.

A friend and I of similar vintage once agreed there are precious few good things about getting older. In no particular order, you can drink more beer, love more women and if very lucky, you might just have caught Jimi Hendrix in the flesh. It's impossible to explain the thrill of being stood behind Jimi's amp the first time he played London's Marquee Club way back in '66. True, The Stones introduced us to r'n'b, the Kinks invented heavy metal, and all manner of rebellion was in the air. But Hendrix was a veritable Gulliver who made contemporary guitar heroes like Beck, Page, Clapton, even the demonic Pete Townsend look and sound, as all were fast to admit, mere Lilliputians by comparison.

For a boring old bugger like me even most of the discs issued while he was still alive and in total control rarely came anywhere close to the pure, sensual joy of a seeing him live. Every woman I took wanted to share his bed. But above all it was his soaring power and imagination that gave the late sixties its most distinct and lasting signature tune. One simply could not believe a single Strat could make sounds like that until you dug *this* particular cat.

Flashes of that brilliance still shine through a largely familiar selection, albeit in differing arrangements. It's patently obvious for instance that 'The New Rising Sun', planned title cut of the album Jimi was working on when he died, was by no means finished, and truth be told, some instrumentation could barely have been possible thirty years back. Most of the rest is familiar stuff: a stomping 'Freedom', a somewhat wobbly 'Angel' which barely earns its

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wings, and so on. Still despite more than a few remodels of haunting riffs as old as the blues itself, this remains one of the more interesting of latter-day Hendrix collections.

This is the sound of Robert Johnson's only real natural-born inheritor – not always at his best perhaps but more than often still miles above the rest. You'll believe a man and his guitar can fly.



MARIANNE FAITHFULL
A Secret Life
ISLAND CID8038

● Morose, maladroit moribund – forgive if you can dear reader, the tendency towards pretension. But when all's said and done there's definitely something regal about this particular senorita. Now as it happens, I shared a beer with Ms Faithful not so long ago (I know, it's a tough job...etc.) and she exudes the same feel of someone walking a tightrope – part aristocrat, part guttersnipe, half virgin, half whore; from the lowest to the loftiest, Marianne rung the very gamut. And sure, she's nothing if not a living cliché – we all know about her mother's blue blood, how she was Jagger's girl when his mere name/image was a totem to a generation, etc.

She's written one great song 'Sister Morphine', and made one ultra-classic long-player in Broken English. This be neither, but it nonetheless remains and either you forget them echoes of Piaf or Brel or Dylan or whoever or read them as homages. Whatever, Marianne remains unique, and A Secret Life is proof positive this is an artist of stature and continuing growth.

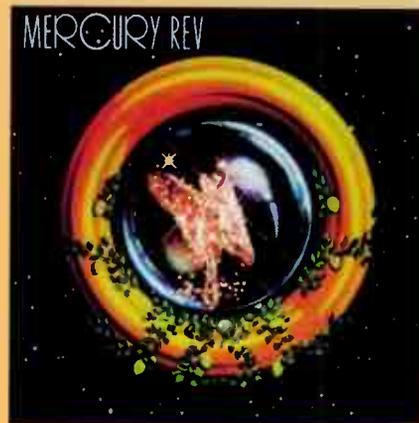
PS. Professional Bit – there's a song on here called 'Flaming September' that's really very good – good enough that you can forgive her showing off her literary erudition by starting this disc wiv a bit of yer Dante' Divina Commedia' Alighieri, and rounding it off

with a dollop of that equally posey old ponce Will Shakespeare. Such minor cavils aside, this is one diva who hasn't gone divvy with the passing of time. Acolytes will not be disappointed even if the rest of the pop world continues to be entranced by mere boys like Blur and Oasis. They might still be able to learn something from a full-grown woman like Marianne Faithful.



TEENAGE FANCLUB
Grand Prix
CREATION CFE CD 173

● Hard as it is to believe, this is record numero five from the Fannies, and don't time just fly? No radical changes to report – and why spit on an audience-friendly, radio-loveable formula anyway? The Teens may or may not win a heap of new followers with this latest offering – it is after all primarily the familiar blend of Byrdsian jingle-jangle guitars and sweetly harmonious vocal stylings. That said Teenage Fanclub remain the finest purveyors of this particular style this side of Big Star at their best and rarest. Recommended tracks: all of 'em. A band at their remarkably continuing best, no mistake, and equally entrancing to die-hard baldies and erudite youngsters alike. A gem. No problemo, but is the title a bad pun or what?



MERCURY REV
See You On The Other Side
JUNGLE BBQCD 176

● They may well open with the cheekiest – obviously deliberate – Velvet Underground steal in pop history, but on this offering at least, the Merc's are a pop band of classic proportions – check out the awesomely catchy 'Sudden Ray Of Hope', the irresistible 'Racing The Tide' or the wry 'Close Encounters of the 3rd Grade' for starters. Sharp, luminous, endlessly intoxicating.



WEEZER
Weezer
Geffen GED 24629

● Weezer are as fine and imaginative a foursome of geezers as you'd want to share a pint with. Their music's alternately delicate, tough, imaginative, forceful, restrained – you name it, you got it. Aside from a sublime cover of The Beach Boys/Bryan Wilson's 'Buddy Holly' – which actually improves and enlivens the original, there are Weezer's own songs – the witty 'Undone – The Sweater Song', the love-happy 'In The Garage' – to make this a band more than worth lending an earhole to. Neat stuff.

Rock + Pop.

BOB DYLAN
MTV Unplugged
 COLUMBIA 478374 2

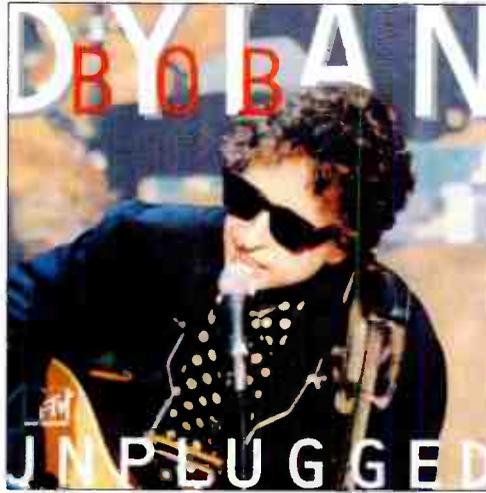
● Like fashion, popular music continually re-upholsters and steals from its own past whilst pretending to progress. It's hard to imagine the climate of the mid-Sixties unless you were actually there. Veteran "folkies", with their bad beards and even worse sweaters, were as much of a hip elite in their day as the mods, hippies and punks of subsequent generations.

Joe Strummer used to wear a Vivienne Westwood shirt juxtaposing the stencilled words "FASHION" and "PASSION". But the point being made was that in pop as in fashion, it's more a question of what happens to be "in" at any particular time rather than who's on the ball creatively. In the long run however, and on the evidence of this latest Dylan release, what really matters is the actual music concerned.

Thus, some three decades later, it's Dylan going *acoustic* that's a revolutionary act. The irony is that as with recent similar outings by Neil Young, Nirvana and many more, the novelty is hearing the songs without benefit of leccy, as we Brookside fans call it. John Lee Hooker once wrote a song called 'This Is Hip'; so maybe we should be asking the opposite, i.e. Is this hip? The truth is that the 'Unplugged' series has been both a novel and financially successful way for producers and consumers to taste the past with fresh eyes and ears (was that

a mixed metaphor or what?).

A brief early flirtation with late fifties' rock'n'roll aside, the young Zimmerman cut his musical teeth *a la* Woody Guthrie, Lead-belly *et al.*



assisted simply by acoustic guitar and wheezy harp. Of the twelve cuts here, most are drawn from Dylan's most prolific, commercially successful period – shortly after he picked up that instrument of Satan, the electrical guitar and joined forces with Robbie Robertson and the rest of the inestimably brilliant The Band. The opening 'Tombstone Blues' is arguably even better than the original; certainly no mere run-through of a solid favourite. By comparison 'All Along The Watchtower' was always a great song, but nobody ever did it better than Hendrix, Dylan included.

'Rainy Day Women' (version 197, words unaltered), 'The Times They Are A Changin'', 'Desolation Row' and other staples retain both dignity and

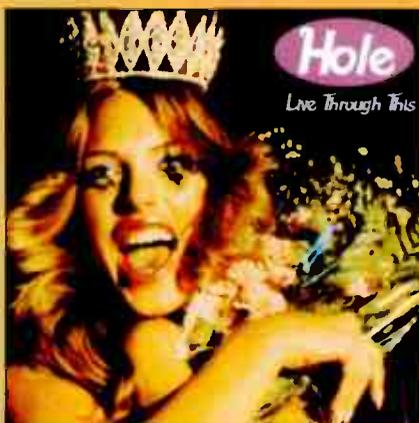
style, but 'Like A Rolling Stone' in the stripped-down version here, is a bit like watching a postage stamp version of a Cinemascope melodrama without the breadth and passion of the original.

As for 'Knocking On Heaven's Door' one can't help but be drawn back to the original 'Pat Garrett & Billy The Kid' soundtrack version or the masterly refurbishment given by Tom Verlaine and peak-period Television, to which Verlaine's anguished voicings added a dimension far beyond Dylan's well-used but admittedly limited thoracic scope.

I'll tell you a funny thing: Lou Reed, easily most brilliant of Dylan's mid-Sixties' offspring, has gone from a mild tenor to something far deeper and darker as the years and his voice progressed. To this listener latterday Dylan seems to have gone the other way entirely; whereas he sounded like a sixty year old man in those early outings, he now sounds more like someone half that age with a few i.p.s. added.

Listen to recent 'proper' Dylan albums and it's the same story – every now and then Bob sounds like he's inhaled a spot too much helium. Still, Dylan has nothing to be ashamed of where this recording's concerned. What's really telling is the great bulk of the material here is from the earlier part of his back catalogue. Does this mean that this is the lad's *creme de la creme*? Or simply that a good dozen more recordings in similar vein are gradually to follow? Whatever, neither new nor old fans are likely to be disappointed by this saunter through Bob's back pages.

Jon Clarke



HOLE
Live Through This
 GEFEN GED74631

● Like a growth on the coy underbelly of the music industry, Courtney Love creeps ever closer to pop stardom. Having just appeared on *Top Of The Pops* with a top 40 single, the wife of the late Kurt Cobain - who tragically killed himself with a single gunshot wound to the head last year - has re-released her band Hole's 1994 *Live Through This*.

Seeing her perform the single 'Doll Parts' on *TOTP* was all the more chilling, knowing of her husband's untimely death. And *Live Through This* probably

better explains the sentiments of the Nirvana singer than his own suicide note. It must be lyrically one of the most disturbing and warped albums ever released.

But while it tells of drug abuse, depression and a misspent childhood it is ultimately one of the best hardcore rock albums released since Nirvana's *Never Mind* of some years before.

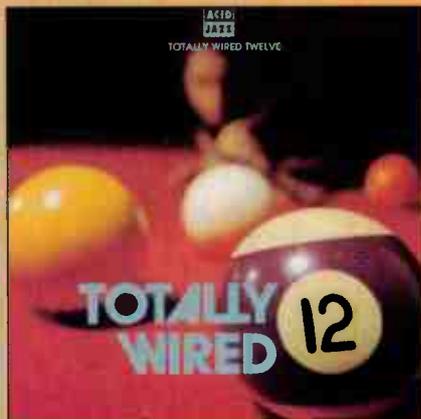
Courtney, the ex-stripper and smack addict who once dated Julian Cope while squatting in Liverpool, is very much the inspiration and driving force behind Hole. She recounts tales of her wicked life, in such a venomous vein that the listener is defied not sympathise

for this sorry, self-abused rock victim.

Songs like 'Violet', 'She Walks On Me' and 'Plump' all talk of desperation, victimisation and teenage angst. But the best moments are the 'Doll Parts' single and 'Miss World', a critical look at beauty contests, with the brilliant line: "I'm Miss World, somebody kill me."

As a package, the album whizzes past in forty minutes flat, with such speed and aggression that it almost feels like an EP. Of course, there are too many references to suicide, guns and drugs, and it's very unnerving when a mother and wife, whose husband has shot himself, behaves in such a lewd and aggressive manner.

But it is this very behaviour that hammers the album home to where it should be. And it is this that will hopefully carry Courtney to the fame and fortune which she not only deserves, but which might just keep her from joining husband Kurt.



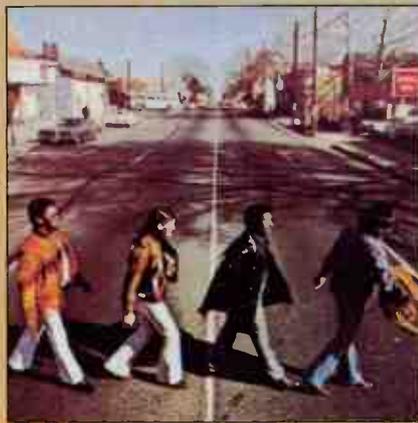
VARIOUS
Totally Wired 12
ACID JAZZ JAZZ/DCD 120

● On a groovier tip, Acid Jazz continues its now legendary series of compilations with *Totally Wired 12*, a kind of *Now That's What I Call Music* for hipsters.

Every time the Acid Jazz stable brings out another compilation, it's tempting to pass it by, thinking "I've heard it all before." But what's in a name? Nowadays, an Acid Jazz compilation is not one set vibe, but an umbrella for new dance talent as varied as chalk and chicken. It's also a forum for new acts to showcase their style alongside bigger, more established names.

On the twelfth *Totally Wired* effort are 14 varied tracks, starting with the brilliant 'Life Eternal', by the much-missed Mother Earth, setting a tone for the album, which drifts lazily from soul to funk to rap to jazz.

David Price



BOOKER T & THE M.G.'s
McLemore Avenue
STAX CDXSE 014

● Along with the Ten Commandments, one of life's most basic tenets is "thou shalt not cover Beatles' songs". Should you ever find yourself in breach of this, you join the inglorious company of *Wet Wet Wet* and *Candy Flip*, not forgetting a thousand other also-rans who later confess "the record company told us to". The reason being of course, that however 'original' an interpretation you may think it, it won't be the slightest, slimmest patch on the original.

Such wisdom momentarily escaped Booker T & the M.G.'s back in 1970, when they took *Abbey Road* in its entirety, scrambled it into three medleys, and substituted the Fabs' plaintive harmonies for lashings of electric organ. *McLemore Avenue* was the result, and a damn fine album it is too. The cover, showing a long haired Booker T. Jones, Steve Cropper, Donald "Duck" Dunn and Al Jackson crossing a wide American Mainstreet, Chevies parked either side and flares flapping in the crisp spring breeze, makes clear their good intentions. It's a loving, *all-American* take two.

For more than a decade Booker T & The M.G.'s were the house band for the Stax label, making their name in '62 with 'Green Onions', a subtle, infectious exercise in 'Southern Soul' that became *de rigeur* for any self-respecting London mod. Yet their contribution to countless sessions by Stax luminaries from Otis Redding to Sam and Dave was equally vital. Indeed guitarist Cropper's writing talents found him co-penned classics like 'In the Midnight Hour', 'Knock on Wood' and '(Sittin' on) The Dock of the Bay'.

So with the band's 24-carat Stax

pedigree, these forty minutes of loose organ grooves stand proud in their own right. Without the crispness of earlier, vintage Stax or the opulence of later 'Shaft'-period epics, this re-release still catches the band in glorious pre-split form. If you've ever imagined a Memphis-born McCartney or Lennon with soul of the non-plastic variety, *McLemore Avenue* will bring an evil grin to your mutton chops. Who said classics aren't there to be covered?



VARIOUS ARTISTS
The Sound Gallery
EMI 8 32280

● London's burgeoning acid jazz scene is now expanding its remit to a distinctly nineties reading of the plot so far with jazz-punk, and spiralling off into that most unlikely of cul-de-sacs, easy listening. So, put on your best fawn turtle-neck and hipsters for a trip to Soho nite-spots like *Smashing*, where people with threads the envy of Randall and Hopkirk can be found celebrating what's now tagged "exotic easy listening".

With commendable speed, EMI have responded with *The Sound Gallery*, a unique collection of saccharine tunes packed with cascading strings, walking valve-amped basslines and the compulsory Hammond organ. So far out and pushed back are the likes of *Mandingo* and *Denny Wright* and the *Hustlers* that the *James Taylor Quartet* would willingly auction their last long-playing microgroove record for an ounce of the action.

The *Sound Gallery* team comprise *Smashing* DJ Martin Green - favourite colour green, *Tristram Penna* - who'd like to hear strings on every EMI record release, and Patrick "The Quadfather" Whitaker - who owns every quadraphonic disc ever made. Together, their passion for EMI's *Abbey Road Studio Two Stereo* releases knows no bounds. Get the picture, daddio?

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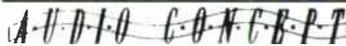


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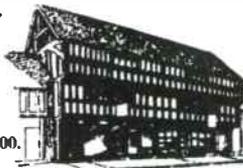
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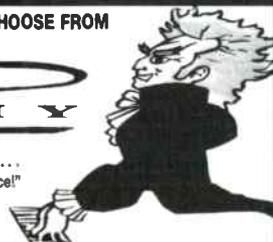
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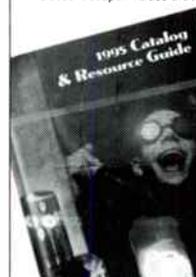
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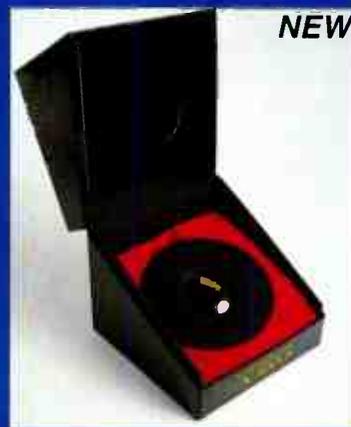
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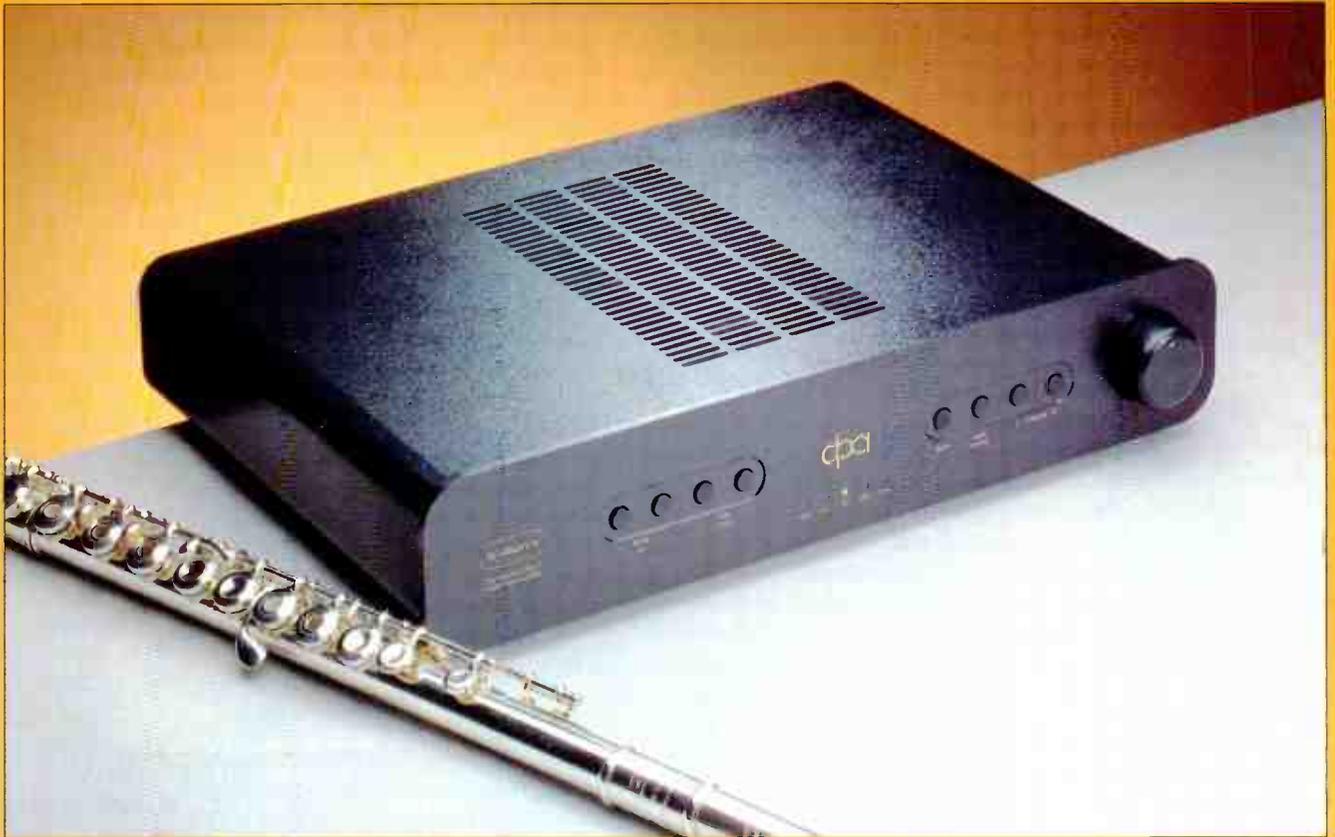
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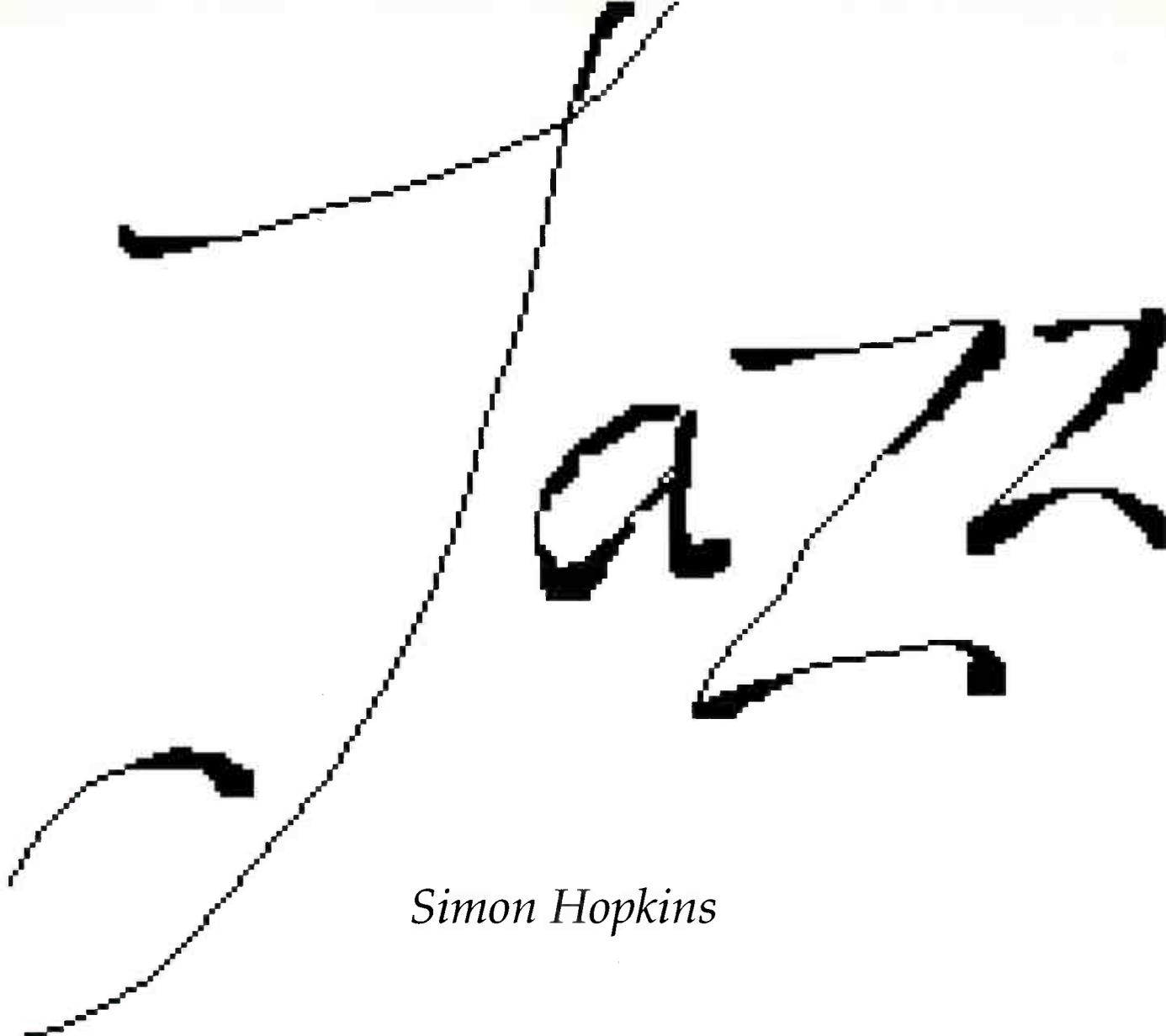
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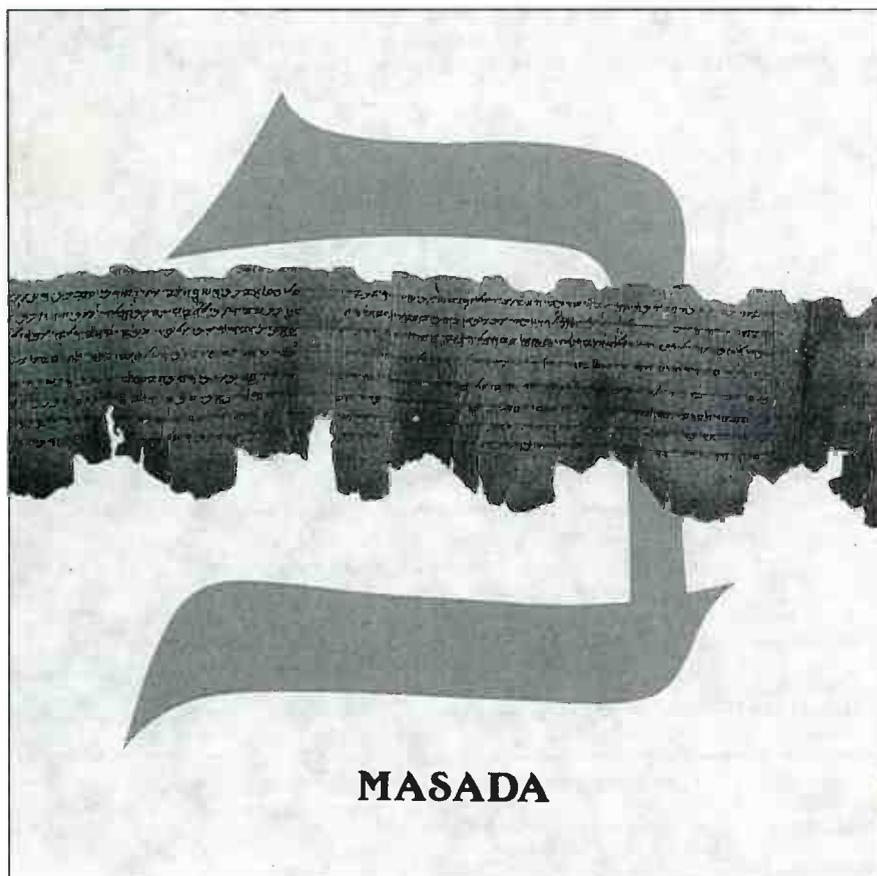
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Simon Hopkins



JOHN ZORN

Masada 2 - Beit

DIW DIW889

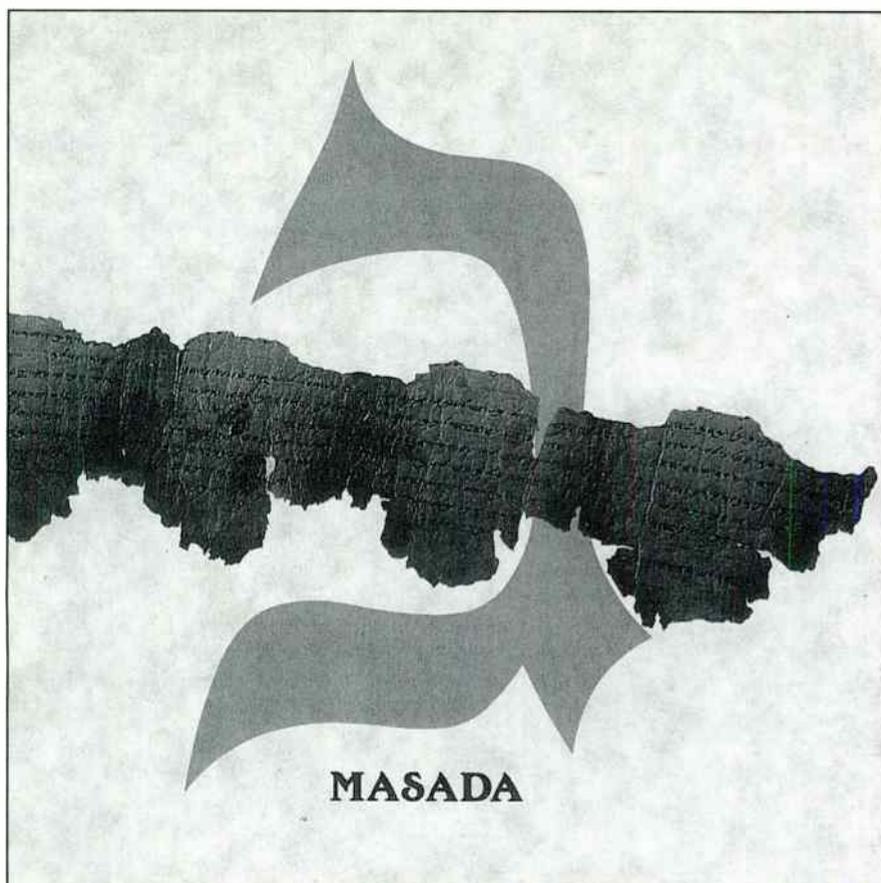
Masada 3 - Gimel

DIW DIW890

● We looked at part one of Masada a couple of months back. Hot on its heels come parts two and three, and again we're unquestionably faced with some of the finest acoustic jazz recorded in twenty years or more.

John Zorn has had such a staggeringly diverse, influential, and at times epochal career that no matter how many times we drop in on him, this hack feels compelled to spell at least some of it out. This isn't historical irrelevance; Masada can of course stand entirely on its own, and ultimately will have to be judged by each newcomer by listening as that nice young George Michael once wanted us to: without prejudice. Nonetheless, Masada's place in the context of Zorn's twenty plus years of music making make it that much more remarkable.

By the time all but the most



psychotically omnivorous music fan in the UK had even vaguely heard of Zorn, the alto saxophonist and composer-collagist had already been making music in the post-punk, post-jazz, post-everything underground New York scene, which had given birth to (or would) talents as diverse as hip avant-funksters like James Blood Ulmer, Material and Defunkt, noise composers like Rhys Chatham and Glenn Branca, and a host of meta-modern jazzers.

Now like the genuine maverick genius he is, Zorn casually nicked whatever influences he could from these musicians around him, from the funkateers, the new complexity composers and the jazz heads, and mixed them liberally with the experiences of a lifetime listening to records in such a recklessly promiscuous manner as to render irrelevant any surface differences between (and here we might as well grab names at random) The Beach Boys, Ennio Morricone, Mauricio Kagel, Lennie Tristano and Bollywood soundtracks and... you get the picture.

So, over the course of a couple of decades, Zorn would be responsible for amongst many things; large-scale collage works like *The Big Gundown*, a tribute to spaghetti western soundtrack composer Morricone, and *Spillane*, a film noir soundtrack-cum-collage exploring the New York streets through which Mike Hammer would drag his weary carcass; *Naked City*, a

quintet which took the cream of the New York avant-garde and had them thrash 'n' burn their way through every western pop genre (and then some); and a bunch of free jazz/improv gatherings he orchestrated/conducted via a series of complex post-Cagean game-based devices. (There's a genuine case to be made for Zorn as the most important American composer since Cage, but this ain't the time or place to do it.)

What often gets overlooked - and here we see the depressing conservatism of the jazz fraternity at its worst - is just how much Zorn has taken from and given to the jazz canon. The monumental *Spy vs. Spy* took the huge influence fellow altoist and composer Ornette Coleman had on Zorn and wrote in six foot letters tunes from throughout Ornette's career. (From classic sixties Atlantic work to his return to form in the unlikely company of fusion guitar superstar Pat Metheny on song, played by a two alto, two drums and bass quintet in the style of the innumerable groups of late eighties British, New York and Japan hardcore and thrash scene. Such groups had twenty-second songs and 200+ BPM tempi and great names like Napalm Death, Carcass, Lip Cream, Live Skull and Bolt Thrower.)

Now this might sound so clever-clever (and God knows, that's what it was written off as so often), but the truth is quite the reverse. Zorn took

both the soul and the mechanics of these two musics and showed them for what they are: two different expressions of the same musical will. (This of course is the secret of great art: to reveal something hitherto occult again, there's a case to be made for Zorn as the most important American artists - of any medium since Andy Warhol.)

More Zorn jazz? Well his hard bop fixations (not to mention - and regrettably it seldom is mentioned - his undoubted brilliance as a virtuoso hard bop altoist) surfaced on the New for Lulu and *More News for Lulu* chamber jazz trios he recorded with trombonist George Lewis and long-time compadre and guitarist Bill Frisell. And for that matter, on the criminally ignored *Voodoo* by the Sonny Clark Memorial Quartet, wherein Zorn played hard-bop alongside pianist (and sometime *Naked City* sleazy keyboardist Wayne Horvitz, bassist Ray Drummond and fellow eclecticist Bobby Previte at the drums.

So you get the picture: Zorn plays, writes, and arranges a lot of weird shit for sure, but he's a serious jazzier to boot. Which raises questions like how he named a *Naked City* track 'Jazz Snob Eat Shit'? Well, there's no question Zorn knows his jazz history, culture and chops as well as any intellectually moth-balled "discerning" jazz archivist like Winton Marsalis. What Zorn gets perhaps more than any other single living, working jazz musician, is that what this music thrives on and always has, is new blood. Jazz isn't an idiomatic, pure genre. Sure, its subsets - bop or swing or fusion or dixie or free - are. But as living, dynamic organism, jazz is a thirsty vampire indeed.

So what does Zorn's Masada group bring to the music? Well, to a great degree this is almost another Ornette Coleman-axis album, but this time Zorn tackles Coleman's music - and the whole of sixties post-bop generally - through a series of pieces musically drawn from Eastern European and Middle Eastern Jewish traditional musics, and historically inspired by Jewish history, specifically the Jewish mass-suicide at the rock of Masada, a final statement of freedom in the face of Imperial Roman oppression and enslavement.

On *Masada 2 - or Beit* - the group (Zorn on alto, trumpeter Dave Douglas, bassist Greg Cohen and drummer Joey Baron) work their way through eleven crushing arrangements. 'Pirah' starts with a rousing folk theme underpinned with blistering hard-bop rhythms (which Baron plays like no-one on earth); 'Hadasha' is a somnambulistic B movie

theme; 'Lachish' is pure Ornette, with mad alto and trumpet scurrying around each other over a schizophrenic rhythm barely settling on a pulse; on 'Ravayah' Cohen lays down a funky 7/4 groove while Baron redeems the very idea of the drum solo with a swinging, sassy grace to die for; while 'Tirzah' is a long, slowly grinding blues that's like stepping into the double-life of a secret drinker.

The final part of the Masada trilogy - Gimel - opens in a freer mood but soon settles into the gently swinging 'Ziphim', over which Douglas and Zorn exchange impassioned call-and-response phrases; 'Hazo' lurches from striding funk to piano-lounge sleaze; 'Karaim' is a beautiful and hypnotic Middle Eastern blues around which the horns spin a delicate web; 'Hekhal' is a real heart-stopper, a 160 BPM cross-town chase with righteous, temple-bursting horn solos. The set closes with more mourning; on 'Tannaim' Baron beats out a slow, steady waltz and Zorn turns in one of finest solos, a soulful, searching cry right out of Ornette's 'Lonely Woman'.

These three Masada records aren't really epochal in any sense. They're one musician's earnest attempt to quietly add to and develop the music he loves, and pay homage to the great cultural history of his people. Or they're four jazz musicians playing urgent music at the very peak of their powers. They won't change the world beyond perhaps the immediate aesthetic boundaries of the few lucky people dotted around the world who'll actually hear them.

And yet all this music has a weight, resonance and depth that makes you feel you're listening to something very special. There's simply something about this music which gives you the distinct impression that in ten, twenty or thirty years' time, when you look back on what records stick in your memory from this time, Masada will stick miles out from the rest. Until then, sit back and enjoy.

Simon Cooke

MOSES TAIWA MOLELEKWA
Finding One's Self
BW053

● Yes it's happened! I reviewed Siphon Gumedé's 'Down Freedom Avenue' on the B&W label last April for reasons not entirely positive, and I've been even less impressed with other B&W releases.



Still, all things good and bad pass, and I'm delighted to say their run of mediocre jazz releases ends here.

I'm rather cynical about acknowledgement lists in new releases, but Molelekwa lavishes two whole pages of the CD booklet on them and gives each name a specific blessing. He even spares four lines titled "Praise" for the Man Upstairs. Could it be that we're onto a really different recording artist or just a silver disc evangelist?

Well, neither really, except insofar as Molelekwa is a pianist with palpable talent. His keyboard work owes little to any particular past pianist. He's either a total original or a combination of too many disparate influences for any one to get the upper hand. His style stretches way beyond the confines of his South African country and culture. He sounds less African than many musicians of his generation.

The only problem with this CD is Molelekwa's modesty as he strives, if you'll pardon the biblical metaphor, to hide his light under a bushel of lesser musicians. When you can play this well, in styles ranging from African and Latin to mainstream, when you have a hammering, metronomic left hand or an easy flowing, rippling tunefulness to call upon at will, the last thing you should be doing is swamping your work in the sound of accompanists. Yet that is what Molelekwa does in his arrangements. I complain of musicians who hog the limelight when it would be a blessing for

them to take a back seat, but here is that old chestnut 'the exception that proves the rule'. Listen to this CD, especially track five, and you'll constantly get glimpses of how good this player is, but it's not until the final two tracks that this boy really takes off, and not with any untoward pyrotechnics either. These tracks are simple, solid, mainstream stuff, but stated with a subtle craftsmanship and feeling that left me elated and awe-struck: I kid you not.

I said Molelekwa's backing group is composed of 'lesser musicians' but they're only lesser compared to their band-leader. Molelekwa is set like a diamond in lead in these surroundings. A player of the first water requires appropriate accompaniment, but these musicians are simply not up to his standard, despite being well-accomplished when viewed in a normal frame of reference. Perhaps this problem is further compounded by the rather MOR treatment of the tracks against Molelekwa's swinging style.

I recommend you buy this album, although you could wait for a solo album, or a even simple duet or trio set that allows Molelekwa to really play. Now that would be a cracker.

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Classical

Peter Herring

Performing and inspiring, it's the feminine touch with sopranos Barbara Bonney and Emma Kirkby in Schubert and Vivaldi respectively, while pianist Joanna Leach 'squares up' to Haydn. And there's that most moving expression of maternal grief, the *Stabat Mater*, as interpreted by two very different male composers.



FRANZ JOSEF HAYDN
Variations in F minor
Hob.XVII:6/Piano sonatas in C
Major Hob.XVI:35; in E flat
Major Hob. XVI:49;
in C minor Hob.XVI:20
 Joanna Leach, piano
 ATHENE ATHCD2 (DDD/68.47)

● One of the happiest by-products of the Compact Disc era has been the growth of small classical labels devoted to specialist repertoire previously ignored by the majors. It is partly a result of the convenience and consistency of CD manufacture, but also the consequence of a change in both the technology and philosophy behind recording classical music. The past fifteen years has seen the notion that high-quality recording requires a lorry-load of equipment and a squad of engineers utterly disproved. Lower overheads coupled to the changing attitudes of the CD producers have created a climate in which a small operation can thrive, and the Athene label, now distributed by Albany Records, is a fine example.

Athene specialises in the recording of the keyboard repertoire, and with the added attraction of using instruments of the period. All very laudable, but is it purely an academic exercise, or are there true gains to be made in interpretation and appreciation? I would argue the latter, but Joanna Leach's Haydn recital makes the point far more eloquently than I can.

Haydn's piano music is often unfairly seen as the '*hors d'oeuvres*' to the keyboard feasts of Beethoven and Schubert. But this is to miss its true worth, and to misunderstand its

purpose. Much of Haydn's keyboard music was composed for the square piano, a much smaller instrument than we are used to today and one intended for intimate, domestic music-making. The character of the music was designed for this instrument, which is why playing it on concert grand not only fails to convey its true nature, but invites misplaced comparisons.

Enough of the polemic: what of Joanna Leach's playing, and of the pianos she plays? Interestingly, they are all English instruments. The square piano was the first type to be made in this country, during the 1760s. Intended for the drawing room, it was physically small, but full-toned and with good projection. At first, dynamics were limited by the single action, but the advent of the double-action during the 1780s greatly enhanced the instrument's range. Haydn is recorded as being much impressed by the English square pianos during his visits to London.

Each of the four works here is played on a different instrument, three of them built during Haydn's lifetime. The exception is a five-and-a-half octave Stodart of 1823, whose sound clearly demonstrates the improvements made in preceding decades. All pianos have been restored by Andrew Lancaster, who contributes an informative analysis of their history and characteristics to the accompanying booklet, along with a provocative dissertation on the matter of pitch (he opts, incidentally, for $a=415\text{Hz}$ equal temperament, a semitone below present pitch).

Joanna Leach uses the Stodart in the F minor Variations, where its extra range encompasses the expressive contrasts of what has become one of

Stabat mater dolorosa juxta Crucem lacrimosa - At the Cross station keeping, stood the mournful Mother weeping. Is there a more poignant, heart-rending, touching text in liturgical music? There is no certainty about the origin of this poem which so vividly depicts the Mother of Christ sorrowing at the foot of the Cross, achingly aware that the prophecy of Simeon had been fulfilled, as she had always known it would be. The general assumption is that the first draft, possibly in the hand of Pope Innocent II, appeared during the early years of the thirteenth century. It was then re-worked by Jacopone da Todi, an Umbrian lawyer who after the death of his wife took holy orders and became a Franciscan friar. Jacopone introduced references to the sharing of Christ's suffering, something of particular significance to the Franciscans since their founder, St Francis of Assisi, had miraculously developed the Stigmata - the Crucifixion wounds inflicted on Christ - in 1224.

While the contemplation of Mary's sorrows is the main thrust of the poem, there is no doubting the poet's ardent wish to share them, and to similarly feel Christ's wounds. The text is used as a sequence in the Passiontide Mass of The Seven Sorrows of the Blessed Virgin (March 24), which is repeated on September 15, and it rapidly gained wide popularity. Yet despite this, Stabat

Mater did not officially become part of the Roman Missal and Breviary until 1727. During the sixteenth century, in their reforming zeal, the Council of Trent had excised a number of sequences from the liturgy, including the Stabat Mater, viewing it as an unwholesome encouragement to the cult of Mary-Mariolatry.

One of the earliest surviving settings of the Stabat Mater is that by Josquin Desprez, and very moving it is, though seldom heard now.

Without question the most celebrated Renaissance version is that of Palestrina, music which instantly evokes the gaunt, austere figures and unrequited grief of the Pieta scene, or the chilling finality of one of the more bleakly and horrifically realistic of Crucifixions - the Isenheim altarpiece, for example. After Palestrina, the most performed setting of the Stabat Mater is that of Pergolesi, music of great tenderness and sensitivity, but not short of quasi-operatic gestures and unashamedly literal word-painting. And was it the precedents set by his fellow-Italians that led Verdi to set the text in 1898, and quite beautifully, too?

However, the twentieth century's two most celebrated versions of the Stabat Mater break with Italian tradition and musical tradition. But both make welcome appearances on what is a technical tour-de-force on the Telarc label.

FRANCIS POULENC
Stabat Mater
KAROL SZYMANOWSKI
Stabat Mater* Christine
Goerke, sopranos;
Marietta Simpson, mezzo-
soprano*;
Victor Ledbetter, baritone*;
Atlanta Symphony
Orchestra and Chorus;
Ann Howard-Jones, assistant
conductor for choruses;
conductor, Robert Shaw
TELARC CD-80362 (DDD/58.24)

● Karol Szymanowski was born in 1882 in what was a Polish enclave within The Ukraine. An ardent admirer of his compatriot, Chopin, his early compositions inevitably, for the period, displayed the influence of Wagner and Richard Strauss. However, the Germanic loaf was lightened by a dash of the exotic, mainly gleaned from the quasi-orientalism of the likes of Debussy. It was an intriguing mixture, but one which by 1918 Szymanowski had thoroughly exhausted. For fresh inspiration, Szymanowski turned to the music of his native Poland, its folk music and rich, largely untapped legacy of Renaissance church music. From these fertile roots sprang a series of highly idiomatic compositions, one of the finest and most immediately approachable of which is Szymanowski's setting of the Passiontide lament. Although massively

Haydn's most celebrated piano works, and rightly so: it is an enchanting piece, and lovingly played here. The gallant style of the C Major sonata is a perfect match for the glittering sonorities of the 1789 Broadwood, while the double-action Astor of around 1800 is ideal for the magnificent E flat of 1787-90. This is one of the finest and most personal of Haydn's sonatas, rich in ideas and in its slow movement, possessed of music which Haydn himself described as "full of significance". It is written in the style of an instrumental soprano aria, its charming main theme repeated several times with exquisite decoration. The dramatic minor-key central section finds Haydn exploiting the full expressive range available to him in the left hand, while the right supplies an agitated accompaniment.

The assumption that Haydn's piano music is lightweight is utterly refuted by the C minor sonata, with its dramatic opening movement and aggressive, restless finale whose air of foreboding remains unresolved in an ending of surprising despondency. Between these outer movements lies an a sublime andante, serene in mood and Bach-like in its elaborate ornamentation; and the delicate chain of trills which takes the pitch to the upper registers of the instrument is simply magical.

Joanna Leach's finely-judged, slightly-restrained approach is exactly suited to this music, and the result is deceptively seductive and engrossing. This is music of quiet, personal pleasure, pleasingly recorded and to be enjoyed - as originally intended - with a measure of intimacy and introspection.



FRANZ SCHUBERT
Lieder
Barbara Bonney, soprano;
Geoffrey Parsons, piano
TELDEC 4509-90873-2 (DDD/72.44)

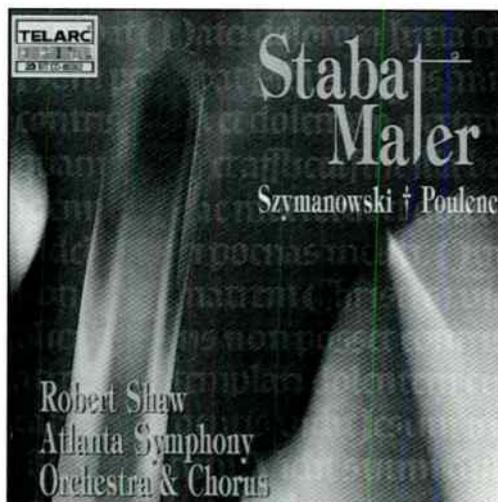
● Familiar repertoire, perhaps, but

scored, it is a contemplative, essentially personal act of devotion and significant that Szymanowski uses a Polish translation of the Latin which, added to the orchestral and harmonic colouring, gives an 'eastern', almost Byzantine quality to the piece. Yet it is also music of compelling passion and intensity of expression - truly one of the great outpourings of sacred music of our century, and one which the conductor, Robert Shaw, describes as "exploratory psychological surgery of primitive mother-son-God-love". If by that he is suggesting Szymanowski's Stabat Mater is as much about the psyche as the spiritual then I am inclined to agree.

But what of the Poulenc which Shaw perceptively analyses as "Twelve balletic tapestries of dense harmonic inversions - from solemn marches to Devil's tarantella"? That this enfant terrible of French music should have composed any liturgical music at all is in itself surprising, although its possibilities were revealed to him when studying Monteverdi with Nadia Boulanger. However, it took the death of a friend in 1936, and Poulenc's reacceptance of the Catholic faith, to set in train a series of remarkable compositions that began with the Litanies to the Black Virgin and continued with the strikingly original setting of the Gloria. The Stabat Mater of 1950 displays similar

individuality. It is as Robert Shaw maintains nothing less than a series of ensemble dances for full orchestra, the twelve sections embracing the twenty verses of the Stabat Mater.

The treatment of the subject matter, however, could not be in greater contrast to that of



Szymanowski. Aside from the dance rhythms employed, there is the rich (sometimes, cloyingly so) harmonic language. The mood varies as much as the accompanying rhythms, from a kind of wide-eyed piety to the grief-laden drama of *Quis est homo*, and from an touching simplicity to a kind of cheerful, sugary singalong style which in the case of *Quae moerebat* (She who suffered), seems somewhat misplaced. For all its quirks, Poulenc's

Stabat Mater is wholly engaging and possessed of an abundance of melodic invention.

Despite the contrast in styles, both works elicit outstanding performances from the veteran conductor Robert Shaw and his Atlanta forces. The energetic, powerful and precise choral singing is particularly noteworthy, and when all vocal and instrumental elements combine - as in the rapturous *Eja mater* of the Poulenc - the effect is spine-tingling. Shaw's interpretations have evident understanding and command of the scores but more importantly, an enthusiasm which has been fully transmitted to the performers.

The recording, which incidentally begins imaginatively with an unaccompanied plainchant rendering of the Stabat Mater, is impressive not least for the effortless clarity which it brings to the choral climaxes. Both the scale and the inner detail of the scores are fully conveyed here, and with a notable transparency. The accompanying data reveals that the recording was made using Telarc's own 20-bit system which employs much refined versions of analogue-digital converters, thanks to work done by Dr Thomas Stockham of Soundstream fame. Whether that superb choral sound is down to Dr Stockham's ADCs I cannot say, but whatever the technicalities, the end result is terrific.

this remains a lovely recording, and a desirable one. Barbara Bonney is one of the brightest of the new stars in the vocal firmament and, if you caught her recent Radio 3 recital from St John's, Smith Square, like me you'll have been captivated by her engaging personality as well as her exquisite singing. And personality, as well as technique, is vital to lieder performance: simply hitting the right notes is not enough.

The expressive quality of Barbara Bonney's voice is evident throughout this generously-timed recital of popular Schubert songs. The freshness and sense of re-discovery that she somehow brings to the much-abused Ave Maria (or *Ellens Gesang III* to give it its correct title) is both captivating and surprising, and the same can be said of the equally oft-heard *Heidenröslein* and the Rückert setting, *Du bist die Ruh*.

At the heart of Barbara Bonney's recital lie Schubert's settings of the four Mignon-Lieder from Goethe's *Wilhelm Meister*. Schubert revered the great German poet and his writings and drew a special inspiration from the *Wilhelm Meisters Lebjahre*: he set all the Harper songs and the Mignon songs, some more than once, and they rank among the very finest products of his unique genius. Of the four Mignon Lieder performed here so affectingly, one dates from 1815 (*Kennst du das Land*), while the other three were composed in 1826, two years before Schubert's death, and at a time when his style was at its most distilled and direct. The sensitivity to the texts and the sublime and telling contribution of the piano accompaniment remains unsurpassed in the repertoire of romantic song.

However, these are not the only

Goethe settings in which Barbara Bonney excels: her bright, youthful soprano is perfect for the impassioned outpourings of *Ganymed* and *Nähe des Geliebten*, and has captured the touching delicacy of the two Faust settings, *Gretchen's Bitte* and *Gretchen am Spinnrade*. It was with this last song, now renowned for the magical depiction of the action of the spinning wheel in the accompaniment, that Schubert sought the approval of Goethe for his efforts, but the poet never even acknowledged receipt of the score. Such were the disappointments and lack of recognition which dogged Schubert throughout his short life. Yet here Schubert was re-defining the whole notion of how poetry and music should be combined. He discards the established formal structure of the strophic song and replaces it with an

interpretative response that reflects and enhances both the overt imagery and the underlying implications of the text.

Die Forelle (The Trout) is a perfect example of this: the word-painting of the bubbling stream and the glittering, darting fish is evident, but the change of mood in the first six lines of the final verse, where the frustrated fisherman artfully muddies the water to entrap the trout, indicates that the composer fully understood, and wanted to graphically express all that this simple scene conveys.

Barbara Bonney concludes her recital with another of Schubert's most famous Lieder, *Der Hirt auf dem Felsen* (The Shepherd on the Rock), which was composed in his last year 1828, and not published until after his death. At over eleven minutes long, this is not so much a song as a miniature cantata, especially as the wealth of melodic ideas is shared not just between voice and piano, but clarinet, too (here played quite beautifully by Sharon Kam). It brings the programme to a triumphant close, with much of the success due as much to the refined and experienced accompanying of the late-lamented Geoffrey Parsons as to the vocal nuances of Ms Bonney. The recording presents a clean, well-integrated balance between voice and piano, but I do wish a little more acoustic 'decay' had been allowed at the conclusion of several of the songs - the sharp fade into silence is unsettling.



ANTONIO VIVALDI
Opera Arias and Sinfonias
 Emma Kirkby, soprano;
 The Brandenburg Consort;
 conductor, Roy Goodman
 HYPERION CDA66745 (DDD/74.58)

● Before delving into the musical content of this Hyperion issue, I must first commend Tony Faulkner and Mike Dutton's recording to you: unfailingly natural in its balance, richly detailed, and fully capturing the delicious timbres of

the period instruments of Roy Goodman's Brandenburg Consort, it is the kind of sound that immediately settles the listener into a receptive mood. No bad thing, that, when much of the programme will be unfamiliar - indeed, some of the items here have never been recorded before.

Unrecorded Vivaldi - can such a thing exist? Surprisingly, yes: although we might have reached saturation point in recordings of the 'Red Priest's' instrumental concertos, and seen an encouraging exploration of his sacred music, Vivaldi's operas remain virtually uncharted territory. Indeed, as Eric Cross's illuminating commentary recalls, only one opera - *Griselda* - has ever been staged in Britain, which is remarkable considering around twenty scores survive, most of them largely complete. So why the neglect? It may have something to do with the plots of the operas, which are chiefly derived from mythology or classical history, stories of unrequited love, betrayal, debts of honour, tortured souls, treachery and sacrifice. But such themes were the stock-in-trade of eighteenth century opera seria, as were plot devices such as disguises, assumed names, and exchanges of identity. No, Vivaldi's librettos are no more implausible than many other, better-known operas of the period.

The programme consists of both arias and sinfonias, the latter being a form of operatic overture employing the three-movement structure Vivaldi adopted for his concertos. The brilliant opening movements frequently employ the kind of virtuoso violin techniques of which Vivaldi himself was a master. Altogether there are selections from seven of the operas, including the sinfonia and two wonderful arias from *Griselda*, the plaintive *Ombre vane, ingiusti orrori* (Empty shadows, unjust horrors) and the demanding *Agitata da due venti* (Whipped up by two winds), with its graphic, storm-laden instrumental effects redolent of Vivaldi's *Tempesta di mare* concertos. How confidently Emma Kirkby copes here with the sequences of rapid repeated notes and the wide vocal leaps.

Griselda was produced in Venice in 1735, some twenty-two years after the appearance of Vivaldi's earliest known opera, *Ottone in villa*, first performed in Vicenza in 1713. It supplies two delightful arias to this programme: the dramatic *Gelosia, tu già rendi l'anima mia, Dell'Inferno assai peggior* (Jealousy, you are already making my soul much worse than hell), and *L'ombre, l'aure, e ancora il rio, Eco fanno al dolor mio* (Shadows,

breezes and even the stream, echo my grief). In the former, Emma Kirkby tackles the demonic semiquaver runs and startling expressive leaps with panache, while the latter finds her at her most appealingly lyrical. Here she is joined by fellow-soprano, Liliana Mazzari, as Vivaldi fully exploits the 'echo' potential of the aria's title, a common Baroque device. It is easy to hear, too, the 'shadows' being depicted in the hushed strings, with their fall outlined in a descending chromatic bass line; the 'breezes' are picked out by semiquavers on two solo violins, while the stream burbles by with a trilling phrase on two recorders.

Chronologically, the next opera represented is *L'incoronazione di Dario* of 1717, after which Vivaldi spent two years as maestro di cappella da camera at the court of Mantua, a period which yielded *Tito Manlio*, with its fine aria *Non ti lusinghi la crudeltade* (Do not be deluded by cruelty), one high point of which is its lovely oboe solo. From *L'Atenaide* (Florence, 1728) comes the dramatic scena *Ferma, Teodosio* which most effectively mixes recitative and arioso and concludes with a magnificent da capo aria distinguished by its relentless, hypnotic syncopated rhythm. The programme also includes the splendid sinfonia from *Tamerlano* (or *Il Bajazet*) and concludes with two items from *Catone in Utica* of 1737, an opera whose tragic ending was wholly disapproved of, leading to an alternative, happier conclusion being commissioned from the playwright Metastasio. And if doubts linger about Vivaldi's ability to respond to texts with music, just hear how, in *Se mai senti spirarti sul volto, Lieve fiato, che lento s'aggiri* (If ever you feel slowly wafting around your face, the breath of a gentle breeze), the notes so perfectly capture and embellish the mood and imagery of the words.

The disc enjoys Emma Kirkby as soprano soloist, and there are those who will acquire this CD purely on that basis. The voice may not be as fresh these days, but still has that jewel-like purity, breathtaking range and agility. Captivating and superbly performed as it is, this CD alone is not going to alter the perception of Vivaldi as an operatic composer, but its qualities will surprise many and perhaps nurture an interest. What is abundantly apparent, though, is that a reassessment of Vivaldi's work in this field is well overdue.

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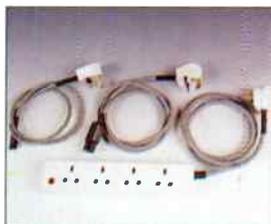
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Supplied to Hi-Fi World by Campaign Audio Design these mains cables are screened to reduce Radio Frequency and Electromagnetic Noise. They also come with a VDR fitted which protects equipment from mains spikes. The MK plugs have a silver plated fuse and holder for the cleanest supply. Available with IEC or Figure eight (Marantz/Philips CD players) equipment plugs or with a hard wired, soldered 4-way mains block.

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8-WAY + 1M CABLE£93

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ELASTOMER ISOLATION SPIKES£22.50

EQUIPMENT SPIKES

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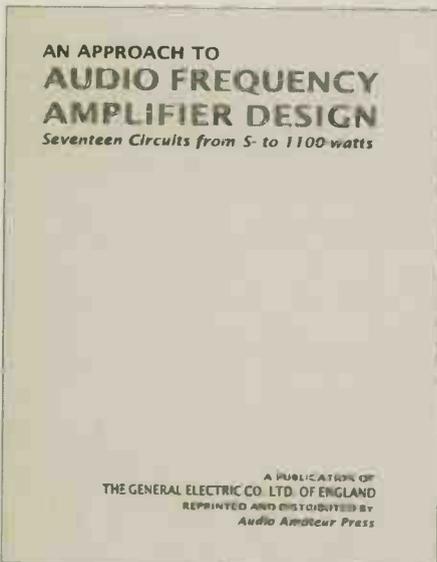
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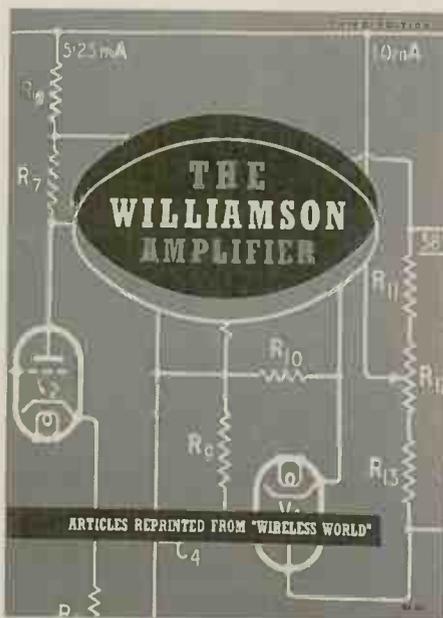
AN APPROACH TO AUDIO FREQUENCY AMPLIFIER DESIGN, seventeen circuits from 5 to 1100watts. General Electric Co. £19.95

Seventeen high quality amplifier designs from the Research Laboratories of the General Electric Company (UK). Designs range from 5 to 100watts, using KT66s, KT88s, DA100s, etc. Also includes two valve pre-amplifiers complete with valve phono stages.

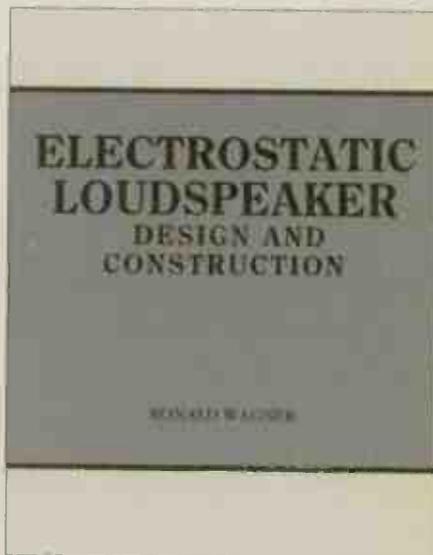


THE WILLIAMSON AMPLIFIER, by D. T. N. Williamson. £9.95

In April 1947, Williamson's valve power amplifier became an overnight success. The author takes you deep into his design decisions and offers practical advice on how to build the amplifier and set it up for best performance.



ELECTROSTATIC LOUDSPEAKER DESIGN AND CONSTRUCTION, by Ronald Wagner. £19.95

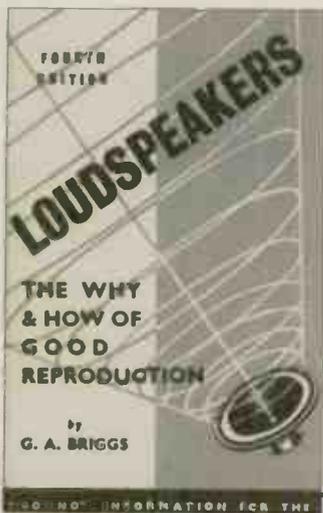


This book takes you step by step through the design and construction of a full range electrostatic loudspeaker, including the basic operating principles behind electrostatics. Whether you intend to build your own electrostatic, repair and restore a vintage electrostatic or are just interested in the principles behind electrostatics, this book is a must.

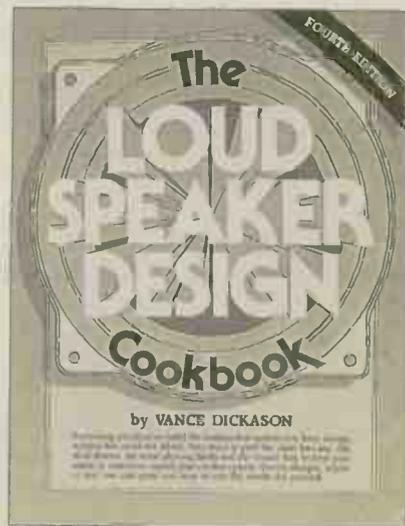
LOUDSPEAKERS

LOUDSPEAKERS: THE WHY AND HOW OF GOOD REPRODUCTION, by G. A. Briggs. £10.95

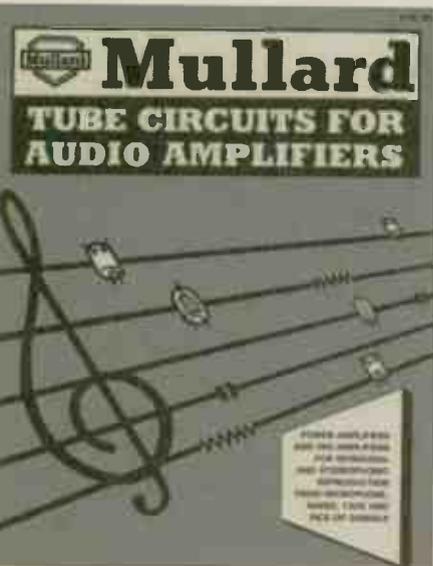
A popular and easy to understand book on building loudspeakers, using empirical techniques that pre-date computer analysis. A fine grounding, written by a manufacturer with first hand experience - recommended for beginners.



THE LOUDSPEAKER DESIGN COOKBOOK, by Vance Dickason. £23.75



This best selling book in the field of loudspeakers offers good, up-to-date practical design information for the home constructor. Like today's manufacturers it uses modern Thiele Small theory and parameters

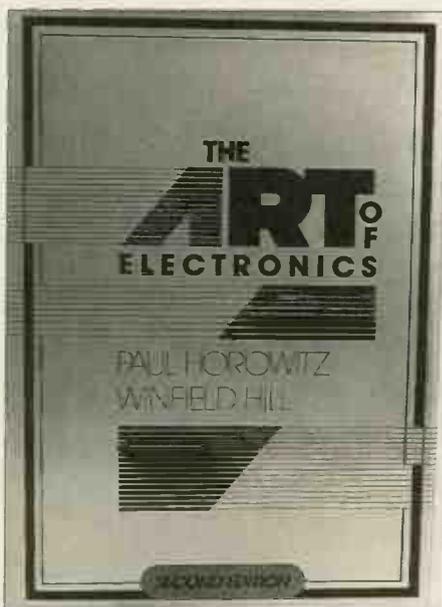


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SOLID STATE ELECTRONICS

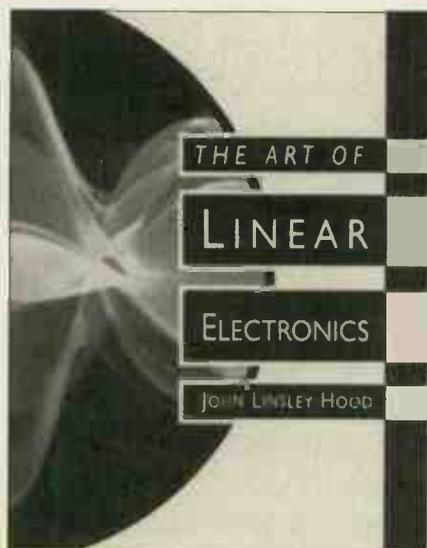
THE ART OF ELECTRONICS, by P. Horowitz and W. Hill. £35

The definitive electronics book. The Art of Electronics is an ideal book for the beginner through to the engineer. Written in easy to understand English, each chapter takes you from basic first principles through to full design exercises and practical circuits.



THE ART OF LINEAR ELECTRONICS, by J. Linsley- Hood. £16.95

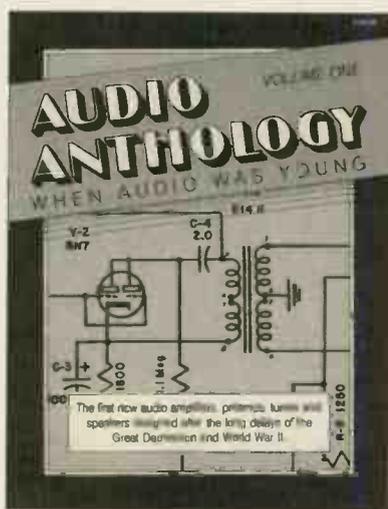
Concentrates specifically on analogue electronics for audio and goes into detail on obscure topics like the drawbacks of feedback, as well as its advantages. Covers mainly solid state but also includes valves. A must for serious enthusiasts and budding designers.



AUDIO ANTHOLOGIES

Audio Anthologies - When Audio Was Young

There are five volumes of the Audio Anthologies, listed below with a brief description and guide to their contents. They cover one of the most exciting and important eras of hi-fi, from the end of the second world war, through the introduction of stereo, magnetic recording, binaural recording and the FM Multiplex decoder. They contain many ground breaking circuits and theory covering all aspects of hi-fi design. A must for valve enthusiasts.



Volume One - May 1947 to December 1949

The first new audio amplifiers, tuners and speakers designed after the long delays of the Great Depression and World War II.

Summary of Contents: 9.5watt, 5watt and 6.5 watt 6AS7G amplifiers, 30watt 300B amplifier, valve FM tuning indicator, 30watt 211 power amplifier, cathode follower amplifier using 6V6, an adaptation of the Williamson amplifier, valve phono preamplifier, several horn and reflex loudspeaker designs and much more.

Volume Two - January 1950 to July 1952

More great amplifiers, preamps, loudspeaker designs, and the first glimmer of the stereo revolution plus magnetic recording aids.

Summary of Contents: Ultra linear 6L6 design and operation of the Williamson, a direct coupled amplifier, Williamson type amplifier using 6A5s, 40watt 845 push-pull amplifier, valve phono and line preamps, valves and loudspeaker damping, design and construction of reflex and horn loudspeakers.

Volume Three - August 1952 to June 1955

Seven power amplifiers, eighteen preamps, twelve loudspeaker designs, including four horn types and binaural recording techniques.

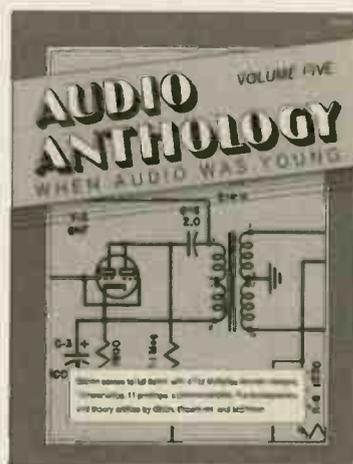
Summary of Contents: Simple valve phono stage, transformerless amplifier using 6082, 20watt 5881 amplifier, 10watt 6V6 amplifier, stereo valve preamp, high quality valve phono stage, a preamp for the Williamson, low distortion tone control preamp, binaural or stereophonic?, transistor phono amp, corner horn loudspeaker, concrete horn loudspeaker.

Volume Four - July 1955 to December 1957

How to plan an audio system, twelve amplifiers and preamps, solid state techniques and circuits introduced and six loudspeaker designs.

Summary of Contents: 18watt 5881 amplifier, 4watt single-ended tweeter amplifier, budget 11 watt amplifier, versatile bass/treble control, transistor theory, transistor preamp, transistor techniques, battery powered transistor phono preamp, loudspeakers explained.

Volume Five - January 1958 to December 1959



Stereo comes to full flower with four FM Multiplex decoder designs, seven power amps, eleven preamps, a commercial killer, five loudspeakers, and theory articles by Olson, Crowhurst and McProud.

Summary of Contents: Stereo valve multiplex decoder, 7watt EL84 amplifier, valve active crossover and 20watt treble amp/50watt bass amp., monaural, binaural, monophonic and stereophonic explained, heterodyne FM multiplex adapter, transistor preamp, 60watt EL34 amplifier, high power audio amplifiers, hi-fi loudspeaker enclosure.

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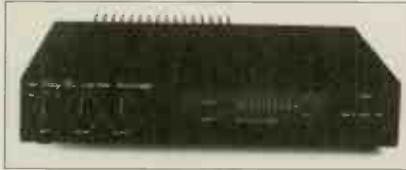
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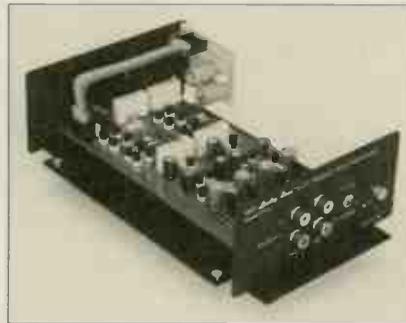
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Our researched Solid Marble Plinth System® advances the state of the art and brings the Garrards into the 21st century. All wooden plinths produce unacceptable levels of coloration, microphony and feedback, with poor signal to noise ratios. When dealing with a thoroughbred you must respond with a firm hand, as anybody who has heard the transformation will testify.

Dear Mr. Soper,

Thanks for sending me the plinth for my Garrard 401. I must confess, that I was a bit sceptical about it, when I ordered one - after all, I bought it, without the possibility of listening to it first. But the results I get are really unbelievable. There is no rumbling, instead deep, deep bass and an authority, I never heard before from my records. And believe me, I tried some of the best turntables around (Linn LP 12, Roksan Xerxes). Now I'm waiting for the forthcoming power-supply. The day I place my order for it, I will do so without being a bit sceptical. Thanks again for a marvellous piece of art.

MR TEILINGNER - AUSTRIA



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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 8Ω is good.

CD PLAYERS

Even small trends in frequency response of CD players can affect their subjective balance. Generally, those with a gently rolled off treble and, more rarely, a rising bass will sound best. Rising treble can

produce a sharp sound.

The distortion plot we show is taken at -30dB, to represent a typical music signal. High distortion at this level, combined with rising treble, can result in a harsh sound. Yet other effects have to be considered, especially low level linearity, which we also test for, including -90dB signals with dither applied.

AMPLIFIERS

Distortion from solid state amplifiers should be no more than around 0.2%. Even order (2nd, 4th, 6th etc) distortion is aurally innocuous, but odd order (3rd, 5th, 7th etc) distortion makes for a glassy, hard sound, or grittiness.

Frequency response can be band limited, with bass and treble rolled off just out of the ear's range, or wideband. Each has its own characteristics. Small wideband response variations colour tonal balance.

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.

TUNERS

Frequency response, as always, says much about tonal balance and character traits, like peaky treble (due to a mis-matched MPX filter). Distortion and channel 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.

CASSETTE 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, reaching around +4dB for good results.

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

MICROMEGA TUNER

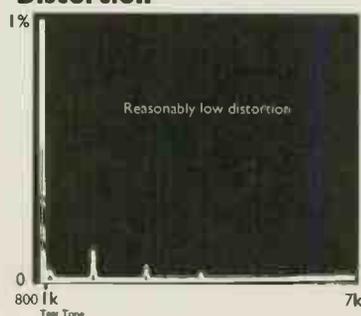
In spite of digital filtering above 15kHz, the Micromega had an audio frequency response no flatter than usual (see analysis), possessing enough treble lift to add brightness to its sound - not a good idea with tuners. The filters did effectively eliminate unwanted signals, like pilot (19kHz) and sub-carrier (38kHz), but little better than analogue filters.

Channel separation was wide across the audio band and distortion low at RF inputs below 1mV. It rose steeply at higher inputs, so this isn't a tuner for areas of high signal strength. Sensitivity was satisfactory, although weak mono signals are muted, so they are not receivable. Selecting Mono does not lift muting, as is usual on Japanese tuners. Selectivity was excellent, but hiss only just low enough at -71dB on stereo. Audio output was high at 1V. **NK**

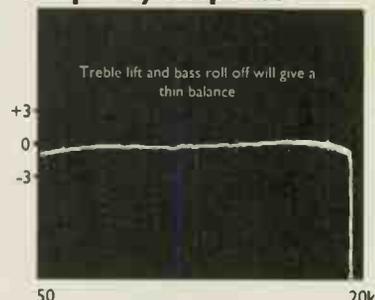
Frequency response 6Hz-15.2kHz
Stereo separation -41dB

Distortion (50% mod.)	0.16%
Hiss (CCIR)	-71dB
Signal for minimum hiss	1mV
Selectivity (at 0.4MHz)	80dB
Sensitivity	
mono	n/a
stereo	32μV
signal strength meter	
LED No.level (μV)1-5	20/80/160/250/320

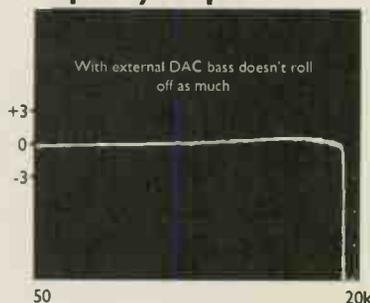
Distortion



Frequency Response



Frequency Response



The Synergy was designed for maximum pleasure minimum fuss.

All on one chassis it incorporates a remote controlled dual mono preamplifier (housed 2" from the inputs) and a dual mono power amplifier developing 150 watts per channel of smooth detailed muscle, plus an On Board Bias Control for easy and accurate tube maintenance.

Attention to detail and sonic integrity is achieved with no less than 14 circuit boards and all control circuitry is non-interactive utilizing

its own power supplies.

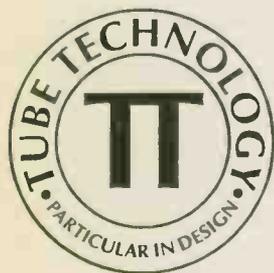
Even the remote volume is achieved using a separate gear box and motor together with a high quality attenuator.

Our build quality is of the utmost highest standard and we stand by it, offering a 10 year guarantee on our products.

Described here are only a few features of the Synergy, for a complete discussion and audition of this and our other remarkable products please contact us for your nearest dealer and colour brochure.

From the moment you hear The Synergy...

you realize that its unique styling is a major contribution to it's musical performance.



Tube Technology, Foxhills Farm, Longcross Road, Ottershaw, Surrey, KT16 ODN, England.

Tel: 01932 873444 ~ Fax: 01932 873012
All Tube Technology amplifiers are designed and manufactured in England.

Gold Aero

The Synergy is shown here fitted with Gold Aero tubes from the USA. These are high grade, audiophile vacuum tubes which have attained world class respect for their sonic qualities. Now available in the UK via Tube Technology & their selected dealers.

Please enquire for a tube list & brochure.



AMPLIFIERS

OMAK JEWEL ONE

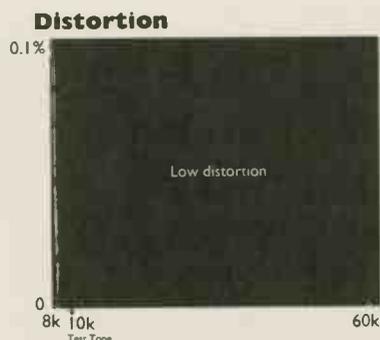
Omak's Jewel One is an impressive beast. It uses a pair of EL509 output valves coupled to a massive 'C' core output transformer to produce 50watts into 8Ω and a sturdy 80watts into a 4Ω load. This is an impressive performance for a valve amplifier, and makes it one of the few that will drive just about any loudspeaker, Quads included.

Response extends well down too, reaching 3Hz in the bass. More impressively the Jewel One managed to swing full output at 20Hz, so I'd expect plenty of bass slam and power. Distortion was low too, at 0.026% with a 1watt signal at 10kHz, which should ensure a clean sound.

Elsewhere the Omak Jewel One continued to show quality engineering with wide separation, extremely low noise and an input sensitivity of 550mV allowing a passive volume control to be used with CD and other sources with a healthy enough output. **DB**

Power 50watts

CD/tuner/aux.
Frequency response 3Hz-30kHz
Separation 80dB
Noise -110dB
Distortion 0.026%
Sensitivity 550mV
dc offset 0mV



MOTH 30 SERIES

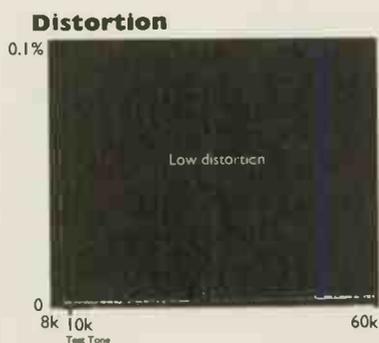
Being a compact integrated design, Moth's 30 Series amplifier has little room for massive power supplies and heatsinking. As a result power is limited to a modest 36watts, and increases little to 42watts into a 4Ω load. The 30 Series needs to be used with efficient loudspeakers (87dB or higher) that stay above 6Ω impedance for best results (i.e. 8Ω nominal).

The Moth is a wide bandwidth design, response stretching to a high 150kHz, a

characteristic that normally results in brighter, sharper tonal character than amplifiers which are band limited. Distortion was very low, having just a touch of 2nd and 3rd harmonic components visible at 1watt output at 10kHz, so it should have a clean sound.

Separation was plenty wide enough at 77dB and noise low enough to be inaudible at -100dB. The only area that may cause problems is the 690mV input sensitivity. Many modern cassette decks and tuners typically produce between 300-500mV output, so some will be unable to drive the Moth to full output. **DB**

Power 36watts
CD/tuner/aux.
Frequency response 5Hz-150kHz
Separation 77dB
Noise -100dB
Distortion 0.006%
Sensitivity 690mV
dc offset 0mV



THORENS TTP-2000 /TTA-2000

This is an unusual design. The power amp runs hot when idling, so it is probably biased heavily into Class A. It produces a lot of distortion which, unfortunately, is not all second harmonic. Our analysis shows substantial amounts of second, third, fourth and fifth, that in total measured 0.2% at 1watt output. At this level it will colour the sound.

As output increased to a maximum of 32watts so did distortion, reaching 1.3%, which will affect peaks. It's the 1-5watt distortion level that affects all music. The only saving grace was that distortion level held steady at all frequencies, suggesting low or zero feedback. Unfortunately, fundamental linearity needs to be better before feedback can be removed without

distortion like this becoming audible.

Output clipping was asymmetric into a low four ohm load, a bad feature that limits power and results in a net d.c. component being generated at overload.

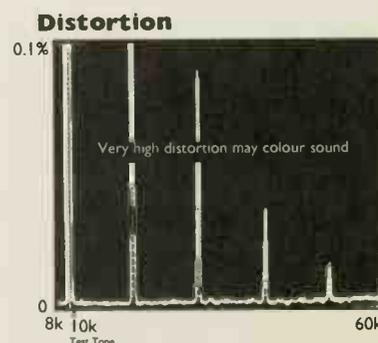
The disc stage had inaccurate RIAA equalisation, with steadily falling low frequencies (318μS) and rising highs (75μS), which will give a bright, thin sound balance. A warp filter cuts signals below 40Hz.

The Thorens measured so badly we asked for a second sample, but it was identical. The measured peculiarities of this amplifier will be audible, producing a different character to the norm. Some may, initially at least, take to it, but long term the effects are likely to pall. It isn't a design I would recommend. **NK**

Power 32watts
CD/tuner/aux.
Frequency response 10Hz-106kHz
Separation 65dB
Noise -92dB
Distortion 0.2%
Sensitivity 165mV
dc offset -2mV

Disc (MM)
Frequency response 92Hz-35kHz
Separation 63dB
Noise -73dB
Distortion 0.2%
Sensitivity 2.3mV
Overload 80mV

Disc (MC)
Frequency response 92Hz-35kHz
Separation 60dB
Noise -52dB
Distortion 0.2%
Sensitivity 0.04/0.18mV
Overload 1.5/8mV



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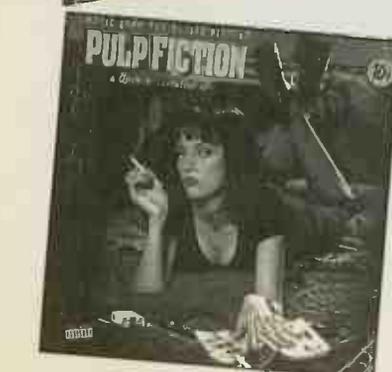
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CD PLAYERS

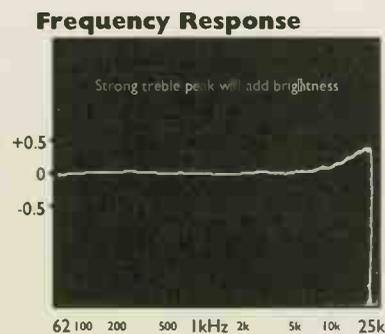
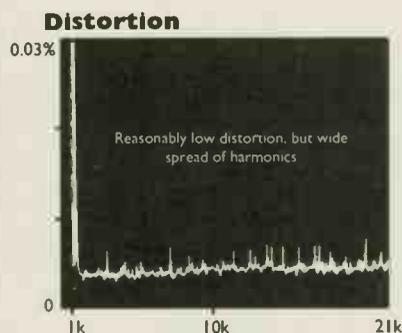
TEAC VRDS-20

TEAC's VRDS-20 displays some interesting traits. Frequency response has a strong treble peak, the lift starting from 10kHz, an effect that will brighten tone and may even reveal itself as sharpness. The peak is a strong one, reaching +0.5dB at 20kHz, so I'd expect it to have a noticeable subjective impact.

The distortion characteristic of the VRDS-20 doesn't help matters either. Although only a little higher than the best in its class, the harmonic structure is mainly odd order, which normally adds a sharpness or coarseness to the sound. Combined with treble lift, this may well be none too pleasant.

Elsewhere, the VRDS-20 is well engineered. It has low noise, wide separation, good dynamic range and output just a touch above the Philips standard at 2.3V. **DB**

Frequency response	4Hz-21kHz	
Distortion (%)		
-6dB	0.006	0.007
-30dB	0.019	0.018
-60dB	0.52	0.56
-90dB	29.8	30.3
-90dB dithered	7.6	8.4
Separation (dB)	left	right
1kHz	126	128
20kHz	109	113
Noise	-116dB	
with emphasis	-116dB	
Dynamic range	105.5dB	
Output	2.28V	



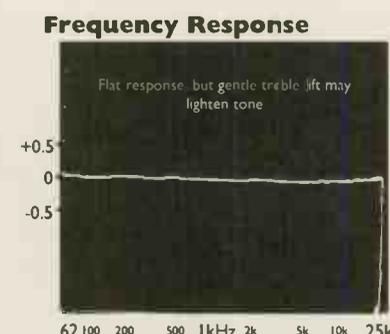
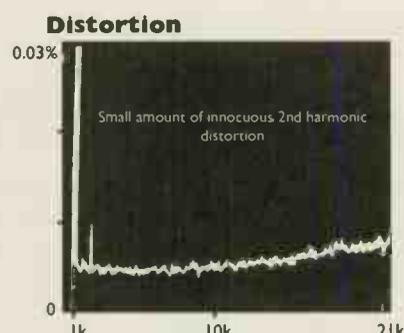
LINN KARIK III

Linn's new Karik III CD player has a smooth and flat frequency response. There is a little treble lift starting from around 10kHz which will give it a slight brightness which may well be perceived as extra clarity or detail.

Distortion is reasonably low at all levels, with just a small amount of innocuous 2nd harmonic visible at -30dB, a level picked to represent a typical music signal. At -60dB, distortion at 0.8% is a little higher than the best, yielding a dynamic range of 104.5dB (EIAJ test).

Output of the Karik III was very close to the Philips standard of 2V and noise low enough to be inaudible. Separation was also wide and consistent between the two channels, showing good circuit layout. All in all, a well engineered player. **DB**

Frequency response	4Hz-21.25kHz	
Distortion (%)		
-6dB	0.006	0.006
-30dB	0.01	0.01
-60dB	0.82	0.79
-90dB	36	34
-90dB dithered	8.1	8.3
Separation (dB)	left	right
1kHz	108	107
20kHz	82	83
Noise	-98dB	
with emphasis	-99dB	
Dynamic range	104.5dB	
Output	1.98V	



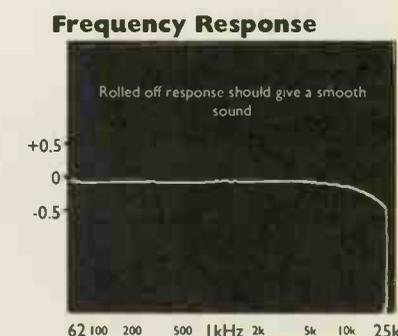
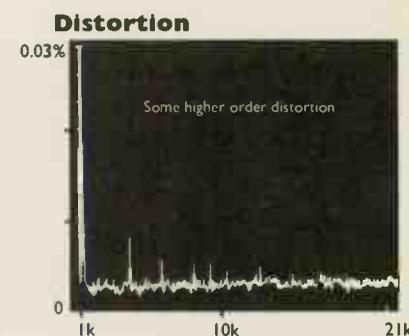
SONIC FRONTIERS TRANSDAC

The Sonic Frontiers Transdac has a well engineered frequency response. Bass lifts slightly, which will give solid lows, and treble is gently rolled off to prevent sharpness. This, combined with low overall distortion, should give the Transdac a very smooth sound.

Looking at the distortion plot taken at -30dB, a level chosen to represent a typical music signal, 2nd and 3rd harmonic distortion is very low. There is some higher order distortion, but this is low and predominantly even order in structure (4th, 6th, 8th, etc) which is normally innocuous.

Elsewhere the Transdac measured competently, with good separation, low noise, and a wide dynamic range of 105dB, helped by low distortion. **DB**

Frequency response	4Hz-21.1kHz	
Distortion (%)		
-6dB	0.004	0.004
-30dB	0.022	0.017
-60dB	0.63	0.60
-90dB	28.3	28.4
-90dB dithered	20.7	9.17
Separation (dB)	left	right
1kHz	119	119
20kHz	110	104
Noise	-104dB	
with emphasis	-104dB	
Dynamic range	105dB	
Output	1.96V	



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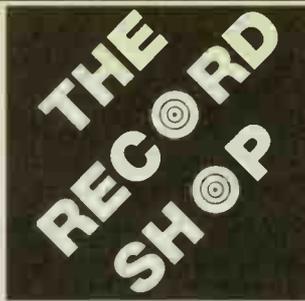


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ALBUM OF THE MONTH

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 on the Verve label for several years).

Guy Barker - Into The Blue 9.95
 (Second LP to be pressed on vinyl for Verve Jazz - fine
 trumpet from Guy Barker, could be in line for British Jazz LP
 of the Year!).

Bob Seger - Greatest Hits 11.95
 (Double vinyl - EMI see sence at last!).

Matthew Sweet - 100% Fun 10.95
 Janis Ian - Revenge 8.99
 (Brand new album).

Graham Parker - 12 Haunted Episodes 8.99
 (Dozen new songs - first studio LP since 1992).

Wet Wet wet - Picture This 9.95
 (Contain the hit single)

Frank Zappa - We're Only In It For The Money
 (Special Ryko pressing - 180 gram vinyl)

Scott Walker - Tilt 9.99
 (First Scott album for a decade, voice & lyrical depth still
 capture the imagination - limited vinyl so don't delay)

Celine Dion - Celine Dion - 9.95
 (2nd UK album, just a few copies on vinyl, so hurry)
 Shawn Colvin - steady On 9.95
 (copies limited)

2nd ALBUM OF THE MONTH

The Sound Gallery - Various 12.49
 (2nd set with tracks from the EMI 'Studio Two' label,
 featuring some of the most exciting mood music ever
 recorded - a must!)

Isacc Hayes - Branded 9.99
 (Now signed to Pointblank - first new album in years!
 Comes close to 70's "Shaft" period).

Gary Moore - Blues for Greeny 9.99
 (Gary's pays homage to Peter - and uses his old guitar too!
 Magic).

Rod Stewart - A Spanner in the Works 10.49
 Doors - American Prayer 10.99

(Re-press of classic album and book, need I say more).
 Pink Floyd - Pulse 39.99

(4 LP live set from recent tour with book and extra track for
 vinyl (we think!) release date 12th June (we hope!).

Mercury Rev - See You on the Other Side 9.49

(Fairly upbeat album from the rev. Their 3rd and best LP -
 has now replaced The Red House Painters on Martin's Deck).

Tea Party - Edges of Twilight 9.99

(Big record shop fave - as good as first album).

Paul Weller - Stanley Road 9.99

(Another masterpiece from the man who should have been in
 Traffic!).

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HEYBROOK SEXTET II

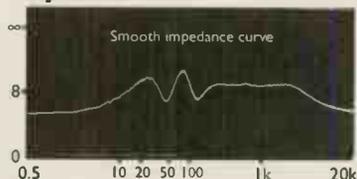
Heybrook have modified their popular Sextet loudspeakers quite considerably, our frequency response plot reveals. Treble level has been reduced to make the character of the super clear sounding Tonigen tweeter less obvious. The midrange from 2-5kHz now has a gentle lift which will give more apparent detail and better projection subjectively, and low frequency level has increased to give a fuller, deeper bass than the original version. There is still a small dip where the SEAS midrange unit struggles to get up high enough to reach the Tonigen ribbon, but I suspect this re-balancing will bring about a welcome improvement overall.

The impedance curve of the Sextets is

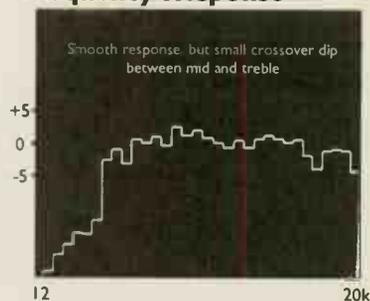
very smooth, so they may lend themselves to zero feedback amplifiers particularly well. But there is a fall at high frequencies, so expect them to sound a little softer with such amps. The overall impedance measured just a touch under 8Ω, making the 'speakers a normal enough load, and sensitivity has improved slightly to 88dB, making them

suitable for amplifiers capable of producing 30watts or more. **DB**

Impedance



Frequency Response



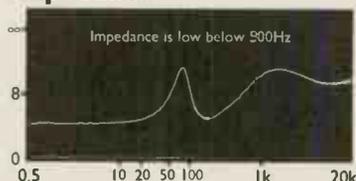
RA LABS MINI REFERENCE

The Mini References are a little larger than most mini-monitors at this price level, something that helps give them better bass extension. They showed good bass energy right down to 60Hz, which is about the limit of our test room. Their overall frequency response is smoothly integrated, but high treble output will result in a bright subjective character.

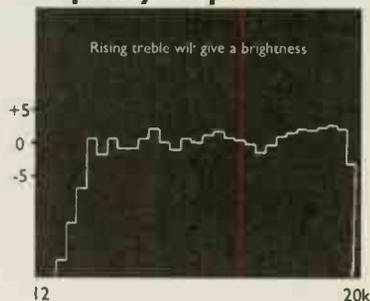
Sensitivity of the Mini References is a little above average at 87dB, measured at 1m using a nominal watt (2.83V) pink noise signal. But the overall impedance of 5.4Ω is not so kind, suggesting they will draw more current than most. Looking at the

impedance curve you can see that below 300Hz or so impedance drops below 5Ω, so for best results they need an amplifier capable of driving a 4Ω load. **DB**

Impedance



Frequency Response



KEF LS3/5a AND ROGERS ABI

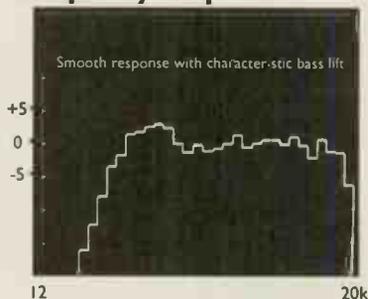
The standard LS3/5a on its own has a smooth response. Upper treble can be seen to be rolling off a little early at 16kHz, and low down there is the characteristic bass lift which gives these miniature loudspeakers good bass punch and power for their size.

Adding the Rogers ABI subwoofer to the '3/5as removes some of the low bass from their little Bextrene cone, allowing greater volume levels without distortion and I suspect that, subjectively, midrange clarity will improve as a result. Whereas the LS3/5as start to roll off in the bass below 80Hz, with the ABI subwoofer added full level is sustained to 60Hz in our test room. It may sound like only a little improvement, but this extra 1/2 octave will have a strong subjective impact, adding greater weight and scale to a performance.

Sensitivity of the LS3/5as and ABI was a little more respectable than '3/5as alone,

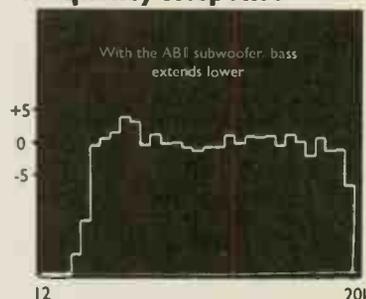
increasing 2dB to 84dB thanks to the extra bass energy. Impedance is still high overall at 10.5Ω. **DB**

Frequency Response



No subwoofer

Frequency Response



With subwoofer



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Hiss - technically, bias noise, IEC weighted, Ref. IEC0dB.

Modulation Noise - band noise 1k-3k, produced by 3150Hz tone.

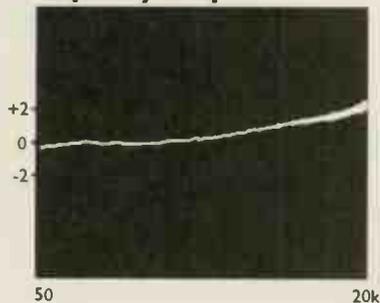
Sensitivity - relative to IEC I Primary Reference Tape.

Treble Level - level at 10kHz, relative to IEC I Primary Ref. Tape. A spot check of frequency response; correlates with response analysis pics.

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AD	4.4	-3.2	61.4	-57	-38	0.6	1.5
AR	6.5	-4.4	62.5	-56	-37	1.5	0
SONY							
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FXI	1.4	-3.4	56.9	-55.5	-40	-1	0.5
MAXELL							
UR	2.6	-5.2	57.6	-55	-40	-0.5	0.5
UD-I	3	-3.5	59.8	-56.8	-39	-0.5	2.5
XLI-S	4.4	-4.4	61	-56.6	-43	0	1.5

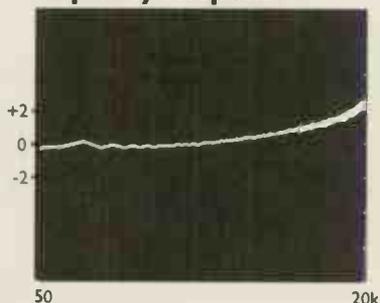
TDK D

Frequency Response



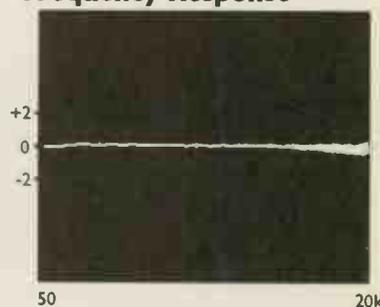
TDK AD

Frequency Response



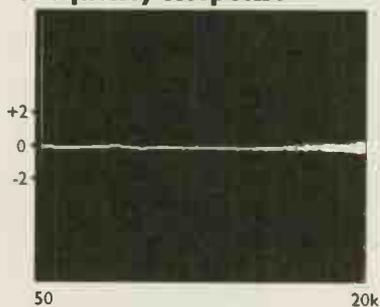
TDK AR

Frequency Response



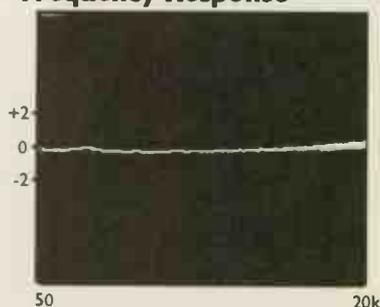
Frequency Response

SONY HF



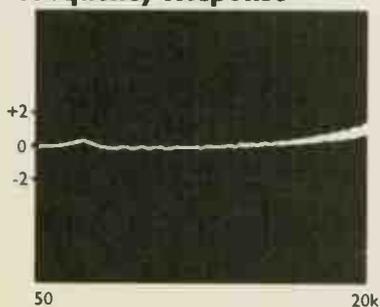
Frequency Response

SONY FXI



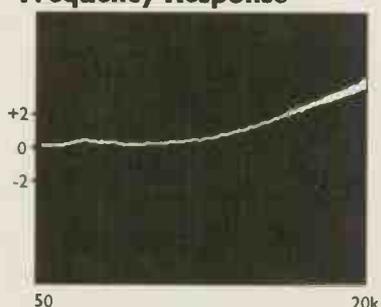
MAXELL UR

Frequency Response



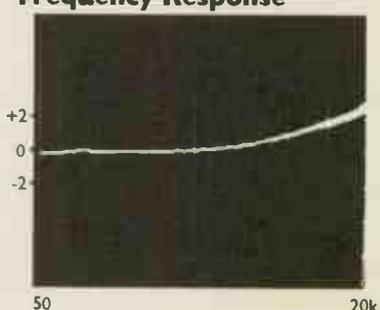
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Frequency Response



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Frequency Response



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SUGDEN A28b SUGDEN A48b

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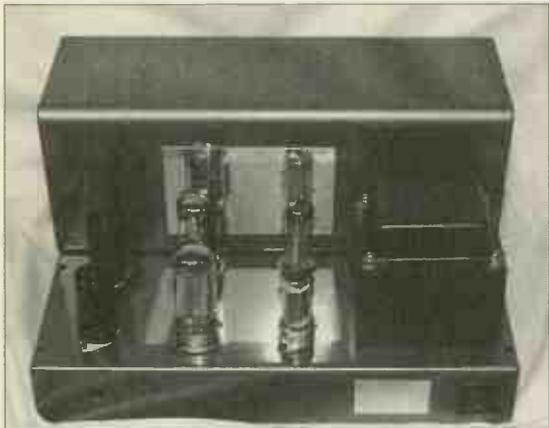
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	E77, E77 Mg	N/A	£36.00		R20 XE, OLM, 34/36, XLM III	£12.50																													
	P77, P77 Mg	N/A	£47.00	Alwa	AN 5/11/30/60/8745	£8.00																													
Audio Technica	AT 95E	£21.00	£12.50	AN 2/50/70/77/D/4832/8743	£10.00																														
	AT 110 E	£26.50	£16.00	RS 33/35/38/84/85/90	£9.00																														
	AT 450E	£57.00	£34.00	BSR	ST 14/15/16/17/19/21	£3.00																													
	AT DC3	£92.00	£64.00*	Dual	DN 145/155/165/E DN 149 S	£12.50																													
	AT OC 5	£125.00	£90.00*	Goldring	G800/820/850 (D110/D120/D130)	£8.00																													
Denon	AT OC9	£216.00	£150.00*		G800 Sup E, G800 - 78pm	£12.50																													
	DL 110	£95.00	£52.00*	Hitachi	DS-ST 7/12/14/15/26/30/35/102	£8.00																													
	DL 150	£95.00	£58.00*		DS-ST 5/16/22/24/25/55/103/104	£10.00																													
	DL 304	£180.00	£155.00*	JVC	DT 33/35/36/45/55/60/65, DT 21 S	£8.00																													
Goldring	ELECTRA	£24.00	£16.00	Kenwood	N 47/48/51/53/60/61/63/66/72	£8.00																													
	1096	£44.00	£29.00	(Trio)	N 36/37/43/45/56/59/62/67/69/71	£10.00																													
	1012 GX	£58.00	£38.00	National	EPS 23/24/25/30/33/51 CS/270 D	£8.00																													
	1022 GX	£76.00	£49.00	(Technica)	EPS 43/52/75/76/ STS0, P30/33 D	£8.00																													
	1042	£94.00	£61.00		P30 E (upgrade), EPS 205/207 E	£12.50																													
	EROICA (LXM)	£90.00	£50.00*	Ortofon	FF 15/VMS 10/20 EII, OMP 20	£12.50																													
Nagaoka	MP11	N/A	£13.50	Philips	GP 371/400/780/400 IU/III	£8.00																													
	MP 11 Boron	N/A	£26.00		GP 330/370/401/401 IU/II	£10.00																													
	TS 10	N/A	£20.00	Pioneer	PN 210/220/240/K65/250T/295T	£8.00																													
	OM10, OMP 5E	£16.00	£14.00	Sansul	SN 27/28/29/33/34/37/41/50/80/101	£8.00																													
	OM78 (Stylus)	£16.00	£28.00		ST 80/100/150/66/G13	£5.00																													
	OM10, OMP10	£25.00	£18.00	Sony	ST G 8/9/10, ST 28/29/35/37/40 D	£8.00																													
	OM20	£63.00	£35.00	(Fisher)	STY 104/111/116/117/118/123/124	£8.00																													
	OM30	£81.00	£50.00	Sharp	N 75-60/G, N 91 G, SS 35 C	£8.00																													
	OM NCLUB S	£31.50	£18.00	Shure	N 75-60/G, N 91 G, SS 35 C	£10.00																													
	510	£31.50	£21.00		N 44 E, N 70 EJ, N 75 ED/EJ T2	£12.50																													
520	£54.00	£40.00		N 55 E, N 95 ED/EJ, N 97/105 ED	£15.00																														
Ortofon	530	£85.00	£63.00		VN 15E, VN 35E (V 15 IIIE)	£21.50																													
	540	£112.00	£85.00	Sony	ND 133/134/142/150/155/200 G	£8.00																													
	MC1 Turbo	£58.00	£45.00*		ND 115/143/148/153/220/250 G	£10.00																													
	MC3 Turbo	£112.00	£85.00*	Toshiba	N 53/55/60 DY, N 62/292, N 71/290	£8.00																													
	MC 10 Super	£85.00	£65.00*	<small>IF YOU ARE A DJ, PLEASE READ THIS</small> <small>A WORN STYLUS CAN DAMAGE PRECIOUS VINYL RECORDS - WE RECOMMEND REPLACEMENT AFTER 500 HRS USAGE</small>																															
	MC 15 Super	£112.00	£85.00*	<table border="1" style="width: 100%; border-collapse: collapse; font-size: 0.7em;"> <thead> <tr> <th>PROFESSIONAL/DJ ITEMS</th> <th>DJ PACK</th> <th>STYLUS</th> </tr> </thead> <tbody> <tr> <td>Ortofon OM Pro S</td> <td>£40.00</td> <td>£15.00</td> </tr> <tr> <td>Concorde Pro S</td> <td>£54.00</td> <td>£15.00</td> </tr> <tr> <td>OM Nightclub S</td> <td>£54.00</td> <td>£18.00</td> </tr> <tr> <td>OM Nightclub E</td> <td>£58.50</td> <td>£21.00</td> </tr> <tr> <td>Conc Nightclub S</td> <td>£75.00</td> <td>£18.00</td> </tr> <tr> <td>Conc Nightclub E</td> <td>£78.00</td> <td>£21.00</td> </tr> <tr> <td>OM Pro S</td> <td>£20.00</td> <td>£15.00</td> </tr> <tr> <td>OM Nightclub E</td> <td>£33.00</td> <td>£21.00</td> </tr> <tr> <td>Conc Nightclub S</td> <td>£48.00</td> <td>£18.00</td> </tr> </tbody> </table>		PROFESSIONAL/DJ ITEMS	DJ PACK	STYLUS	Ortofon OM Pro S	£40.00	£15.00	Concorde Pro S	£54.00	£15.00	OM Nightclub S	£54.00	£18.00	OM Nightclub E	£58.50	£21.00	Conc Nightclub S	£75.00	£18.00	Conc Nightclub E	£78.00	£21.00	OM Pro S	£20.00	£15.00	OM Nightclub E	£33.00	£21.00	Conc Nightclub S	£48.00	£18.00
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MC 20 Supreme	£340.00	£255.00*	DJ Packs comprise 1 cartridge complete + 2 stylus in a Presentation Box																																
MC 30 Supreme	£425.00	£319.00*	<table border="1" style="width: 100%; border-collapse: collapse; font-size: 0.7em;"> <thead> <tr> <th>ACCESSORIES</th> <th>PRICE</th> </tr> </thead> <tbody> <tr> <td>Shure SFG 2Stylus Force Gauge</td> <td>£18.00</td> </tr> <tr> <td>Sontra Anti Static Carbon Fibre Brush</td> <td>£9.00</td> </tr> <tr> <td>Universal Headshell c/w Leads</td> <td>£9.50</td> </tr> </tbody> </table>		ACCESSORIES	PRICE	Shure SFG 2Stylus Force Gauge	£18.00	Sontra Anti Static Carbon Fibre Brush	£9.00	Universal Headshell c/w Leads	£9.50																							
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VN 35 MR	(V15II)	£58.00																																	
VN 45 MR	(V15 IV)	£90.00																																	
V15 V MR	N/A	£130.00																																	
Stanton	500 AL Disco	£30.00	£18.00																																
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	680 ELX Disco	£54.00	£39.00																																

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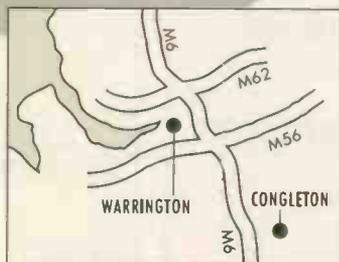
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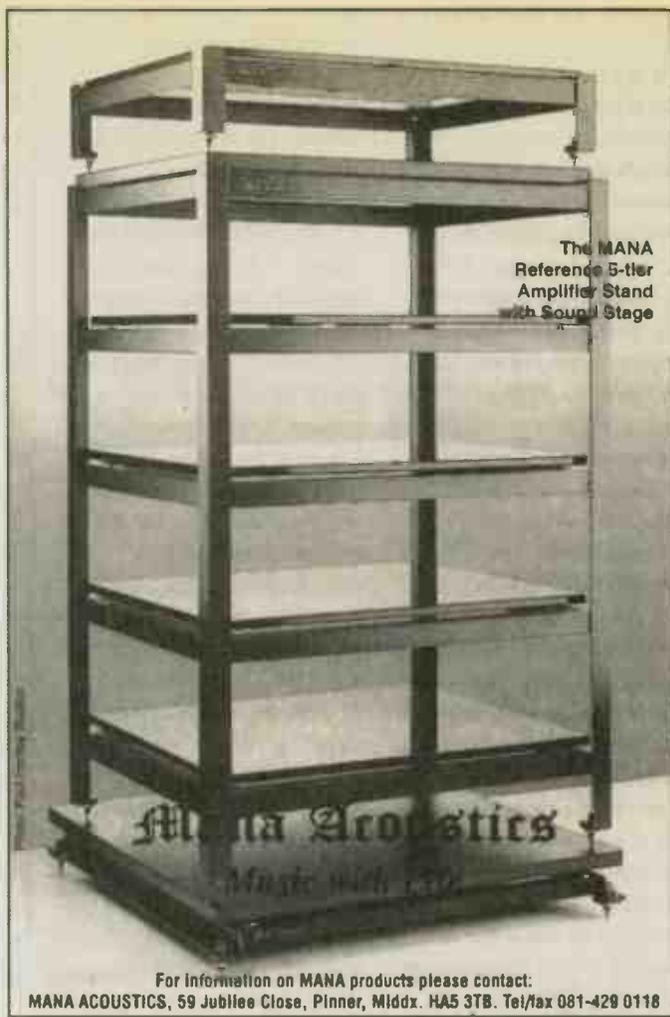
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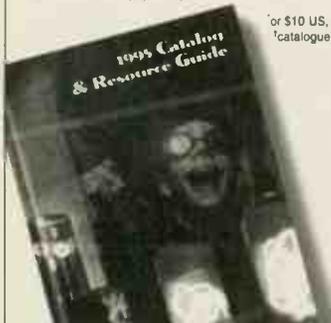


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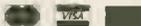
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HAVE A CHAT WITH A CONSULTANT

Now that summer is hopefully with us, it can be a very convenient time to give us a ring, especially if you live some distance away, and would like to discuss problems with your system. It's much more convenient with the light evening to travel distances, and usually it's only by visiting and hearing each system that I can really recommend what best to do to resolve a problem or simply to decide which path to take when up-grading.

No two systems are the same and I have not lived with most of the equipment out there for long enough to know all about it. So having a listen is the only real solution, and as every room presents it's own problems, it's better to hear equipment where it is being used. At present we only charge a nominal sum to cover petrol (average £15/£20), should we not do any business. We expect to be up in Scotland during the summer, so do ring if interested.

ROOM PROBLEMS

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NEWSLETTER NO 3

It seems that the format of our newsletter is indeed catching on. Or perhaps simply its contents are making sense to more than only the readers of Hi Fi World! Indeed Audionote UK, who have been the centre of the letters contents, have noted increased awareness of their products from retailers all over the U.K. Still it is nice to uncover, on a grand scale, one of "Britain's best kept secrets" to benefit all music lovers.

The last month or so has been very active with Serious Kit joining in the festivities of the recent "Great British Hi Fi Show" at Buxton. A busy time indeed, but I have managed to spend time getting to know the M2 and P4 pre and power amplifiers from AUDIONOTE.

The M2 is a phono (m.m. and line) pre-amp of exquisite quality, sonically matching the truly awesome, awe-inspiring P4 power amps.

The Pre is priced at £1,700 (or £1,000 line only) whilst the power amps retail at around the £4,000 mark for the pair. They are incidentally 18w, 300B fully tubed mono-block amps. I have to suggest to anyone using Quad Electrostatics that these are the amplifiers to use with them.

It also has to be said, in all fairness to other available products, that in my 12 year experience doing this job I have never heard or experienced amplifiers at this price level that can convey such effortless dynamics, intimate, intricate detail, transparency from top to bottom and such grand scale of works. Whether it be small Jazz quartets or full orchestral, solo soprano or rock music, these amps add less of their character to recordings than any other at the price level. So, are they perfect? Well, nothing is perfect (writer accepted!?) but you have to spend an awful lot of money to hear anything even slightly superior in any given area. Where does one go from the M2, P4 combination?! Er, em, perhaps to the friendly bank-manger, "Please-Sir will you finance an AUDIONOTE ONGAKU amplifier for me!?" But seriously this is how good, in a well matched system the M2, P4 is. These amplifiers will drive all but the most inefficient loudspeakers to more than adequate levels, in all but the largest of listening rooms.

Perhaps, when one looks at the original legendary JAPANESE AUDIONOTE products such as the M7 pre-amp, ONGAKU, KEGON and GAKU-ON amplifiers a similarity of technologies can be drawn with what Audionote UK now produce, although with less exotic components. This offers prospective purchasers, top rank hi-end equipment at "within reach" prices. If you have never heard these amplifiers, then arguably you have never heard music reproduction at it's most natural. In fact, forget all the reviewers latest adjectives and superlatives which attempt to describe the indescribable. Audionote amplifiers can only be described as NATURAL. They are a living, breathing entity. As the recorded music itself.

The final paragraph(s) concentrate on Audionote's ideas on loudspeakers. AN'K', AN'J' and AN'E" all use the idea of using the 'box' as a live instrument body. In much the same way that great instrument makers use special materials to "tune" resonances in guitars, pianos, violins etc. This results in all three models using 2 drive units (1 x H.F. and 1 x L.F.) but in varying sizes to suit three different size "boxes". All cross-over units use very highly tolerenced components. The end result is very, very musical. High sensitivity is of course one of the initial design criteria therefore complementing low power amplifiers. A classic case of the less is more. If in doubt, call for an appointment to experience the most natural audio reproduction system available.

As ever, wishing you a musical month ahead, till next time.

Kind regards

David W. Speirs
(PROPRIETOR)

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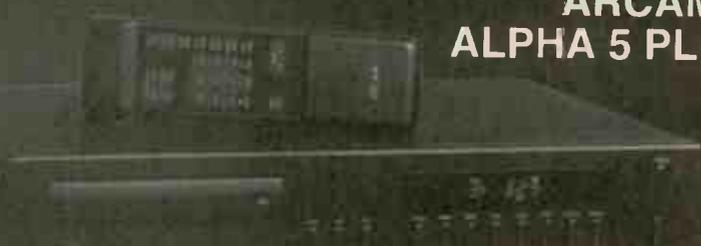
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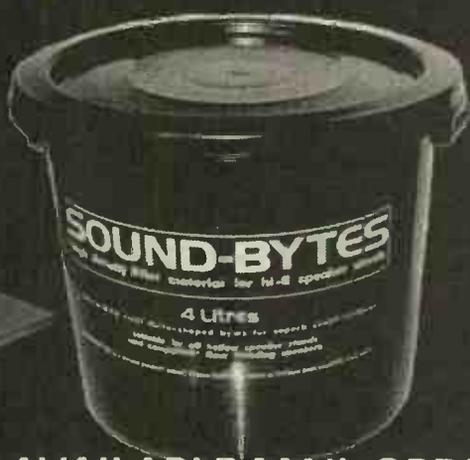
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NAIM / LINN BUY SELL : 52 CDs, 250 135, 140, ARO etc.
Tel: Bob 0382 819732.

MAGNEPLANAR MGIIIa and SMGa. Boxed and in pristine condition. Genuine reason for sale. Cost £2,000 and £650. Asking £975 and £340 respectively.
Tel: 0585 731683 after 1pm.

MkI CASTLE CHESTERS Mid Oak, mint £450 ono. Sugden A48 amplifier, matching T48 stereo FM tuner, pair £160 ono.
Tel: David 0181-741 3119 or 0181-348 0612.

ARCAM ALPHA CD/BB1 DAC £250. LS3/5a pair inc. wall and floor stands £250. Audioelectronics TC10 pair £120. Crimson pre/power £120. Koetsu Black £150. Corus Blue £25. RB250 £45. Grace 707 £30. Leak Stereofetic £50. B&W Acoustitune subwoofer £60.
Tel/Fax 01243-553531

GARRARD 401 excellent condition, from new. Rogers Cadet III integrated Pye FM tuner (Mozart). Brenell reel to reel tape recorder. All in good condition. Offers please.

DENON DTR2000 D.A.T. recorder 18 D.A.T. tapes £358. Denon DRM44HX cassette recorder £90. Beyer DT411 headphones £18. Cabletalk Concert 2 loudspeaker cable 3M. pair £35. Audioquest video X cable £10.
Tel: 01422 206495.

MUSICAL FIDELITY. F.C.D. Mint condition. Boxed. £1,100.00. o.v.n.o.
Tel: 01752 775887

SPENDOR SPI speakers on Target sandfilled, spiked stands. Real walnut veneer. Boxed, mint condition. £425 o.n.o.
Tel: 01630 661497 (Shropshire) - evenings and weekends.

KEF Q50s boxed, unwanted prize £425.
Tel: 01634 727962 evenings.

LINN LP12 VALHALLA/Hadcock Unipivot/Coral MC81 moving coil, £299, can demonstrate. Meridian 101B preamp, MC boards £75. 140 carefully used LPs 70/80's Pop/low Classical £140.
Tel: 0622 820 716 evenings/weekends.

KEF 105/3 Reference speakers. Walnut. Mint condition. Still under guarantee. Available in Dublin £1,200.
Tel: 010 3531 4591432

ORELLE DA180 D to A Converter. Little used and in new condition; boxed. £325 o.n.o.
Tel: 0161-432 6120 (Stockport).

ROTEL RB850 power amp, 50wpc, bridgeable, mint condition, boxed with instructions £95. Upgrade forces sale.
Tel: 01638-507694

PT ANNIVERSARY/SME IV/OC9 £1,200 ono. Deltec 505 phono pre/pre-power + 2 x 5m. Slink £1,200 ono. Rotel 965 BX £200. Hitachi FT-MD 5500 £50. EPO5 ES14 and dedicated stands £250. S.O. T/Table table £35 S.O. 3 tier table £40.
Tel: 0171-277 6012

VINTAGE RADIO RESTORATION. New and used valve amplifiers, Quad II from £400 pair. BTH monoblocks £450 pair. Leak Troughline III stereo £120.
Tel: 01903 501158

MERIDIAN 200 TRANSPORT, mint £400 o.n.o. various Hi-Fi mags late 70's, 80's and 90's. Reasonable offers. Quad valve bits and pieces 2 x 22 preamps, FM tuner and multiplex decoder original KT66 valves.
Tel: 0204 529443

AUDIOPHILE EQUIPMENT FOR SALE! Cary SLP-90 pure single ended valve pre-amp with phono stage. Hard wired. Latest spec. (Cost £2,990). Asking £1,500. Cary CAD 300m 40w monoblocks. (Cost £5,000) asking £2,550. Also Thiel CS 2.2 full range speakers (Cost £2,900) asking £1,550.
Tel: 0171-281 0821

KEF 104/2 REF SERIES One year old, black ash, as new with boxes £850. Tannoy Little Gold monitors 12 inch, dual concentric mahogany cabinets, excellent £425.
Tel: 0181-368 9759

MUSICAL FIDELITY A370 MkII power amp 185 watts per channel Class A, was £2,400 new £975. MVX preamp with PSU Class A, was £2,200 new £925. Both with manuals and boxes.
Tel: 0181-368 9759

LINN SONDEK LP12 Lingo Circus EKOS K18, excellent condition £1,195. Naim SBL speakers walnut, excellent condition £800. Nakamichi Dragon cassette deck £800, Revox B780 receiver £325.
Tel: 0181-7410152

AUDIO RESEARCH SPI4 pre-amp (valve phono stage). As new cost £3,298 asking £1,550. Reason for sale upgrading to LS2/PH1.
Tel: 01902 632415 after 5pm

AUDIO TECHNICA OC9 Cartridges, brand new, guaranteed £180.00. Naim NAC 42.5 NAP 90 £450.00. Rotel RC870, RB850, £250.00. Deltec DPA 505 preamp, mint condition. £550.
Tel: Jules on 01792 280061.

QUAD II CONTROL unit and amplifier, A.M. and F.M. tuners and electrostatic loudspeaker. Also Truvox reel to reel tape recorder. Approx. 35 years old.
Tel: Huntingdon (01480) 860339 anytime

BEARD 505 Mk2, power supply, 100 Mk2 100W £750.00. Celestion SL600 bi-wired and stands £250.00.
Tel: 0953-455617

ROKSAN XERXES, RB300, AT-OC9, Rosewood, immaculate condition and boxed £375. Also 130 LPs, pristine condition, including 20 Zappa and 3 box sets, Miles Davis, SRV, etc. won't split £190.
Tel: 0444 248424

DYNACO ORIGINAL Classic PAS 2 and PAS 3, valve preamps. No mods. £175 each. PAT4 transistor preamp £100. FM5 transistor tuner £100. All in excellent condition.
Tel: Esher 01372 467 264

CELESTION SL6 speakers (walnut) with Celestion sand filled stands. Leak Delta 30 amp VG. condition. Solid Teak construction. All offers considered.
Tel: 0181-568 6383 evenings; 0181-758 8085 day

LOGIC TEMPO turntable with Valhalla power supply. Fully restored unit with Basic Plus arm and AT110E cartridge £85.00. Leak Delta 75 receiver. Good condition with manual. £30.
Tel: (Oxon) 01993 702402

RUARK TEMPLAR speakers Burr walnut £275; Castle Richmond MK2 speakers on Target HS16 stands VGC £75; Quad 33/303 pre-power, mint, boxed manuals £175. Buyer to collect.
Tel: 0114 2378731

LINN LP12, Ittock, Audio Technica ATOC5. Sound Organisation table £375.
Tel: Aylesbury 0296 22668

NAIM ARO TONEARM, perfect boxed instructions £450. EPO5 ES11 with stands £250. EAR "The Head" £90. Micromega Microdac £150. Van Den Hul "The First" 1m pair £75.
Tel: 0603 633451

MERIDIAN 200 TRANSPORT - Trichord Research clocked and Russ Andrew's modified £545.
Tel: Preston 0772 626660

BEAM ECHO AVANTIC integrated with manual £125. Celestion 7000 ribbon speakers, bi-wire, nice with valves £475. Avondale M.F. pre-power superb £575. Genesis turntable and arm £950. P.X.
Tel: 0274 545219 (Yorks)

ACOUSTIC RESEARCH EB101/ Mission 774/Ortofon MC10 Super, £170; Marantz PM-44SE amplifier, £125; Heybrook HB2 (teak), £130; Mordaunt-Short MS20 speakers, £70; Cyrus One amplifier, £110.
Tel: Chester 01244-316005 evenings

REVOX B77 Mk2 reel to reel 7.5 - 15 IPS. Two NAB adapters, two 10.5 2.500" Ampex Studio Tapes, new. Recent major service. £700 ono.
Tel: 01274-564189 after 7.00pm

TOWNSEND ROCK turntable, Rega arm, van den Hul rewired £450. Naim 62 preamp with Avondale 6 channel power supply, good as Naim 82 with Hi-Cap £700.
Tel: 01803-297691 South Devon

TECHNICS SUV660 amp 85w.p.c. £150; NAD 4225 tuner £80; Sansui SR 222 MkII turntable with Nagoaka MP11 cartridge £50. B&W DM110 speakers £70.
Tel: 01582-575673 (Luton)

GAMMA ERA REFERENCE and Space. Reference amplifiers (£3,999 and £4,999 new). Available for £2,500 and £3,500 ono. Will split. Mint condition, less than one year old.
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AUDIOLAB 8000A/II £250.00; Audiolab 8000P three months old £400.00; Garrard 401 SMEII IMP, immaculate with original docs. £150.00; Rega RB300 arm £50.00.
Tel: Chris 0702-79743 (evenings) 0171-324 8648 (day)

COLLECTOR'S ITEM. 1950's HMV Meistersinger stereo radiogram Model 1641 - very high quality Burr Walnut cabinets - main radio/record player and separate speakers. £180.
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MAGNEPLANAR MGI.4 panel loudspeakers, seven months old, absolutely as new, finished in light oak with oatmeal cloth; complete with custom foundation stands, boxed £595.
Tel: 0895 631299 (Ruislip) evenings/weekends

QUAD ELECTROSTATICs, fully refurbished by Quad, new black grilles, protection circuits, plus GFD stands. Best offer over £400, Quad 33/303, offers over £90.
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MOD SQUAD LINE Drive £200. Bruce Rae Audio active cable drive (balanced) RCA in-outputs with 5 metres interconnect, but can run up to 100 metres with no loss. Great passive or active pre amps £250, Denon 250L tuner £60, Audio Technica ATH 70 headphones, custom banana outputs £85, Audioquest Sorbothane turntable mat £25. BLQ 1 speakers £60, four PM Comp 6DJ8 £20, Robin Soot Multimeter £25.
Tel: 0181-502 3017

ACOUSTIC SPEAKERS Studio Monitor series 3312, features 12" POL/Woofer 5" midrange driver 3 x 7 Horn Tweeter max power 150 watts, carpet exterior £350, boxed as new.
Tel: 0121-4545 760, Birmingham

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LINN KLOUT POWER amp, mint £1,200 ono.
Tel: Mike 01457 834465, Manchester

MOD SQUAD LINE DRIVE passive pre-amp, boxed, as new £200. Mission Isoplatt £10. DPA and Monster interconnects from £20.
Tel: Simon 0171-915 9208 (daytime); 0181-743 4654 (home)

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MB5i off-board power supply "suits most decks"	£290.00
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TECHNICAL INFORMATION BULLETIN No. 1

MANTICORE TURNTABLE POWER SUPPLIES

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, Rega, 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 MB5i, 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 MB5i in part exchange at full cost price against an MB6. Consequently, we often have pre-owned MB5 or Mb5i 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.

All 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.



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MERIDIAN 551 integrated amplifier, as new, boxed £520.00. Tel: (evenings) 021 705 6980 (Solihull, West Midlands)

LINN AKITO tonearm, purchased 24-1-95; also Roksan Corus Black cartridge, little used. Excellent combination £170. Tel: Telford 01952 249627 Harold

TANNOY D700 speakers seven months old £2,100, will sell for £1,500 ono (Rosewood). AVI tuner cost £600 sell for £300 ono. Musical Fidelity A120 cost £550 sell £350ono. Tel: 0171-793 1291

APOGEE CENTAUR MINOR speakers, immaculate condition, one careful owner, boxed, can demonstrate, a bargain at only £650 ono (£1,350 new), also 1m pair Sonic Link Violet £60. Tel: 01734 314546 (Reading)

MICHELL GYRODEC with power supply and Rega RB300 silver wired £450. The Head MC transformer £175. Decca Super Gold cartridge VDH new, unused £150. Tel: 0181-771 1300

MERIDIAN 601 DSP pre amp. Meridian 602 transport C.D. Meridian 605 mono amps. All mint condition with remote £3,750.00 the lot. Tel: 01527 543442

MARANTZ CD10 £695, KEF 104/2 Kube 200 £695; Audiolab 8000C Mk2 £275; Meridian 205 monoblocks £645; Nakamichi DR2 £375; tuner MF/T1 £125; Yamaha KX650 Cassette £135; Dual CS505/4 turntable £125; Rotel RT850L tuner £75. All boxed and perfect. Tel: 0279 724804 (Herts)

LINN LP12/LINGO/Ekos/Klyde/Trampolinn Afro finish £1,200. Ion Nexus 5P1 pre-amp/Xpak-2 power supply/pair 140 monoblock power amps £600. Heybrook HB3 loudspeakers and stands £200. Tel: 01244-345461 (Chester)

QUAD II, pair of power amplifiers serial numbers 74752 and 78393. Original KT66 valves and GZ32 rectifier valves. New Carbon film resistors. Reluctant sale £260.00. Tel: 0282 422601

MICHELL ALECTO MONOBLOCKS - £1 200. Meridian 208 and 209 CD - £1,000 ono. All as new. Please ring Dave - 0399 1133 and quote pager number: 710950. Leave your phone number and name - I will ring ASAP; or Tel: 0115 9821785 (evenings).

ADCOM MONOBLOCKS, GFA 565, 300w per channel, boxed, as new, offers £490 the pair (£1,800 new). Sumo Polaris power amp, 150w/channel, boxed, as new, offers over £180. Tel: (Harrogate) 01423 521758.

PINK TRIANGLE Ordinal DAC 1307 Filter, seven months old, mint, boxed, superb. Accept £650 9cost £900). Tel: 0161-775 5379 ask for Simon.

AKAI 4000 DS MKII reel/reel £175, Tandberg Model 6 valve reel/reel, very clean but needs service £75, 220 7" Reels all early collectable Radio shows £200 the lot, Target Basic 5 tier stand £45, 5 tier delux £95, 3 T2 stands £60. Tel: 0279 724804 (Herts).

THORENS TD124 turntable, HW, SME, still the best, £195. Olympus XA ultra compact camera with A11 flashgun, £75. Riley Snooker-Dining Table, £990. Lowther PM6As wanted, any condition. Tel: 0181-991 0762.

QUAD 33/303 amplifier - £180; Transcriptors Hydraulic Reference turntable with fluid arm, stylus scales, sweep arm - £295; Shure V15/3 cartridge/stylus - £35. All in excellent condition, very low use. Tel: 01684-562538 (evenings).

MUSICAL FIDELITY pre-amp P173 and PSU £400 - MA50 monoblocks £400. Tel: 0432-268484 (Hereford).

SONUS FABER Minuetto as new, complete with stands £745. Tel: 0263 711706 after 3pm.

NAKAMICHI 1000 ZXL cassette deck complete with Dolby C, plus cordless remote, original box and manual. Unmarked, perfect working order. £2,100. Meridian 602 transport, twin processors plus AT & T output. Audio Synthesis Dax, fitted all crystals plus AT&T input, gold front export version, factory built, £2,200 the pair. Tel: 01737-211058.

EXCELLENT T.D.L. MONITOR loudspeakers with dedicated stands. Black Ash. Absolutely as new, with original boxes and manuals (£2,100 new) £1,500.00 ono. Tel: Keith 01296-668631.

KEF 104/2 REFERENCE Loudspeakers black ash. 92dB sensitivity. Dynamic, detailed sound. £650. Tel: (01903) 892451 (West Sussex).

EDISON 12 £225. Matching Edison One preamp (silver wired) £275. Together £425. Townshend Rock/arm/M.C. cartridge £435. Leak Troughline (mono) £115 ono. Walker CJ55/SMEIII/Nagoaka MPII (valdi standard) £195 ono. JPW AP3 speakers £115. Tel: (0113) 2559475.

GARRARD 301 VGC - £130. SME 3009 V.G.C. with Shure V15 type IV £150. B&W CM2 walnut veneer, boxed, excellent - £450. Ask for Matthew: 01903 813323.

GYRODEC/PSU/SME 3009R latest model £700 (£1,400). Thorens 124/11/SME3012. Revox G36 valve tape recorder, new condition. Teac A3440 4CH-HS tape recorder with 4CH-DBX unit. Teac A450 Cass. Yamaha receiver CRI020. All mint/boxes/manuals/spares. Tel: 01202-823818 for details.

NAIM 250/32.5/Hi-Cap old style, immaculate £825. May separate. Tel: 0181-989 3609 (E18) evenings).

MERIDIAN 208 CD preamp, MSR Remote. 215 phono stage. Little use. Boxed. Mint. £700.00. Meridian M3 active speakers. £275.00 Musical Technology. Kestrel speakers plus base. Boxed. £200.00. Tel: 0226-710605.

HI-END SUMO AHENA2/Polaris2 pre-power MM/MC stage £290.00 each, both boxed, handbooks, exemplary. Thorens TD125/2 SME309 exemplary, handbooks, £280.00; Ferrograph Logic 7 4THSD, NAB spools, new heads, service by Ferrograph, boxed, all manuals, leads, nine 10" tapes exemplary, serious offers? Pair Ultimius Classical Atkinson transmission lines (f.r. 16 Hz - 22.5 KHz) large, over hundredweight each, offers around £460.00 exemplary. Upgrading. John Owen Ellis 01403 251935.

T.D.L. Studio 1s black ash with stands £380; Dual CS 505-3 with AT-F3 £75; Original Mullard valve amp. circuits £6.50; Valve and transistor data £5; Foundations of Wireless, Scroggie £3.50. Tel: 0507/601096 (Lincs).

WANTED SONY 700 ES tuner. Tel: 01344 886324.

MERIDIAN 563 DAC only two months old. Cost £750 sell £600 ono. Genuine sale. Tel: 0483 222876 (Woking).

ATC 5CM50A loudspeakers, AVI 52000MP pre-amp, AVI S2000MC CD player. Five months old, immaculate condition, still under warranty with remote, cables and interconnects. £5,000 ono. Tel: 0181-455 8411

QUAD 66 REMOTE control pre-amp, as new condition £500. Tel: 01403 271244.

DECCA VOLT LOUDSPEAKERS. Volt 10 inch bass/mid, Decca ribbon tweeter in heavy floorstanding reflex. Wilmslow Audio kit. Very efficient, high power handling. Effortless spacious sound. Bi-wireable external crossovers with polypropylene capacitors, air-cored inductors. Walnut effect. £240. Tel: 0952 814600. Can deliver.

EXPOSURE 15 INTEGRATED amplifier, moving magnet and moving coil phono boards, boxed, excellent condition £300, Quicksilver moving coil head amplifier £50, Audiolab 8000C six months old, mint, boxed £300. Tel: (017083) 44334.

ACOUSTIC ENERGY AE-2, bi-wireable, dedicated AE stands, boxed £695. Meridian 206B DAC-7, boxed £550. Denon TU-550L tuner £95. DNM Solid 3-core 2 x 5m £30. Naim CD boards £25. Tel: (01449) 676335.

CELESTION SL6Si black as new, boxed £250; KEF Quattro (C10 and CS200 subwoofers) £165, Gale 301 black ash £170, Dual CS505 £65, AR18BX £80. All boxed VGC. Tel: 01257 263403 (Lancs).

AUDIO SYNTHESIS ultra-analogue DAC Silver wired, Vishay resistors, AT&T input module and matching APS-02 power supply. High-end sound for £595. Tel: 01784 457332.

MONITOR AUDIO R352 speakers. Good condition. £180.00 o.n.o. Tel: 0272 486375.

QUAD 66 CONTROL, 606 II power, 66 tuner £1,400 o.n.o. Rogers LS3/5A and foundation stands £350. Sound style shelves for Quad £150. Tel: 01344 772157 (Berks) or 0585 175658.

QUAD ESL63 loudspeakers including stands, excellent condition. £1,250. Leak Troughline stereo tuner, offers. Radio Designer's Handbook by F. Langford Smith, first published 1940, offers. Tel: 01642 724953 (answerphone).

PROAC EBS SPEAKERS. Teak. Custom made, rigid spiked stands. Fabulous sound for only £750. Tel: 01296 641172 (Bucks).

LINN PRE/POWER AMP LK1/ Powertek with leads and remote control. £400. Pair KEF Kit 2s incomplete project comprising B139, B110, T27 Drive, units crossovers, Baffle Boards in floor standing MDF Cabinets. £300 ono. Tel: 0131 664 1358 / 0831 239958 (Edinburgh).

HIGH-END PRE / POWER combination. Finestra pre, MC and 4 line, mint, boxed (£1,300 new). Trio L08M, powerful Class A Monoblocks (over £2,000 new). Truly excellent sound. Accept £900 o.n.o. for both, may split. Tel: Adil 0181-677 6272 (evenings / weekend). No timewasters please.

RUARK TALISMAN Floor standing Speakers, rosewood, one year old, mint condition £425. Linn LK1 preamp (tweaked) and LK2 power amp, excellent condition and remote control and all leads and interconnects £350. Tel: (0375) 378526.

MERIDIAN 206 Delta Sigma £595, Linn Keilidh new January, including bases £550, Pink Triangle, Linn Basik plus £300, Deltec little bit DAC £175, VTL deluxe valve pre £525. Mick 01926 831388.

EXPOSURE VII pre-amplifier and VI power supply £375 ono. Tel: Horsham (0403 241304).

NAIM 42.5 PRE-AMP and QED 4 - line input expander £125. Linn Kans plus original stands (spiked) £200. All mint condition with boxes. Tel: 0993 841768.

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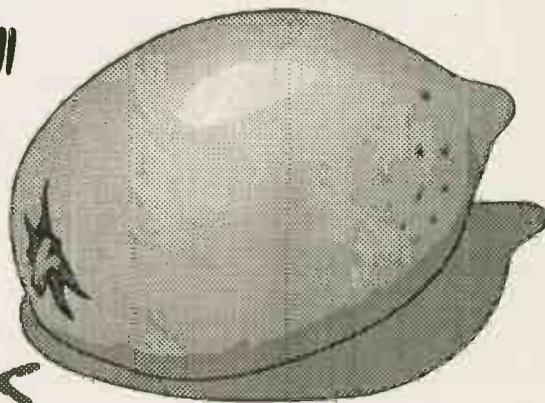
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SPENDOR SPIs £365 (£1,400).
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(£650) inc. power supply. Leak
Troughline 2/Paravicini decoder
£295. All excellent.
Tel: 0462 432499.

MARANTZ 63 SPECIAL Edition C.D.
£275. Audio Alchemy D.A.C. V10
£175. Both immaculate, boxed and
under manufacturers guarantee.
Superb sound.
Tel: 01204 811021.

LINN LPI2 / Lingo / Ittock / Karma /
K18 (both low hours) three years old
£880 ono. Naim 72 / 140 new style
£780 ono. Ruark Talisman MK1,
rosewood £395 ono. All boxed VGC.
Tel: 091-4385046.

WANTED QUAD 66 Preamp, 66
tuner. Quad 405/2 late model, all
boxed, mint. only for sale Quad 34
£240. Quad 306 £200. Quad FM4
£260. All mint boxed.
Tel: 0121-313 2241 (evenings)

MERIDIAN 205 MONOBLOCKS,
Meridian 601 Pre-amp, superb
condition £1,100. Wanted, good
quality speakers and C.D. may P/X.
Tel: 01844 260182 90xon).

LINN KAIRN PRE-AMP £900; Linn
LK100 Power Amp £375; Linn
Kabers £750. All latest specification.
Mission Cyrus 2 £150. Arcam Delta
70, C.D. £230. Arcam Alpha 5 C.D.
£230. Arcam Alpha 3 amplifier £130.
Rotel RCD 965 LE (new) £275.
Telford 01952 502097.

QUAD SYSTEM: ELS (pair) - bronze:
£325; II amplifiers (pair), 22 control
unit, radio: £250; Quad serviced.
Excellent condition. Pioneer tape
deck: CT F2121: £50.
Tel: 0494 763774 (Bucks; equipment
in Wimbledon).

PAIR QUAD ESL63 Speakers with
GFD adjustable stands. Can be heard
in action. Relocation forces sale.
£1,500.
Tel: 0181-441 8892.

CONRAD JOHNSON PV5, valve
Pre-amp, excellent sound, mint
condition, cost £2,200, sell £799. Fx
Q90 Loudspeakers, unwanted gift,
still in boxes unopened and unused,
£499.
Tel: Weekends 01227 742566.

LOGIC DM 101 TURNTABLE,
Kuzma STOGi Arm, Flutterbuster
Power Supply £350 ono. Chris
Roger's Pro 9 Transmissionline
Speakers, superb sound £350 ono.
Original Cranfield Rock Turntable,
Excalibur Tone Arm, serious piece of
kit, £400. Sonic Frontier SFL1 Pre-
amp, cost £1,500 except £875.
Tel: 0114 2738153.

KLIPSCH FORTE II 3-way Speakers
Fr. 32-20 KHZ. 99 Db efficient. One
year old. Works outstanding in
theatre configuration or stereo.
Walnut oil finish. Very clean, tight
sound. £750 o.b.o.
Tel: 01638 532769.

McINTOSH PRE-AMP C26, excellent
sound and condition £795 ono (new
£1,800). Quad 405-2, one of the very
latest, mint £260.
Ring lan (01932) 830267 evenings and
weekends.

CONCORDANT EXCELSIOR Valve
pre-amp separate power supply £650
(£1,200 new). Nottingham Analogue
Mentor Turntable, Mentor Tonearm,
London Decca cartridge £1,695
(£3,300 new). Target Turntable wall
shelf £50.
Tel: 0181-993 2006 evenings (Chris).

CAMBRIDGE CD3 player Pioneer
A400 Amp TDL RTL2 Speakers, all
mint complete system £500, may
split.
Tel: 01279-504926 (Bishops
Stortford).

YAMAHA C1 PRE-AMP. Absolutely
mint, used for only one month in its
life, unique opportunity to purchase
this incredible amp from the late 70's.
£695.00 o.n.o.
Call Graham on 01256-471625
anytime.

ROTEL 965BX C.D. Player.
Transparent, exquisitely detailed and
powerfully emotive. A landmark
player. Best buy. Immaculate
condition. £175.
Tel: Maidstone: 01622 715576.

WANTED: ARCAM DELTA 100
Cassette Deck. Anything considered,
will collect. Cash sale.
Tel: 01752 794893.

QUAD II VALVE AMPS, Quad
serviced, excellent: £250 pair. Leak
Troughline 3 Stereo: £150. Garrard
301, strobe, fully serviced: £170.
Various other turntables, arms etc.:
cheap!
McNicoll, 0121 - 455 6829.

WANTED: HELP. HAVE you got an
equaliser / power supply box for an
Audiostatic Electrostatic Panel
Speaker. If so, please phone 01796
472387.

KEF 105 EXCELLENT Monitors. As
new, only £495.00. Rega Ela, boxed,
as new (£500.00) only £375.00 ono.
Audiolab 8000A, as new, only
£350.00 ono.
Tel: 01225-480990. May P/X.

LEAK TROUGHLINE 3 (GT Audio
restored) wood cabinet £290. Mono
Troughline £85, Rogers Cadet II £60,
Rogers Cadet III £50, Armstrong 222
Integrated £60, Armstrong 521 £45,
Leak Stereo 30 £40.
Tel: 01834 860681 (Dyfed).

FOR SALE: PAIR Musical Fidelity
M.C.3.s Speakers, black woodgrain
with stands. Cost £450 - £150.
Thomas 0582 765871.

WANTED: SAGE AUDIO
Supermos-2 or Supermos-500
Modules. Also soft-start filter
modules and flyback capacitors, and a
digitrap.
Tel: (staffordshire) 01543 263154.

ROTEL RCD 965BX LE Discrete CD
Player, boxed, immaculate, £260.
Tel: 0277 655 621.

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LOUDSPEAKERS. Teak Finish.
Excellent Sound. Reason for sale -
upgrade. £195. Tel: 01734 868541
daytime (ask for G. Bailey), or 01344
776370 evenings.

STAX TALENT DAC (Triode Valve
Output) £650 ono (£1,400). Audio
Synthesis DSM-DAC (Ultra-
Analogue) £650 ono (£1,300).
Meridian 206B £425 ono. Audiolab C
£275 (£520). Meridian 208 +209
£700 ono (£1,700). Wanted: KCAG
Digilink.
Tel: 031 447 1642.

REL STADIUM Subwoofer Teak
£350. Sequence Speakers 20 & 30
£100 and £120. Rotel Tuner RT - 85
OAL £90. Technics Cassette Deck
RS - BX626 £100.
Tel: (01422) 200075.

WANTED: FIDELITY Research 12
inch A.M. 66 Philips Integrated
Tube Amp for free. Please write to E.
Goewie, Minckelersstr. 12-03 5041,
An Tilburg, Holland.

AUDIOLAB 8000 C/P Pre Power
Amplifiers, boxed, immaculate £660.
Linn K20 Speaker Cable 2 x 7 metres
£50.
Tel: 01376 330644 evenings, Essex.
Wanted: Van den Hul Second
Interconnects.

AUDION 300B S/E Amp £600 one
year old, Micromega Stage 1 £350
one month old, Snell K2s and Pirate
Stands £275 or £1,175 the lot.
Tel: 01323 841472.

LINN AXIS BASIC with K9
Cartridge. Excellent condition. £120.
Newbury (0488) 648913.

BRAND NEW TECHNICS SU-A900
MK2 amplifier £300. Cable clear out:
Solid silver interconnects, WBT Plugs
80cm £100. Furakawa 90cm £25.
Monster Interlink 400 one metre
£25. Monster CD 0.5 metre £25. Van
den Hul Videolink 75 £35.
Tel: 01621 (Essex) 860 630.

NAKAMICHI IA3 AMPLIFIER, three
weeks use only, absolutely mint
condition, boxed as new, £195 (new
£350). Genuine reason for sale.
Monster Powerline 3+, precision
wound speaker cable. Combines
multi-strand with solid-core. 4 x 6
metres, £95 (new £180). alphason
R444, 4 tier rack, rosewood shelves,
sand filled, spiked. vgc, £105 (new
£215).
Tel: Martin 0181-518 8577.

TEAC X1000 OPEN REEL Black
£425.00. Denon DRM 800 A 3 Head
Cass. £175.00. Leak Troughline
Tuner and Stereo 30 Amp £90.00.
Ariston RD80SL T/Table and Mission
arm £90.00. Offers considered.
Tel: 0161-725 8081.

TANNOY ARDENS in ASH Cabinets
re-coned 15" HPD Drive Units,
Crossover re-wired with silver OFC
Cable and bi-amped with gold plated
posts. £1,850 ono.
Tel: Edward on 01628-486100
evenings.

BARGAIN EQUIPMENT: Meridian
tuner £75, QED Digit + Positron
£100, Cambridge CD2 £250.
Tel: 071 286 4143

B&W SPEAKERS P2H (Ionofane
Type). DM2A. DM2. DM4. Pioneer.
Trio. Tuner amps. Valve stereo de-
coders. Leak tuners. Fisher. Quad.
Leak. Revox. Radford. Armstrong.
B.T.H. and other items.
Tel: 01903 239980/211746.

FOR SALE SD ACOUSTICS SD1
Mk2. Very good condition £650
o.n.o.
Tel: 0121 622 2230 or 0121 692
1359, from 10.00 - 6.00.

AUDIOLAB 8000A amplifier, bought
January 1994 60 w.p.c., perfect
working order, unmarked case,
£300.00.
Tel: 01246 419269 (Chesterford).

NAIM SBLs, EXCELLENT condition,
£1,000; 72 Pre-amp, £400; Flatcap,
brand new, £280; Mana Reference
table, £250; Linn LPI2, Aro,
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weekends.

KEF 107s MINT CONDITION;
superb sound. New (£3,999) bargain
at £2,000, with boxes. Musical Fidelity
P270.2 and MVT mint both £1,600,
with boxes.
Tel: 01703 511038 (after 5pm);
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MICHELL SYNCRO, Alphason
Xenon tonearm, Audio Technica
ATF5. Le Cartridge. Fully boxed with
spares, absolutely mint £295.
Alphason HR1005 tonearm. Boxed,
mint condition £195.
Tel: 01642-246939 (Giles).

NAIM NAC72, NAP140 new style
Hi-Cap power supply mint, boxed
with heads £1,100 o.n.o.
Tel: 0181 508 8932

RELUCTANT SALE: LFD LS2 pre-
amplifier (£1,599) £695 o.n.o. LFD
PA2 power amplifier (£1,599) £695
o.n.o. Both £1,200 in V.G.C. Spendor
SP20 speakers mint £279 o.n.o.
Other equipment, enquire John
(01603) 38752.

TANDBERG 2060L receiver,
TCD440A cassette deck, TD20A
reel-to-reel with numerous tapes
(some unused), pair of Shure Unidyn
B microphones. £650. Tandberg C.D.
player 3015A £300. Mayware
Unipivot tonearm £25. Everything
mint and boxed.
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LIVING VOICE – The least compromised implementation of horn loudspeaker technology currently available. Two models – Tone Scout and Air Partner.

HORNING – Danish hybrid horn loudspeaker systems. Beautiful cabinet work. Lowther full range drive units. Acoustic cross-over. 96dB/W. Easy, even load. Three models – Agathon, Aristophane, Micro.

IMPULSE – new range, Ta'us, Lali and Kora.

DALI 104 and 104MS – A two-way, floor standing, reflex loudspeaker. A free and open presentation with scale and panoramic stereo. 94dB/W @ 1m. Two models 104 and 104MS. £450 and £650 respectively.

WADIA – The Wadia range is distinguished by its ability to reproduce the full colour, shape and shading of instrument timbre and to maintain a calm and coherent presentation during heavily figured passages. Possessing many of the attributes of analogue but with perfect pitch, silent background and consistent performance. Models 23, 21, 16.

MONARCHY – DIP This unit is used between any transport and DAC and combines the functions of audio and radio frequency isolation whilst reclocking and amplifying the digital data stream. Improves band width and coherence. £250.00.

KLYNE – Phono and line pre amplifiers. System 7, System 6 and System 4. Pre amplification from £1,895 to £6,500.

MICROMEGA – The full six model 'Stage' series available for demonstration.

AUDIO INNOVATIONS – Full range. SME, Wilson Benesch, Voyd, Lyra, Otofon, XLO, Stax Electrostatic Headphones, Audio Alchemy, Pioneer, Lowther Voigt, Vitavox, and other selected brands.

Comprehensive service facility. Please ring for details (all makes of turntable, amplifier, CD transport and DAC's repaired/serviced).

LOWTHER drive units always in stock (PM6A/7A/2/4) Enclosure drawings £29.00 per model (Mini Acousta, Acousta, Audio Vector (Audiatorium), TP etc).

Full **VITAVOX** components and applications – please phone for details.

Used goods for sale # denotes full warranty. Carriage extra. Delivery world-wide.

	Price	RRP
Snell All 3 way floor standing Mahogany #	£2,250	£4,500
Impulse H6 Oak #	£900	£1,450
Audio Innovations 1st Audio 7 1/2 watt Triode #	£900	£1,500
Lowther Acoust Walnut PM6 Alnico #	£450	£850
Townshend Rock Mark 3 / Rega RB250 #	£500	£850
Mitchell Gyrodek #	£450	£850
Grey/Red/Black Sound Style equipment supports 4 leg	£160	£200
	£165	£229
Many other EQ supports new and used in stock		
Silver Sounds Whisper 12/4 1.5m speaker cable	£120	£240
Silver Sounds Whisper Interconnect	£120	£240
Moth Series 30 (Passive Controller) phono pre power amp	£350	£590
Sonus Faber Minima Walnut (boxed, perfect 8 mths)	£1,000	£1,500
Orange pre amp MM (valve)	£400	
EMT 930 turntable	POA	
Huygens Loudspeaker stands made to order	£200	£300
Micromega Solo #	£675	£1500
Horning Agathon Oak perfect #	£2200	£3400

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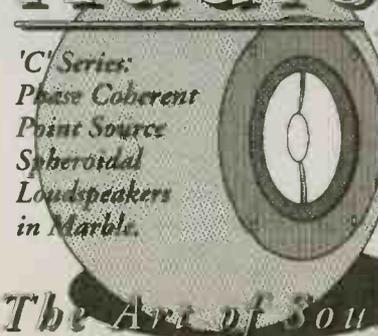
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'C' Series:
Phase Coherent
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Spheroidal
Loudspeakers
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The 'C' loudspeakers have a clarity and detail normally only associated with electrostatics. The 200 mm dia. nonresonant enclosure is carved from a single stone block & specially shaped to minimise diffraction distortion. The 50 mm metal cone driver covers 100 Hz to 22 KHz.

Loudspeakers:
CA50. Sphere - 30W @ 8 ohms.
FBX150. Bass - 200W @ 4 ohms.
(Bass extension with a pair of 150 mm metal cone drivers. Stone plinth and top.)

Z series Power Amplifiers:
Zeus 50-PP. 50 W monoblock, push-pull.
Zeus 10-SE. 10 W monoblock, single ended.
Solid state class A power amplifiers with a transformer output stage, balanced input and switchable output impedance matching for 4 or 8 ohm loads. Matching balanced line driver / preamplifier.

LINN LP12 (BLACK), Valhalla, Ittok LVII, AT03 MC cartridge, spare Asak 45 adaptor, mint all boxed £550 – Arcam Alpha 'Five' tuner 8 months old, under warranty mint, boxed £150.
Tel: 01782 774321.

MERIDIAN 203 DAC7 converter mint, boxed. £235. XLO digital cable (transport to DAC) (thrashes Video Z) half metre, gold plugs. £45.
Tel: John (01865) 862745.

MERIDIAN MCA1 component amplifier (CD, tape, MM, MC, 35 wpc). 2 x MPA1 power amplifiers – 200 wpc. £650. Also available Yamaha RX300 receiver, Technics SL7 turntable. Offers? Oxon
Tel (01869) 277525.

REVOX B77 – £500, B750 amp – £250, B760 tuner – £450 mint condition with manuals, take £1,100 the lot including Revox stacker unit. Sansui AU-999 70+70W rms amp £250, Sansui TU-7700 tuner £150, Pioneer CT-F1000 3 head cassette deck £250 Tannoy Arden speakers (15" concentric drive units) resplendent! £650.
Tel: 01483 725643 (Woking).

EXPOSURE VI/VII/Super VIII amps £500. Naim 42.5/110 amps, Linn Kans, stands, Chord cables £425. DPA PDM1 Series2 DAC £225. Arcam Alpha CD £185. All excellent condition. Tel: 01206 272314.

FOR SALE. P.S. AUDIO 4.6 preamp £625. Audio Technica OC 30 cartridge £150. Omega turntable with Omega Point One arm and Accuphase AC2 cartridge £800. Omega Point Two arm £300. Decca London Gold and Silver cartridges £50 each.
Tel: 01342 712653 / 0181 399 6308.

MUSICAL FIDELITY CDT valve CD player as new, boxed £385. Cartridges. ATOC5 £60, AT24 £50, Ortofon MC10 Super £200, all VGC. Pair Musical Fidelity MC2 speakers, modified £80. Pair JWS speakers £50.
Tel: 01474 704382 (N. Kent).

EXPOSURE VII PRE-AMP, VI power supply and IV power amp, plus all Exposure interconnects. Old style cases hence only £500 the lot.
Tel: 01942 818752.

PETER SANHEN, PS AUDIO 1.5 pre-amplifier. Very rare (only 30 manufactured) but highly regarded by reviewers. Unusual design concepts. Complete with MC phono stage, in excellent condition. Cost new £2,350, will accept £1,100.
Tel: 0181 291 1744.

ARCAM DELTA transport and Black Box 2, as new condition with Sorbothane feet: £325.
Tel: 01224 589471 after 6pm.

LINN KAN MKII speakers (Black) with Atacama SE24 stands. Excellent condition demonstration possible. £200.00. No offers.
Tel: 0171-606 0888 or 0181-665 6183.

MARANTZ CLASS A monoblock power amplifiers with Marantz SC22 matching pre-amp. Boxed as new. Fantastic mid range. See Ken Kessler review. New cost £3,000. Sacrifice at £1,500.
Tel: 01633 400546.

GARRARD 301 ON PLINTH, SME 3009 fixed, Shure M95, £140. Tequipment Double Beam Oscilloscope, Model D43, valve, £120. Rogers early valve amp, mono, pre-amp, £30.
Tel: 01843-832926, (Margate).

YAMAHA NS-1000 monitor loudspeakers, black finish. Including three column Target stands, mint condition £450.00.
Tel: 01502-563750 (Suffolk).

QUAD ESL-63 electrostatic loudspeakers. Wanted privately.
Tel: 01643 821137.

ARCAM DELTA 290 integrated amplifier. One year old, box and instructions, V.G.C., upgrade forces sale. £295 o.n.o.
Tel: 01494-762055 (Bucks).

ENTHUSIASTS CLEAROUT! Rare valve amps from Leak (various), Lowther, Pye, Quad etc. Quad ELS, Sendor BC1s. Thorens TD125. AVO 160 valve tester. Various valves (including unused GEC KT88). For details: 01364 72153.

IMPLUSE H6 SPEAKERS as new, £950 ono. Koetsu Rosewood cartridge (older long-bodied model) £150. Audio Technica ATOC5 MC cartridge (light use) £65. Cranfield Rock Turntable – offers.
Ring 0181-989 6434 or work 0171-412 7410.

LEAK TROUGHLINE stereo tuner for sale £120. Leak Troughline FM3 mono tuner (easily converted) for sale £95. Goldring GL75 Transcription deck with arm and Shure M75 cartridge £35.
Tel: 01705 358502.

PIONEER PD95 – mint condition – top end of CD player £1,400 ono. Evenings 0202 510304.

ROCK TURNTABLE, Excalibur arm, plinth/lid, excellent, boxed, demonstrated, £850 ono. Decca Garrott cartridge, believed unused, may be examined under microscope, £175 ono. Ideal vinyl revival combination!
Tel: (01728) 685633 (Suffolk, delivery possible).

ARCAM ALPHA and CD player. Boxed. Excellent condition. £200 ono.
Alan 01737-556631 day; 01306-888527 evenings.

LINN ARKIV cartridge. Supplied/fitted by Grahams. Approx. 500 hours use; perfect. Genuine reason for sale; up-graded. £200.
Tel: 0181-546 4768 after 7pm.

LEAK TL25 plus amplifiers £100 the pair; Leak Troughline stereo tuner £130; Armstrong integrated valve stereo amplifier Model 222 £50.
Tel: 01702 202556.

APOGEE DIVAS (list £12,980) £3,850. Krell KRS200 Amps four 200 watts Class 'A' mono-blocks (list £12,000 each) £4,250 each or £15,000 all 4; KRS pre-amp 6 components (list £11,500) £3,950; Krell MD1 CD (list £6,500) £2,500; Krell 64 SBP Reference DAC (list £9,900) £3,500. All mint/unblemished and little used with original packing etc.
Tel: 0945 63077.

AUDIOLAB 8000A MKII amplifier 1994 Model, superb sound and condition, boxed as new £300.00.
Tel: Worthing 01903 205994 after 5.30pm.

FOR SALE: LINN LP12 (black)/Ittok LVIII (arm)/Karma (cartridge)/Nexus (loudspeakers) on stands (grey). 1988 spec. used for less than 10 hours (honest). Quick sale at £900. Buyer collects.
London 0171-607 4642 between 6-10 pm please.

LOWTHER BICOR 200/2 horn speakers, mint condition, mahogany. £475. Audio Innovations series 1000 valve monoblocks, new £1,500 accept £875. Kudos S100 stands, new £300 accept £100.
Tel: 01432 275203.

ACCUHASE, ACCUPHASE!! Yes Accuphase! Accuphase power amplifier (Pss), Accuphase pre-amplifier (C200), and Leak TL12+ for sale. Serious offers invited. No dealers please!
Contact Tim 0171-205 2329.

QUAD FM4 £225 Denon DL304 MC cartridge, one year's careful use £75.
Tel: Cheltenham 01242 231766.

SPENDOR BCI new reflex ports and binding post £250 o.n.o. Heybrook HBI £150. ProAc Studio 1 Mk2 £375. Rogers LS5 £115. KEF Carltons (floorstanding) £150.
Tel: 0634 377339.

MUSICAL FIDELITY MC2 (Mk1) speakers plus stands £200. Leak Troughline 3 stereo tuner, serviced and new decoder by GT Audio £190. Leak Delta tuner £50.
Tel: 0181-521 3239 evenings.

ART AUDIO VPI valve pre-amp. Only 180 hours use. £230 for quick sale. Two 3 metre lengths origin live speaker cable. Rather cumbersome £35.
Tel: 0181-203 2120.

QUAD ESL loudspeakers, black grille, boxed, serviced £375. TEAC compact disc player – VRDS-10 £500. AVI S2000 MD D.A.C. £350 ono. AVI S2000 MP pre amp £475 ono.
Tel: St. Albans 01727 835625.

RADFORD STA 15 requires attention to one channel £135. Radford SC2 valve pre-amp £65. Exposure 7 pre-amp and power supply £150. Van den Hul MCI cartridge, little used £250.
Tel: 01252 311266 (Surrey).

ACOUSTAT SPECTRA 1100 electrostatic hybrids. Excellent sound. Cost £1,300, sell £500. Mod Squad Line Drive, high quality, passive £200. Serious enquiries only please.
Tel: 01843 584030 (Thawet) after 6pm.

PAIR ORIGINAL "Williamson" triode valve amps. Old and very ugly but rebuilt with Holco resistors and Sideral capacitors £425. Tatty pair Quad Electrostatic speakers £150.
Tel: 01903 715191.

MERIDIAN M3 Active speakers, in walnut with Meridian 101 pre-amp. Excellent condition R425.
Tel: 01432 265768 (day) 01568 797394 (evenings/weekends).

ENTHUSIAST'S CLEAROUT – Marantz CD635E; Rogers LS7 speakers; Target HJ15 stands; Mission PCM II; Mission DAD 7000R; Technics SL7 deck; NAD one speakers; AKAI SS1 Quadrophonic decoder; Dual CS505, plus other items.
Tel: 0121-350 9230.

OFFERS WANTED for Technics – stereo cassette deck 671; tuner ST 9600; integrated amp SU 6600; D Drive turntable SL 1310; speakers SB 6000. All in black.
Tel: (01292) 264152.

ROKSAN XERXES, fitted with Tabriz 'ZI' tonearm and Linn K18. XPS 2 power supply. Recently serviced and up-dated with new Blobs. Finished in black and fully boxed, £500.
Tel: 01977 552813

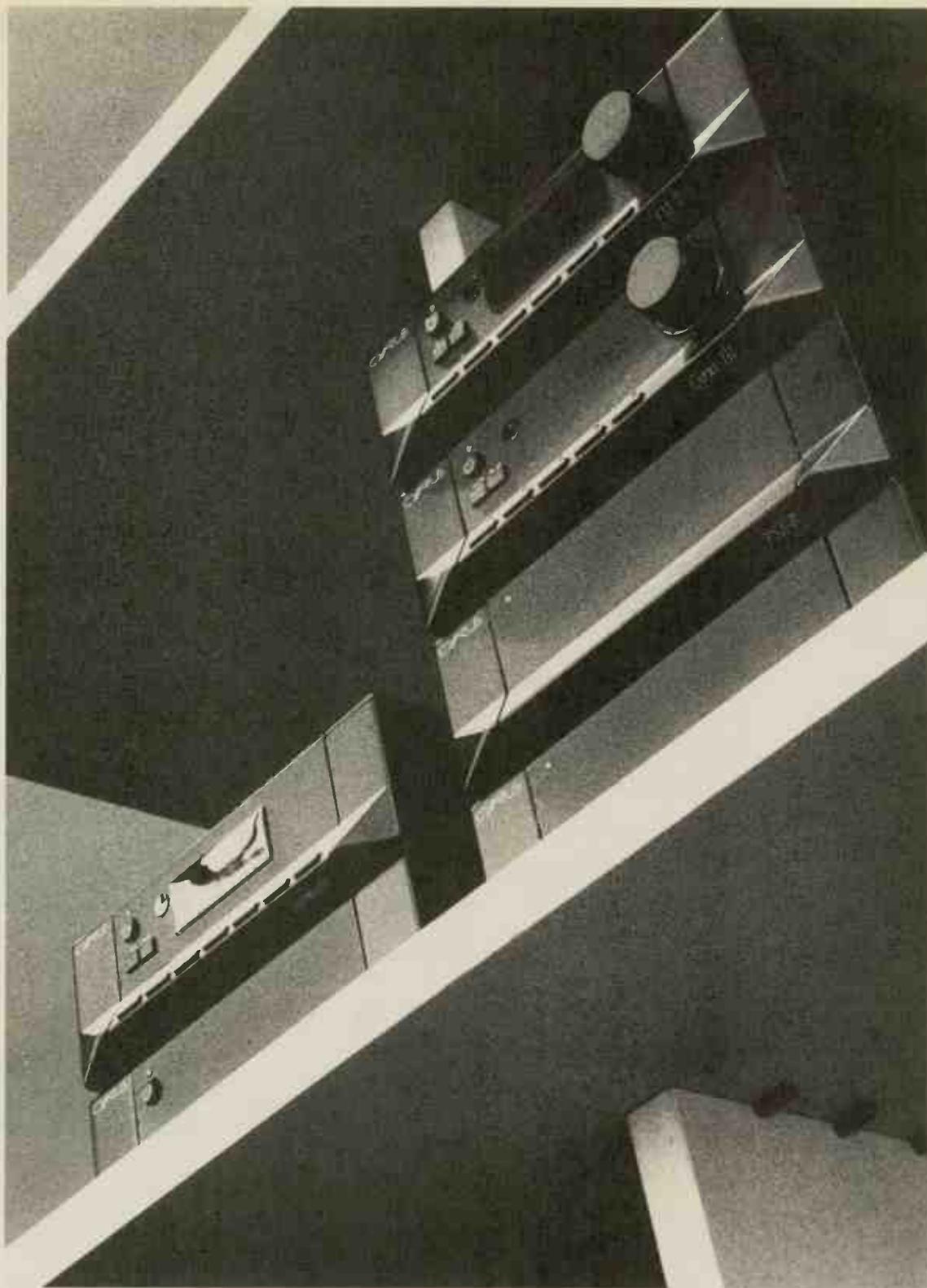
CADENCE VALVE pre-amp, MC and MM phono inputs, CD, tuner and AV inputs, excellent condition, £400 ono.
Tel: 01264 361778

NAKAMICHI 1000 ZXL recorder £1,900, also a 6822X £350. Selection of valve amps, Leak, Roger, Quad, Radford, B.T.H. Revox. Fisher. Leak tuners. B & W DM2a DM3. Rogers LS/35A speakers.
Tel: 01903 239980.

REVOX EVOLUTION system, amp, tuner, CD player, very futuristic looking, fantastic sound. Pair Royd Minstrel speakers, Oppolo stand, Van den Hul cables, in excellent condition, £1,200 o.n.o.
Tel 0945 63856 (Cams.)

WANTED AUDIOLAB 8000C + P.
Tel: ohn 0191 266 2292 work; 0191-265 3353 home.

NAIM NAPI60 + Cerafines NAC32 + P.S.U. £395, Epos ES14, Sendor B.C.I., Audioplan Konzept, 92dB designed for valves! Revox G36 half track, high speed, Thorens TD124II, Meridian 206D.S., AD15E. Valve monoblocks. Tel: 01642 559543.



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PRIVATE

SPENDOR SPI/2 six months old £750 or exchange for Magneplan SMGB speakers, Leak Stereo 20 amp £200. Sony CDP103 CD player £100. Phone 0181-531 5979.

KEF Q60 Uni-Q loudspeakers, 2 years remaining on warranty, £250. DPA PDMI series 2 DAC, £190 ono. Atacama SE20 sand-filled speaker stands (20-inch), £40. All boxed/as new. Tel: 01279-416041 (answerphone).

MUSICAL FIDELITY MX pre-amp, external PSU, mint, boxed £550 (£1,500 new) P270 power amplifier, mint, boxed £695 (£1,500 new). May P/EX with American pre-power amplifiers. Tel: (01449) 676335.

MARANTZ CD85, QED Opto Digit, DAC, quality leads. Excellent £250.00. Linn Klyde cartridge £250.00. Linn Trampolin, base board £50.00. Tonestand, T/table, CD table £40.00. Tel: 01502 714730. Suffolk.

LINN LPI2 ITTOK arm Audio Technica OC30 cartridge Cirkused immaculate condition £600. Equinox moving coil head amp cost new £900, £290 immaculate. Tel: 0116 2813534 evenings; 0116 2780936 day (Leicester).

MAGNEPLANAR SMGA-LE. Superb condition in light oak. Original packing. Can deliver £375 ono. Wanted Quad 405II x four B+W Matrix 801 (latest spec., not Black Ash). Tel: 01423 521303.

MAGNERPLANAR 1.4 panel speakers, 14 months old £1,200 new, bargain £600. KEF 103/4 speakers, 5 months old £1,200 new, bargain £800. Phone Luton 0582 582540; evenings 0582 582 540.

MERIDIAN 200 transport with Trichord Clock modification. Very good condition. £300. Tel: 01592 772806 (Fife).

GARRARD 401 plus instruction manual and template, plinth, cover, Audio-Technica 1005 II arm £85. Goodmans max amp tuner £20. Tel: 01933-312919 (Northants).

NAIM 72 PRE AMPLIFIER - mint condition and boxed £395.00. Linn K400 speaker cable - 2 x 7 metre lengths £80.00. Tel: 01275-543447 after 6pm (Bristol area).

OUTSTANDING ION NEXUS active system comprising of four mono power amps, SPI pre amp, X-PAK 2 power supply, JCI active speakers with stands, including Linn cable, Isolda interconnects. £1,500 (originally over £4,000). Roksan Xerxes latest spec., Kuzma Stogi arm, ATOC9 cartridge plus Roksan table. All as new £800. Telford 01952 502097.

TEAC A7300RX 7.5/15 ips reel-reel 2-track master recorder and many accessories, new. Ideal for high quality analogue rec/playback, or live recording using integral mixing desk and optional dbx noise reduction system. Phone for full details. Also Roxan Corus Black, little used £45 ono. Tel: 01624-673396.

NAIM 72/180 £1,200. LPI2/Pink Linnk/Ittok/Clyde £1,000. EPOS ES14 £350 will part ex for: old style Naim pre power. Rega 3/Dunlop. Epos ES II. Tel: 0226 764749.

HARMAN-KARDON 6800 amplifier. Three years old. £375 (cost £800). Denon 101 M.C. cartridge. £50. (As new). Cosmochoord 78 pick-up (takes Thorns). £10. Tel: 01249 812565.

ROGERS STUDIO 3, Walnut, boxed and mint (£500) £330 ovno. Pioneer car equaliser, EQ6010, Din (£200) £120 ovno. Also boxed and mint. Call Phil 01208 75376 (Cornwall).

WANTED: PRIVATE BUYER requires pair of Tannoy Monitor Gold Lancasters. Must be good condition. Also require Fidelity Research tonearm for Garrard 401. Tel: 01883 723317 (Surrey).

QUAD ESL 63s, under four years old, very light use, black, boxed and in absolutely mint condition - £1,495. Tel: 01252 844248 (Hampshire).

TEAC P500 transport, Quad 306 power amps x 2, TDL Studio 1s plus stands, Mission Isoplat. All in VGC. £1,100 ono. Tel: 01752 350528 evenings.

ARCAM DELTA 170/3 C.D. transport/Black Box 5 Combination with Sync lock facility inc. Audioquest Video Z cable £575. Tara Labs. Quantum C.D. interconnect cable MTR. £25. Tel: Malcolm 0483 275389.

EXPOSURE MONO-BLOCKS VIII Reg. Available through up-grade. Superb dynamics, versatile "Sound for all seasons". Good condition, boxed. £750 ono. Tel: 0181-341 7037 evenings.

LEAK TL12 POINT I wanted by enthusiast. Domestic, open frame transformer type. Must be in good working order. Decent price paid for right one. Tel: 01643 702739. Ask for Steve.

LUMLEY REFERENCE M120 valve mono-block amps, 15 months old, mint condition, cost new £3,200, quick sale £1,450 o.n.o. Audio Alchemy, DDT V1.1 (transport), DDC V1.1 (D.A.C.), with extended digital processor, digital transmission interface, power station 2, transport Trichord clock modification, one year old cost £2,200.00 quick sale £1,095.00 o.n.o.. Please phone 0181-574 2961.

FOR SALE: SONY MDR 1000 headphones, mint. Cost £180, now £110. Phone: 01772 315723.

ALPHASON HR 100 MCS tonearm £550 new; 14 months old £300.00. Can demonstrate on Garrard 401. Tel: 0121-357 6533 after 6.00pm. Tel: 0121-446 4545 ext. 3272 work. Mike.

MITCHELL GYRODEC wanted. For Sale: Leak Stereo 50, gold plated valve holders, Holco and Kimbers fitted. All internal wiring solid silver £450. Garrard 401 £90. Tel: Alan 01661 852874.

NAIM AUDIO NAIT 2, mint condition, limited edition. £230.00 o.n.o. Tel: (01222) 700208 (Cardiff) after 6pm.

AUDIO INNOVATIONS Second Audio triodes £1,500, L2 line pre-amp £300, Impluse H2 speakers light oak £1,400, Rel Stadium subwoofer £500, Mana Reference table £150, Target four shelf rack £50, Target two shelf wall support £25. All perfect and boxed. Tel: 01425 470907. Ringwood, Hants.

TANNOY BERKLEYS 15' Dual Concentric speakers fitted with Tannoy Syncsource. £450. No offers. Rotel RCD 865 C.D. player £95. Tel: 01342 843149.

NETCALC SOFTWARE £50, 4mH (10A2) Choke £5, pairs KEF B200A, DNI3. T27A £50, B200G, T33A £50, ILP 20W Class 'A' Modules £30, Audax HMI3OCO £40, TW 025M0 £30. Tel: 01895 633486.

ONE PAIR of REGA Kyte loudspeakers, six months old, excellent condition, lifetime guarantee, boxed £170.00 ono. Tel: 01403 253873.

EMPIRE 2000 OR 4000 Series M.M. cartridge wanted - stylus unimportant. Phone Warrington 01925-659744.

QUAD FM3/33/303. Boxed, with circuit diagrams and manuals. All in excellent condition. Can demonstrate. £225. Tel: 01359-242513.

PIONEER A400 £145. Linn Axis - Basik Plus - K9 £225. Philips remote C.D. 850 £50. Aiwa ADF 360 cassette £25. All in excellent condition. East Sussex. Tel: 01797 253073.

QUAD II and 22 amp. Just re-valved and serviced recently, excellent condition, £360. Scott C222 valve amp. £250. Wanted!! Wanted!! 2 X Goodmans Axiom 300 (pay £250), 2X Axiom 400 (pay £280), 2X Lowther PM44 (pay £480), Partridge output transformers. Tel: (0191) 4778213 after 6pm.

MILLENIUM 30 watt ultralinear valve amplifiers, monoblocs £175 each, stereo (single Chassis), up-rated power supply, LC smoothing, £400. Williamson 30 watt monoblocs, KT88s, Sowter transformers, £225 each. Tel: 0181-427 1378 (Harrow).

AUDIO INNOVATIONS 500 integrated valve amplifier 25 w.p.c. Perfect. Few months old only, upgrading to monoblocks. Cost £1,000, £500 o.n.o. Thomas: 01582 765871.

WANTED: MARANTZ C.D. 94, Sony E.S. 337/338/555/+ matching E.S. tuner. Any Naim or Quad equipment Gyrodec/L.P.12 and any good quality arm. Tel: 0114 248 6493

TDL STUDIO 3 transmission lines with TDL frame stands, in walnut, £750. Denon POA 6600 monoblocks, 250wpc, £650. Together £1,300. All in excellent condition. Tel: 01296 24903 (evenings) 01494 545253 (work). Aylesbury.

ACOUSTIC ENERGY AE3 with dedicated AE stands £750, Albarray M1008 Mk 2 mono-blocks with AP4 pre-amplifier, latest grey finish and spec. £750 no offers or timewasters. York: 01904-763157.

LINN. 2805/SPARKS and Aktiv crossover for Isobariks wanted. Phone Arnold Johannesburg, South Africa. (01027) 11-4215843 day, (01027) 11-8222638 eve. Fax (01027) 11-4213632. Payment and shipping no problem.

SITUATIONS WANTED

HI-FI ENTHUSIAST, 39, seeks full/part time position in Hi-Fi industry or on home consultancy basis (demo room 21 x 12 feet). Friendly personality, GSOH and excellent communicator. Brighton based. Chris (01273) 541462 (24 hour A/F).

SITUATIONS WANTED: Consultant Presence Audio. Spica TC50 SEs. dems: Heathrow, Belfast. Proprietor Sounds Exclusive hi-fi. Responsible for Evans/Michell partnership. Electronics instruction booklets. Consultant Jamo U.K. Ltd. speakers. Heathrow, Bolton. Tel: 01483-267516.

SITUATIONS WANTED: 30 year old hi-fi enthusiast seeks change of career to evolve passionate hobby into business. Detailed product knowledge covering a broad spectrum. Confident manner with excellent interpersonal skills due to current customer facing role.

SITUATIONS WANTED: 18 year old (un-employed) with long interest in Hi-Fi, good technical understanding and product knowledge seeks full time employment in Hi-Fi retail within London. Please phone Leight 0181-366 3662.

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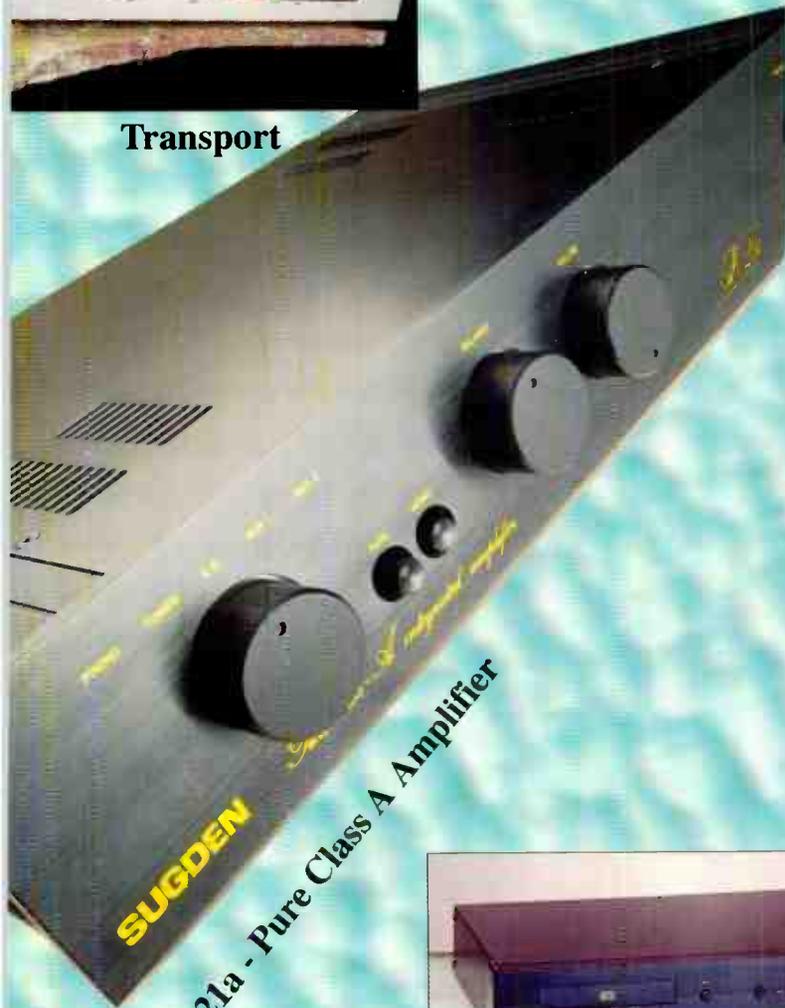
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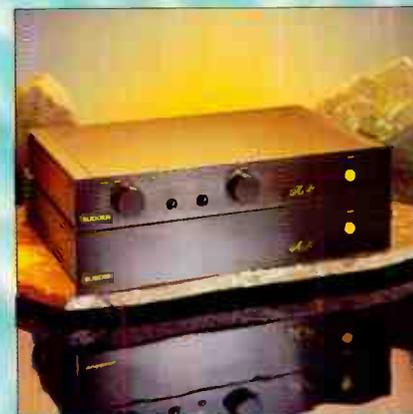
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3
one

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1994 95

