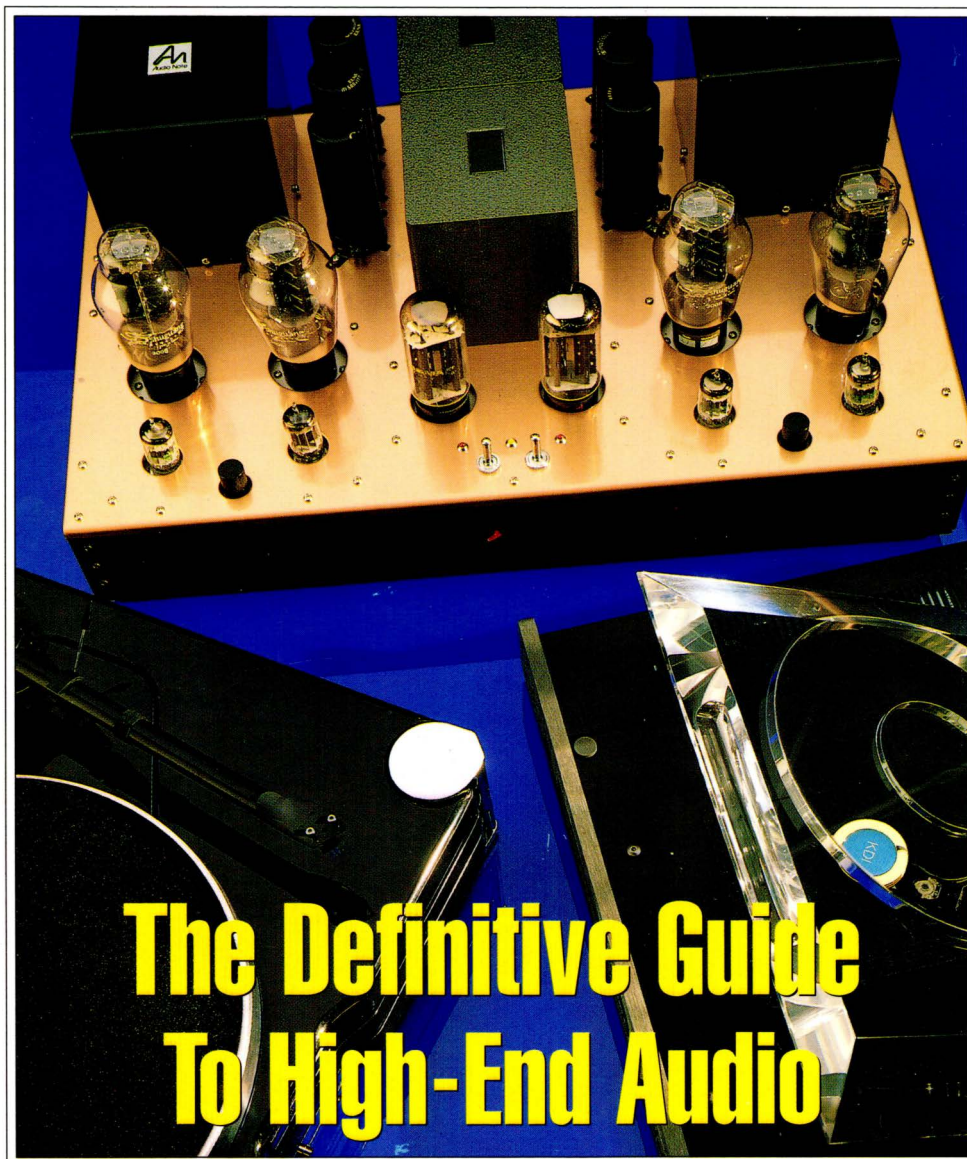


Special Edition

HI-FI CHOICE

THE COLLECTION



**The Definitive Guide
To High-End Audio**

ACCUPHASE • ATC • AUDIO NOTE • AUDIO RESEARCH • B&W •
BASIS • CONRAD-JOHNSON • COPLAND • DALI • EAR • KEF •
KRELL • LINN • LUXMAN • LYRA • MAGNEPLANAR • MARANTZ
• MARTINLOGAN • MERIDIAN • MUSICAL FIDELITY • MICROMEGA
• MONITOR AUDIO • MARK LEVINSON • NAIM • PINK TRIANGLE
• ROKSAN • ROWLAND • SENNHEISER • STAX • THETA • THIEL

WINTER 1992/93
£3.95



9 780951 670927

The New THIEL CS2.2

Since 1978, THIEL has carefully developed its *Coherent Source*[®] design technology into a succession of highly acclaimed loudspeakers.

Now, after 6 years of success with the model CS2, the first new THIEL speaker since the introduction of the reference model CS5 is available—the CS2.2.

The CS2.2 provides an extremely high degree of tonal, spatial, transient and dynamic accuracy. We welcome comparison to any speaker at any price.

The baffle is sloped to properly position the drivers for correct time alignment and accurate reproduction of transient musical information. It also incorporates rounded edges to greatly reduce energy diffraction which contributes to very "open" reproduction.

A 50mm thick baffle, 25mm thick cabinet walls and extensive internal bracing greatly increase cabinet stiffness. By reducing unwanted vibration both clarity and imaging performance are improved.

The synthesised first-order acoustic crossover is a 26 element unit implemented with 35 parts. It provides completely phase accurate transitions between drivers to preserve the recording's spatial information and utilises custom-made polystyrene capacitors and low-oxygen copper, air-core inductors for very low distortion.



The same 25mm metal dome tweeter used in the model CS5 eliminates resonances, energy storage and colorations in the audible range. The short coil/long gap, large suspension design provides very low distortion and high dynamic range. The result is high frequency reproduction of unparalleled clarity and realism.

The woofer uses our newly developed double-surface, air-core diaphragm which practically eliminates "cone break-up" and provides exceptionally clear response. A specially shaped magnetic pole greatly reduces distortion, and heavy copper rings maintain an ultra-stable magnetic field. In conjunction with the bass radiator which eliminates the resonances and noise of a bass port, the result is remarkably clean and tonal bass reproduction.

The cabinets are finished in either mirror-matched Amberwood or gloss black lacquer. Custom finishes are available by special order.

Suggested Retail £1,995.00/pair • Call or write for literature and the name of your nearest THIEL retailer.

MPI Electronic UK Ltd • Wood Lane, Manchester M31 4BP • Telephone: 061-777-8522

THIEL • 1042 Nandino Boulevard, Lexington, Kentucky 40511 • Telephone: 606-254-9427

THE WORLD'S No.1 GUIDE TO BUYING HI-FI

HI-FI CHOICE

THE COLLECTION

EDITORIAL

FAX: 071 323 3547

Editor Andy Benham

Consultant Editor Ken Kessler

Art Editor Andrew Ryan

Deputy Editor Jason Kennedy

Production Editor Janet Moorhouse

Sub Editor Lisa Nickson

Contributors Richard Black, Martin Colloms, Alvin Gold, Roy Gregory, Dan Houston, Paul Messenger, Paul Miller, Malcolm Steward, Ian Ward

Photography Chris Richardson

ADVERTISING

TEL: 071 631 1433 FAX: 071 636 1640

Group Advertisement Manager Fiona Hunt

Assistant Advertisement Manager Miriam Young

Sales Executive Jane Woolner

Classified Sales Executive Julian O'Kelly

PRODUCTION

TEL: 071 436 1770 FAX: 071 580 6430

Production Manager Jim Bulley

Advertisement Production Sara Bray

SUBSCRIPTIONS & MAIL ORDER

TEL: 071 580 6163 FAX: 071 580 6170

Subscriptions Manager Mary Bramble

Mail Order Manager Julia French

DENNIS PUBLISHING LTD

Publishing Director Marianne McNicholas

Group Art Director Jimmy Egerton

Advertisement Director Alistair Ramsay

Managing Director Colin Crawford

Chairman Felix Dennis

PUBLISHED by Dennis Publishing Ltd, 19 Bolsover Street, London W1P 7HJ
Tel: 071 631 1433.

Company registered in England.

Origination Those nice people at Graphic Ideas.

Printing Riverside Press, St Ives Pic.

Distribution SM Distribution, 6 Leigham Court Road, Streatham, London SW16
Tel: 081-677 8111.

A



PUBLICATION

PRODUCTS AND EDITORIAL SUBMISSIONS

Hi-Fi Choice welcomes all information on new and upgraded products and services, for possible coverage within the news and reviews pages. However, the publisher respectfully points out that the magazine is not obliged to either review or return unsolicited products. The editor is always pleased to receive ideas for articles, preferably sent first in outline form, with details of the author's background, and - where available - samples of previously published work. He cannot, however, accept responsibility for unsolicited copy and would like to point out that it may take time for a reply to be sent.

PERMISSIONS & REPRINTS

Material in Hi-Fi Choice may not be reproduced in any form without the written permission of the publisher. Please address such requests for re-use of copyright material to Marianne McNicholas, 19 Bolsover Street, London W1P 7HJ.

SUBSCRIPTION ENQUIRIES

Hi-Fi Choice is available on subscription. The standard rates are (UK) £22.95 (1yr), £37.95 (2yr); rest of Europe £32.95 (1yr), £62.95 (2yr); rest of world £49.95 (1yr), £79.95 (2yr). Please address all subscription enquiries to Mary Bramble, Subscriptions Manager, Hi-Fi Choice, Dennis Publishing Ltd, 19 Bolsover Street, London, W1P 7HJ. Back Issues of the magazine are also available, please refer to page 8 for full details.

THE GET OUT CLAUSE

While every care has been taken in the preparation of this journal, the publishers cannot be held responsible for the accuracy of the information herein, or any consequence arising from it. Readers should note that all judgements have been made in the context of equipment available to Hi-Fi Choice at the time of review, and that 'value for money' comments are based on UK prices at the time of review, which are subject to fluctuation and are only applicable to the

UK market



This edition ©1992, Felden Productions. ISSN No. 0955 111 5.

Member of the Audit Bureau of Circulation.



Introduction

Not unaware of what's happening in the real world, I'm confident that the high-end will survive the current recession.

If Darwin was right, then the brands which make it through these hard times will emerge tougher and fitter than before, and that's a good thing. After all, exotic hi-fi costs a lot of money and justifies peerless after-sales support. What better than a legion of manufacturers that can stay the course? Retailers that will still be open a year after you make your purchase?

There has been a slowing down over the past two or three years, with fewer new makes appearing than in the past. At one time, you could attend any hi-fi show in the world and count on a dozen or more new brands enjoying their debuts. With costs being what they are and with a contracted market meaning a smaller pie

to cut into slices, it takes some convincing for an individual to start up a new hi-fi company. Fortunately, the pioneering spirit still exists and even the complexity and high initial investment costs of digital haven't deterred the hardcore. Yes, friends, the cottage industry still exists in the high-end. And whatever the downside of tiny companies which can fit comfort-

The Collection 1992-1993: The world's number one guide to buying high-end hi-fi.

ably into a two car garage, they still come up with the exciting and brave products which the major corporations wouldn't even consider.

While there are a few giant brands represented in this issue, most high-end companies remain owner or founder-led. Dan D'Agostino of Krell, Mark Levinson of Cello, Jason Bloom of Apogee, Jim Winey at Magnepan, Mike Moffatt at Theta, Tim de Paravicini at EAR—these

are hands-on individuals who either design the products they sell or do the necessary listening tests. Unlike a product designed by committee, a high-end component is a personal statement, the best of them actually reflecting the personality of the person behind the product.

This is no mere hyperbole, and those of you who have met the high-end luminaries at shows will know that they walk it like they talk it. Gayle Sanders of Martin-Logan is refined and civilised, just like his speakers. Dan D'Agostino is no-nonsense, larger-than-life; what better description for a Krell amp? A J Conti of Basis is pure science tempered by a love for music; go examine and listen to a Basis turntable. This analysis works right down the line, so flaky equipment equals flaky designer. Low-end mind? Low-end products. Dishonest? Then your gear will probably be a rip-off.

Supporting the high-end

The high-end suffers more grief, more stick than any other sector because there are still far too many out there who cannot understand the difference between price and value. A price tag is meaningless if the product does what it promises.

Harsh though this may sound, your own financial situation has no bearing on the integrity of a high-end manufacturer. And it strikes me as tragic that only the hi-fi community taunts and intimidates those who support the high-end.

When is the last time you read a letter in a photography magazine calling Leica a rip-off? Do you ever hear car enthusiasts of normal income badmouthing the cars they can't afford? For all those of us who can only afford to read about delicious high-end hardware, the products should serve as inspiration, something to aspire to if music can truly be called a priority in our lives.

The realities of manufacturing will forever mean that hand-assembled, complex items will always cost more than mass-market compromises. Every product in *The Collection* is a statement, every item aimed at connoisseurs, music lovers

prepared to make the financial commitment — just as the manufacturers made their commitments to the high-end.

The high-end is about the artistry of music. It is not about music as a commodity, music as aural wallpaper. And yet it is no secret society, nor an exclusive club for the wealthy. True, many high-end products are so dear that they will only ever be accessible to the very few. But, additionally, many high-end products are within reach of those who would otherwise buy undistinguished, bland, mass-market junk.

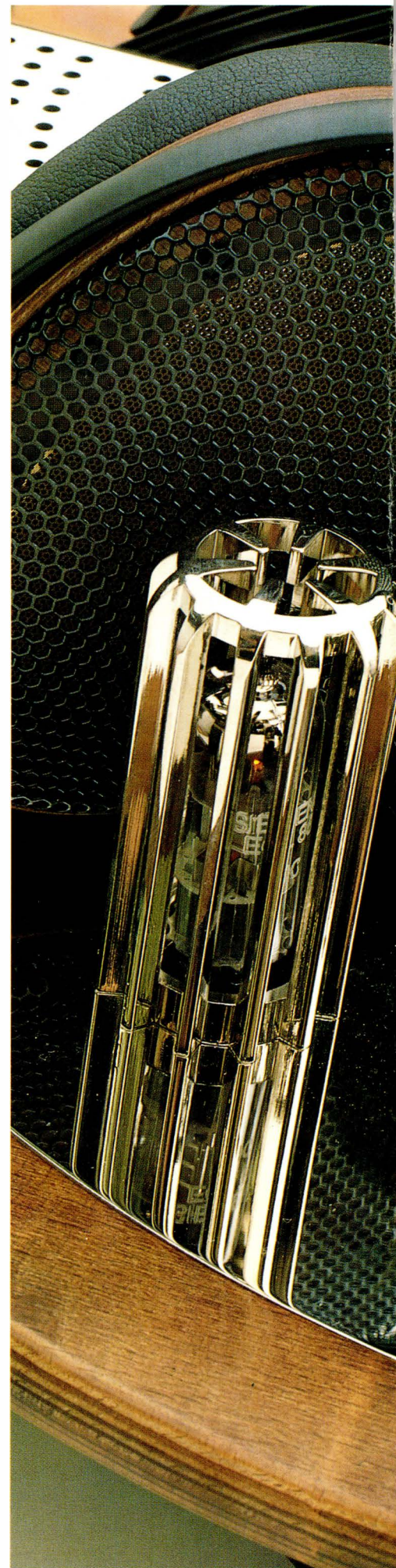
It's all a matter of priorities. As one of our reviewers pointed out, the Transfiguration cartridge — which some would argue to be shockingly expensive at around £1,400 — costs the same as a year's drinking at three pints a night. With a curry or a Chinese meal costing somewhere around £20 for two, that's about the same as two-and-half restaurant visits a week for a year. It's all a matter of priorities.

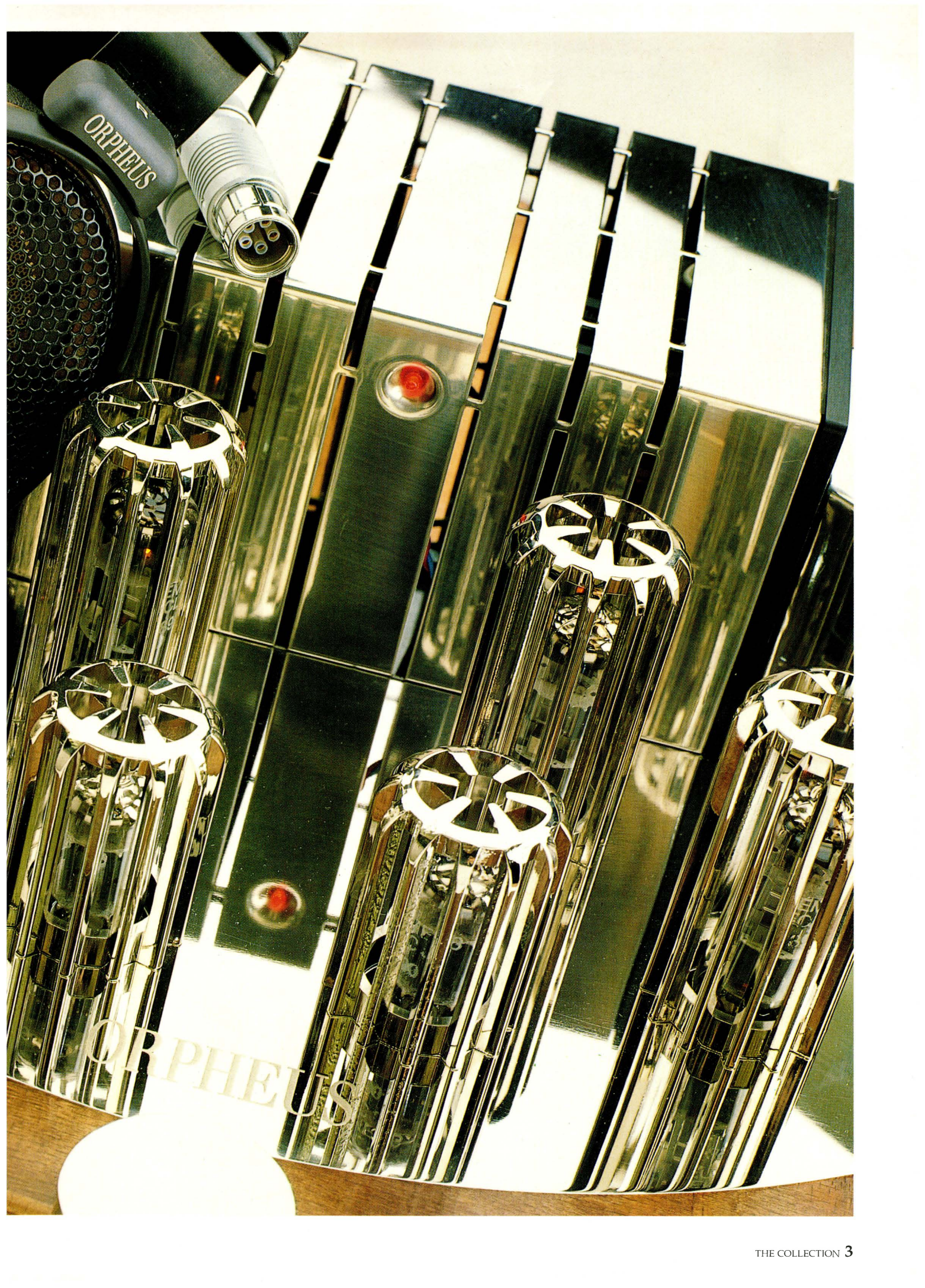
This sermon-like editorial is partly a plea. All of us involved with *The Collection* are mad about quality hi-fi. We want to see it spread, fearing that the whole concept of recorded music is being tarnished and cheapened.

The music industry grows ever more cynical, releasing pap that insults even the pre-teens who, 20 years ago, bought Bay City Rollers singles. The industry has driven away what should have become the next generation of music lovers, straight into the arms of Nintendo and Sega. Music is far too important a form of communication, far too precious an art form and far too delicious a form of entertainment to go the same way as the board game, the book and proper home cooking.

If you're an audiophile already, then you know exactly what *The Collection* symbolises. If not, then perhaps this special issue will inspire you to visit a proper hi-fi dealer, so you can hear your favourite recordings as never before. And that's what it's all about.

Andy Benham





HI-FI CHOICE

THE COLLECTION

The Front End

INTRODUCTION

4

What state is the state of the art in? We consider what the current economic climate is doing to the high-end market.

HIGH-END UPDATE

10

What's been happening in the exotic field of high-end hi-fi? We round up the season's important new products from around the audio world.

Below: Krell ain't a bad place to be, just one of the state of the art systems reviewed in The Collection.

HIGH-END ASPIRATIONS

20

Aspirations is all about wonderful systems in tasteful settings. Dan Houston has rounded up the cream of the crop that we've featured since the last *Collection* edition.



Systems

KRELL SYSTEM

28

Krell *CD-DSP* CD player, *KSL* preamp, *KSA-150* power amp.

LINN KELTIK SYSTEM

36

Linn *Karik* transport, *Numeric* DAC, *LP12/Ekos/Arkiv* turntable, *Kremlin* tuner, *Kairn* preamp, *Klout* power amps, *Keltik Aktiv* speakers.

ROKSAN SYSTEM

40

Roksan *ROK-DP1* transport, *ROK-DA1* DAC, *TMS/Artemiz/Shiraz* turntable, *ROK-L1* preamp, *ROK-M1* monoblocks, *Darius* speakers.



Right: the Audio Note Neuro is among the 14 exotic amplifiers we've got lined up for your delectation.

Amplifiers

Alchemist <i>Genesis</i>	49
Audio Note <i>Neiro</i>	53
Audio Note <i>M7 Silver/Kassai</i>	54
Audio Research <i>D400</i>	57
Conrad-Johnson <i>PV11/MV125</i>	61
Copland <i>501</i>	65
EAR <i>Yoshino A&B</i>	68
John Shearne <i>Phase 1</i>	71
Marantz <i>SC/PH/MA22</i>	81
Mark Levinson <i>No 26S, No 25S, No 23.5</i>	82
Metaxas <i>Solitaire/Marquis</i>	88
Michaelson Audio <i>da Vinci</i>	90
Musical Fidelity <i>P180</i>	96
Rowland <i>Model 9</i>	107

Cartridges

Audio Note <i>IO</i>	52
Lyra <i>Clavis</i>	76
Lyra <i>Parnasus</i>	77
Ortofon <i>MC2000II</i>	103
Transfiguration	120

CD Players

Accuphase <i>DP70-V</i>	47
-------------------------	----

CONTENTS



Luxman D500X	75
Micromega Trio 3	93
Naim CDS	98
Sony DAS/CDP R1a	112
Technics SH-X/SL-Z1000	116
Theta DS Pro Prime	117

Turntables & Arms

Basis Ovation	60
Morch MP6	95
Pink Triangle Anniversary	105

Choice Matters

BACK ISSUES 8

Thinking of buying a new component for your system but can't afford the goodies in the *Collection*? Check out some of our back issues which are packed with comprehensive technical and subjective reviews of more down to earth equipment.

CHOICE SUBSCRIPTIONS 18

Why not make sure you get *Hi-Fi Choice* every month and save money into the bargain. Check out our most excellent subs offers.

READER'S OFFERS 132

Getting the best sound out of your system is as much about the tweaks you use as the components themselves. Look up our mail order pages for sound boosting accessories.

Below: tube technology American style; Conrad-Johnson's PV11 pre and MV125 power amp.



Above: A real Gallic delight, the Micromega Trio III CD transport and DAC can be found on page 93.

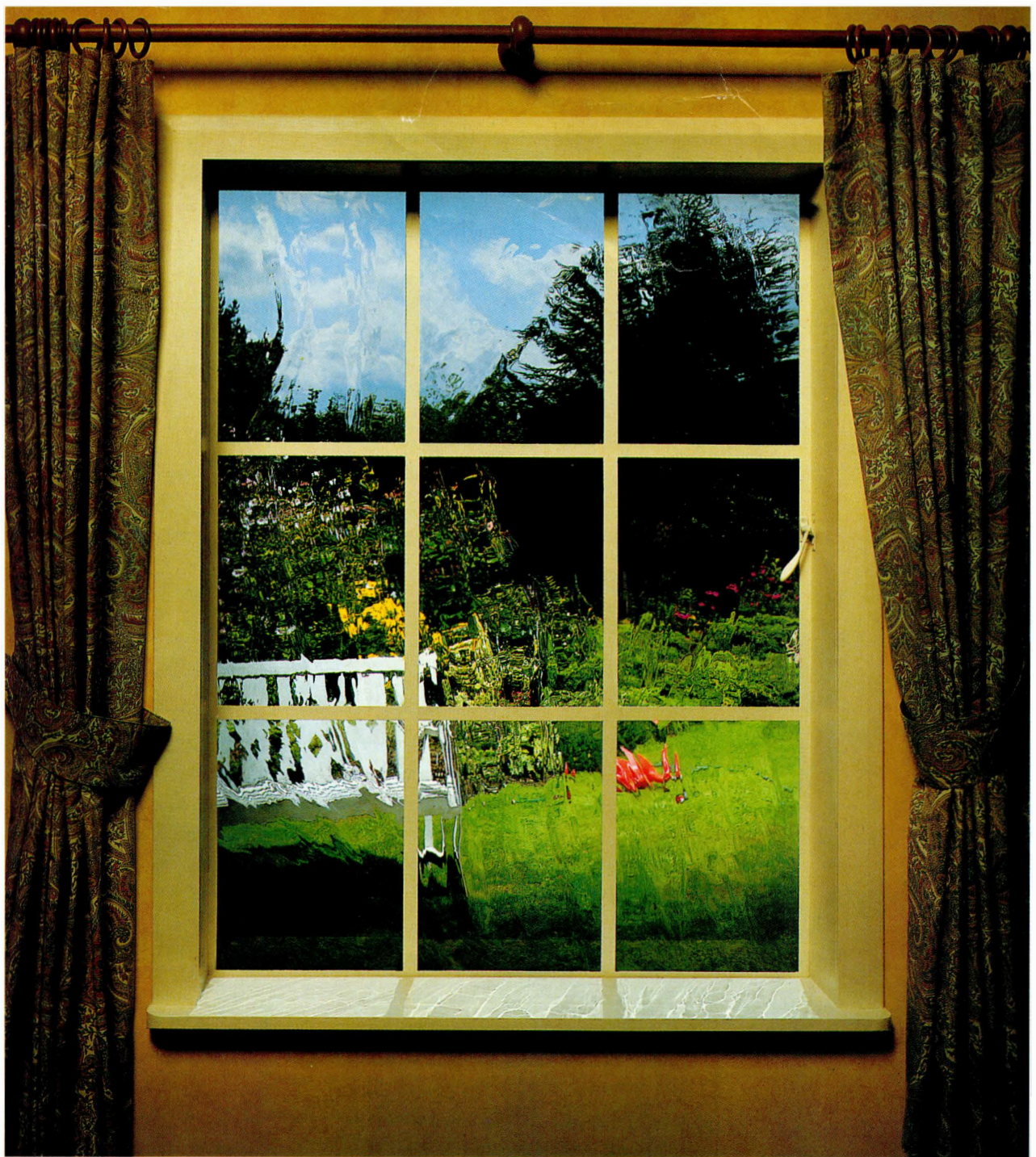
Headphones

Sennheiser Orpheus	108
Stax Gamma Pro/SRM-X Pro	113

Loudspeakers

ATC SCM50A	51
B&W Silver Signature	58
Celestion System 6000/DLP600	62
Dali Skyline 2000	66
Genesis IM 8300	70
KEF 107.2	73
Magneplanar MG3.3R	79
Martin Logan Quest	84
Meridian D6000	86
Monitor Audio Studio 20	94
Naim DBL	100
Sequerra MET 7/II	109
Sonus Faber Extrema	110
Tannoy Westminster Royal	114
Thiel CS2.2	118
Wilson Watt	121





THE PERFECT AMPLIFIER is like the perfect window.

It must allow sound (light) to pass through it,
while colouring nothing and distorting nothing.



For a full information pack



To date, no one has made the perfect window.

The new A300X amplifier.

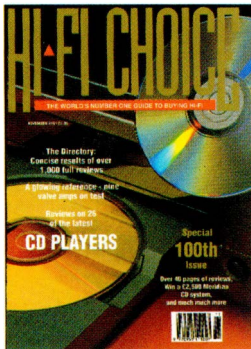
 **PIONEER**[®]
The Art of Entertainment



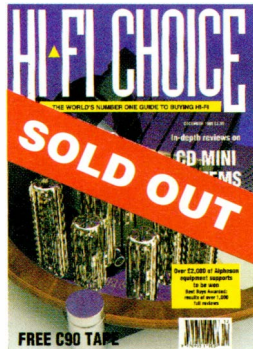
all us on freephone 0800 480480

BACK ISSUES

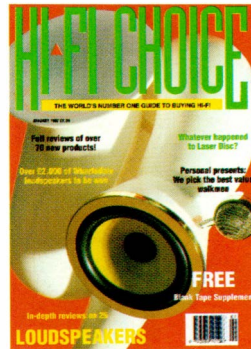
All the issues you wish you'd never missed. Here's how to order back numbers and binders for your copies of *Hi-Fi Choice*.



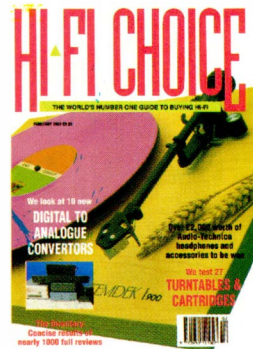
November 1991 - Issue 100 CD PLAYERS and valve amps plus birthday celebrations!



December 1991 - Issue 101 CD MINI SYSTEMS and digital to analogue converters plus free That's tape



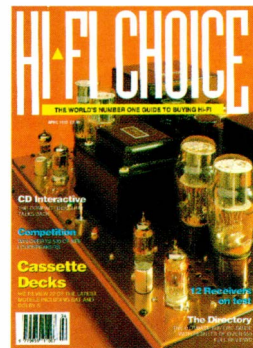
January 1992 - Issue 102 LOUDSPEAKERS and walkmen plus a free blank tape supplement



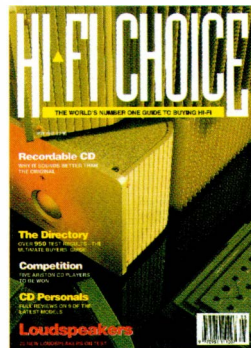
February 1992 - Issue 103 DIGITAL TO ANALOGUE CONVERTORS and turntables and cartridges



March 1992 - Issue 104 AMPLIFIERS and satellites and subwoofers plus CD tweaks and a free That's tape



April 1992 - Issue 105 CASSETTE DECKS and receivers plus Compact Disc Interactive (CD-I)



May 1992 - Issue 106 LOUDSPEAKERS and CD personals plus explanation of recordable CD (CD-R)



June 1992 - Issue 107 CD PLAYERS and phono stages plus DCC review and free tweaking supplement



July 1992 - Issue 108 SEPARATES SYSTEMS and tuner survey plus wide screen TV and free cables supplement



August 1992 - Issue 109 AMPLIFIERS and part 2 of our tuner survey plus CD-I and free loudspeaker cables guide



September 1992 - Issue 110 LOUDSPEAKERS and full technical evaluation of DCC. Plus free in-car hi-fi guide



October 1992 - Issue 111 CASSETTE DECKS and headphones. Plus free pocket guide to DCC

TO ORDER BACK ISSUES: Please write the issue numbers you require in the space below.

Issues required: , , ,

TO ORDER BINDERS:

Keep your copies of *Hi-Fi Choice* in prime condition with our eight-issue binder finished in black and gold. £5.95 (UK), £7.95 (air service) including postage and packing.

PAYMENT:

Individual issues including postage and packing: UK £4.00, rest of the world £5.00 (air service). Overseas payments: we can only accept Visa/Mastercard Eurocheques in £ sterling and sterling cheques drawn on a London bank.

- I enclose my cheque/postal order for £..... made payable to *Dennis Direct*. (A subsidiary of Dennis Publishing).
 Please charge my Access/Visa (delete as appropriate)

Total number of items ordered

Credit card number

Expiry Date / /

Signature

Name

Address

..... Postcode

(112) Please send order form and payment to: Hi-Fi Choice, Dennis Direct, PO Box 2505, Alcester, B50 4JU.

YOUR REFERENCE POINTS FOR THE BEST HI-FI

Reference Point is a sound partnership between Pioneer and a nationwide network of specialist hi-fi dealers, selected because they're the most reputable independent experts. Visit any Pioneer Reference Point dealer for the best advice and service.

AVON		GLOUCESTERSHIRE		MIDDLESEX		WILTSHIRE	
Paul Roberts, Bristol	0272 429370	Hutchinsons, Cheltenham	0242573012	Musical Images, Hounslow	081-5695802	In-Phase Audio, Swindon	{ 0793520948
Paul Roberts, Weston-Super-Mare	093441 4423	Robbs, Gloucester	0452419777				{ 0793526393
Radford Hi-Fi, Bristol	0272 428248					PR Sounds, Melksham	0225 708045
		GREATER MANCHESTER		NORFOLK		PR Sounds, Trowbridge	0225777799
BERKSHIRE		Clearstone Hi-Fi, Manchester	061-8351156	Adcock & Sons, Watton	0953881248		
B & B Hi-Fi, Bracknell	0344424556	Hamlets Audio Visual, Ashton-u-Lyne	061-3435127	Martins Hi-Fi, King's Lynn	0553761683		
B & B Hi-Fi, Maidenhead	062873420			Martins Hi-Fi, Norwich	0603627010	WORCESTERSHIRE	
B & B Hi-Fi, Newbury	063532474	HAMPSHIRE				David Waring Cameras & Hi-Fi, Worcester	090527551
B & B Hi-Fi, Reading	0734 583730	Bryants Hi-Fi, Aldershot	025220728	NORTHAMPTONSHIRE			
Frasers Hi-Fi & Video, Slough	0753520244	Cristavision, Fareham	0329288660	H. G. Rapkin, Northampton	060437515	YORKSHIRE NORTH	
Frasers Hi-Fi & Video, Wokingham	0734 794998	Now That's Hi-Fi, Portsmouth	0705811230			Maxwells, Northallerton	0609773535
		Now That's Hi-Fi, Portsmouth	0705864756	NOTTINGHAMSHIRE		Scarborough Hi-Fi Centre, Scarborough	0723374547
BUCKINGHAMSHIRE		Sinclair Youngs, Basingstoke	{ 025628623	F.L. Smith Electrical, Mansfield	0623 655684	Vickers Hi-Fi, York	0904629659
B & B Hi-Fi, High Wycombe	0494535910		{ 025621307	Forum Hi-Fi, Nottingham	0909479770		
		Southampton Hi-Fi Centre, Southampton	0703 228434	Superfi, Nottingham	0602622150	YORKSHIRE SOUTH	
					0602412137	Superfi, Sheffield	0742723768
CAMBRIDGESHIRE		HERTFORDSHIRE		OXFORDSHIRE		YORKSHIRE WEST	
Cambridge Hi-Fi, Cambridge	0223 67773	Chew & Osborne, Bishop's Stortford	0279656401	Sound 'n' Vision, Bicester	0869246491	Amrik Electronics, Bradford	0274 722530
The Hi-Fi Company, Peterborough	0733341755	Herts Hi-Fi, Hoddesdon	0992441172	Witney Audio Centre, Witney	0993702414	Amrik Electronics, Leeds	0532752285
University Audio, Cambridge	0223 354237	Hi-Way Hi-Fi, Hemel Hempstead	0442 235755			Eric Wiley, Castleford	{ 0977553066
		Radiolux, Watford	0923229734	SHROPSHIRE		Superfi, Leeds	0977 566774
CHESHIRE				Shropshire Hi-Fi, Shrewsbury	{ 0743 232065		0532449075
Car & Home Stereo, Macclesfield	0625432707	HUMBERSIDE		W. Owen, Telford	0743232317		
Hamlets Audio Visual, Cheadle	{ 061-428 5278	Superfi, Hull	048224051		0952613818	SCOTLAND	
Hamlets Audio Visual, Stockport	061-4286367			SOMERSET		GRAMPIAN	
Tomorrow Studios, Chester	0244320414	ISLE OF WIGHT		Paul Roberts, Taunton	0823270000	Holburn Hi-Fi, Aberdeen	{ 0224585713
Tomorrow Studios, Warrington	092536215	Russells, Newport	0983523864	Telefringe, Frome	037362598		0224572729
		KENT		STAFFORDSHIRE		MIDLOTHIAN	
CLEVELAND		Howes of Southborough,	{ 0892528682	Purkiss Hi-Fi, Hanley	0782265010	Bill Hutchinson, Edinburgh	031-6672877
Gilson Audio, Middlesbrough	0642248793	Tunbridge Wells	0892537288	Universal Electronics, Cannock	0543502118	STRATHCLYDE	
		Kimberley Hi-Fi, Bexleyheath	081-304 3272			Bill Hutchinson, Glasgow	041-2482857
CORNWALL		Panatec Sound & Vision, Gillingham	0634573141	SUFFOLK		TAYSIDE	
ETS Electriccentres, Helston	0326573285	Panatec Sound & Vision, Maidstone	0622661488	Avalon Audio Vision, Ipswich	0473281922	Robert Ritchie, Montrose	0674 73765
ETS Electriccentres, Penzance	073664274	V J Hi-Fi, Folkestone	0303568660	Peter Watts, Bury St Edmunds	0284 703045		
H.B.H. Woolcotts, Bude	0288352269	V J Hi-Fi, Margate	0843226977	System Sound, Sudbury	078772348		
Truro Hi-Fi, Truro	087279809	Whitstable Tele-Radio, Whitstable	0227272028			NORTHERN IRELAND	
		LANCASHIRE		SURREY		CO. DOWN	
CUMBRIA		Clearstone Hi-Fi, Bolton	020431423	Audiolite, Thornton Heath	081-653 3657	Hi-Fi Experience, Belfast	0232249117
Kenneth Gardner, Barrow-in-Furness	0229820308	Kenneth Gardner, Lancaster	052464328	Cosmic, Addlestone	{ 0932854522	LRG Sound & Vision, Belfast	{ 0232732452
Peter Tyson, Carlisle	{ 022846755	Norman Audio, Blackpool	0253295661	Tru-Fi, Leatherhead	0372378780		0232 451381
	022846756	Norman Audio, Preston	{ 077253057	Tru-Fi, Redhill	{ 0737766128	CO. ANTRIM	
		P & A Audio Video, Ormskirk	0695573456	Weybridge Audio, Weybridge	0737767404	LRG Sound & Vision, Lame	0574 272757
DERBYSHIRE		Romers Hi-Fi, Blackburn	0254 887799		0932 851121	Nicholl Bros, Ballymena	026649616
Ray Smith Electrical, Chesterfield	0246234953	Tomorrow Studios, Wigan	094237977	SUSSEX EAST			
Stuart Westmoreland, Derby	0332367546			Smythe & Barrie, Eastbourne	032329192		
		LEICESTERSHIRE		Sunderland Electronics, Brighton	0273 774113	WALES	
DEVON		Mays Hi-Fi, Leicester	0533 625625	SUSSEX WEST		CLWYD	
Bernard Smith, Barnstaple	027143503	Stuart Westmoreland, Loughborough	0509230465	Cristavision, Chichester	0243775444	Lloyds TV, Video & Hi-Fi, Wrexham	0978364168
Radford Hi-Fi, Exeter	0392218895			Sunderland Electronics, Worthing	0903201187	Owens, Colwyn Bay	0492530982
Radford Hi-Fi, Plymouth	0752226011	LINCOLNSHIRE		TYNE AND WEAR		GLAMORGAN	
Upton Electronics, Paignton	0803551329	Superfi, Lincoln	0522520265	Bill Hutchinson, Newcastle-upon-Tyne	091-230 3600	Tele Electrical Services, Bridgend	0656654156
				WARWICKSHIRE		Quinns Audio Visual Systems, Swansea	0792 773644
DORSET		LONDON		Carvels of Rugby, Rugby	0788541341	GWENT	
Movement Audio, Bournemouth	0202 529988	Babber Electronics, W13	081-5796315	The Hi-Fi Company, Leamington Spa	0926888644	Hi-Fi Western, Newport	0633262790
Movement Audio, Poole	{ 0202730865	Brians Hi-Fi, W1	071-631 1109			GWYNEDD	
	0202721983	Covent Garden Records, WC2	071-3797427	WEST MIDLANDS		Owens, Bangor	0248362951
		Hi Spek Electronics, N3	081-3491166	Bridge Hi-Fi, Walsall	0922640456		
ESSEX		Karla Electronics, W1	081-323 2747	Coventry Hi-Fi, Coventry	0203440529		
A V Tech, Ilford	081-5146688	Light & Sound, E6	081-4721373	Naam Hi-Fi Vision, Birmingham	021-633 4944		
Chew & Osborne, Epping	037874242	Myers Audio, E17	081-520 7277	Naam Hi-Fi Vision, Coventry	0203632086		
Chew & Osborne, Saffron Walden	079923728	Spatial Audio, W1	081-637 8702	Superfi, Birmingham	021-6312675		
Classic Sound & Vision,	{ 0702461634	Stereo Regent Street, W1	071-287 2458	Universal Electronics, Wolverhampton	090223741		
Southend-on-Sea	0702 600130	Superfi, NW1	071-3881300				
Peter Foulkes, Chelmsford	0245491479			MERSEYSIDE			
Peter Foulkes, Colchester	0206767428	Beaver Hi-Fi, Liverpool	051-709 9898	Tomorrow Studios, Southport	0704531500		
Peter Foulkes, Maldon	0621 853148						
Twenty 20 Audio Visual, West Thurrock	0708891818						
Waters & Stanton, Hockley	{ 0702 206835						
	0702204965						
Waters & Stanton, Hornchurch	0402444765						
Woolfmans, Basildon	0286285922						

High-End Update

Recession — what recession? If the costly new objects announced for the 1992-93 season are any indication, then the leading-edge manufacturers are either optimists or simply unaware of the realities of the current marketplace. Instead of regarding them as crazies, maybe we should think of them as the only souls willing to meet the recession head-on, an act of defiance which should be admired and aped rather than ridiculed. At shows all over the world in the spring and summer of 1992 — Hong Kong, Chicago, Frankfurt, Tokyo, Taiwan — the high-enders were out in force, and interest has never been higher. Here's what the makers hope will part the public from its hard earned dosh over the next 12 months or so.

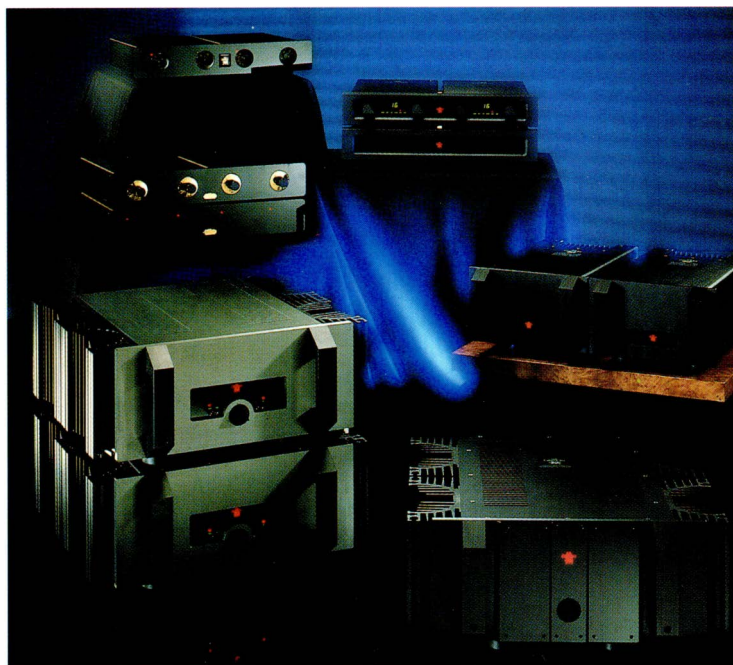
One of the most noticeable trends to emerge is the development of new markets. Both the home theatre (Dolby Surround, projection TV, Laserdisc, etc) and the multi-room installation markets are now so well-established that they, too, have high-end elements, and the traditional makers have decided to grab some of the action from the major Japanese companies and mass-market brands like Polk and Bose.

Magnepan's first step into the installation market is a tentative but important one, with a part-wall-mount, part-free-standing hybrid. A new affordable full-range panel has been designed to work quite satisfactorily as a standalone system; the installation part is the subwoofer, two panels which are fitted into the wall. Apogee chose to design a full-range system for in-wall installation based on the *Centaur Minor*. It requires a cut-out 320mm wide and 1220mm tall, with a depth of around 100mm. The ribbon element is 660mm long, with the bass handled by a 165mm woofer, so subwoofers aren't necessary. Announced just before press-time — and blessed relief for Europeans who don't have homes with American-styled cavity walls — is a hang-on-the-wall equivalent.

Celestion stole a lead on everyone with a pair of Dolby Surround decoders, packaged complete with a pair of Celestion 1 speakers and ample wiring to convert any hi-fi VCR-plus-hi-fi system into a home theatre. The HT One offers Dolby Surround and rear channel info for £299, while the HT Three adds Dolby Pro Logic, remote control and a front centre channel speaker for true Pro Logic effect, all for £499.

Electronics

Gryphon of Denmark has produced a baby brother for its 200W stereo amp, the new *M100* monoblok. Delivering 100W into 8ohms, or 400 into 2ohms and with the classic Gryphon black gloss fascia and illuminated red logo, it's a lot smaller than the floor-filling stereo amp, so acres of free space aren't needed for running four in bi-amped systems. Conrad-Johnson's catalogue now includes the affordable *MV70* power amplifier, containing four



6550s and yielding 70W/channel. The *PV10A* is the ideal preamp for the *70*, fully-loaded and also affordable. The company has also launched a new tube D/A convertor, the *Premier Nine*, using a Philips Bitstream SAA7350 DAC, and offering five front-panel-accessible digital inputs including RCA and BNC coaxial plus TOSLINK and AT&T optical, for a total of seven inputs.

Not yet available in the UK but reckoned to be a brand to watch is Times One. The company has a neat power amp available in two formats, the *RS400* (2x100W) and *RFM 500* (125W mono). US price is under \$2,500 for the stereo version. Melos is offering a new flagship, the *MA-333* triple-chassis preamp, dual mono and split up to isolate the power transformers and their magnetic fields from the critical circuitry. Remove the phono chassis, and it converts into a two-chassis line-level-only version. Counterpoint's new top of the line offering is the *Natural Progression* monoblok, a tube/FET hybrid rated at 150W and able to deliver 250 amps peak-to-peak. Classé, already well-stocked with high-roller goodies, introduced the *Classé 70*. With a conservative 70W/channel and a pricetag of around £1,000, it delivers North American grunt at UK prices. Built to normal Classé standards, the unit actually seems under priced. Naim announced the new *NAP 180* stereo power amp, with 60W per channel and housed in the *NAP250* full-width case and the remote control *NAC82* preamp.

Audio Research has announced the solid-state *LS3*, a budget line-stage preamp also available in balanced output form as the *LS3B*. The *PH2* is the company's new solid-state, balanced input and output phono stage. The *LS2B* tube/MOSFET hybrid is an *LS2* with balanced inputs. The new *KT90*

The current Gryphon range of pre and power amps including the new M100 on the marble slab.



Above: the new Audio Research LS3 line preamp. Below: esoterica unleashed in the form of Cary CAD805 power amps.

valve appears in the V35 35W per channel power, the V70 70W per channel amp and the V140 140W per channel amp. All feature balanced input only connections, yet another trend notable in the high-end. In ARC's all-tube range, the company has introduced the LS5 line stage, the PH3 phono preamp and the V100 100W ultra-linear, cathode-coupled monoblok power amp.

Cary Audio has a new tube amp which reads like a Japanese tweak specialty, the CAD805, a 50W, Class A monoblok with 211 output tubes, EL34 interstages, 6SL7 input tubes, adjustable feedback from 0-10dB, standby mode and cats eye tubes as power meters. The price is well below that of an Ongaku. Yakov Aronov, another classy tube brand in need of UK representation, introduced the IC70 integrated valve amp; a rare announcement from a



US company. Offering 2 by 70W from four General Electric EL34s, its preamp section is true dual mono and its retro styling makes it look like no other integrated amplifier. Price will be somewhere in-between \$2,500 and \$3,000. For twice that amount, there's the MA100 100W monoblok, powered by four 6550s. Dynaco has provided a partner for its revived Stereo 70 power amp with a 1992 version of the PAS3, called the PAS-3 Series II vacuum tube preamp. Expect it to have undergone a rejuvenation programme similar to that used on the Stereo 70: circuit tidying, components upgraded to modern standards, etc. Forté has introduced the F44 remote control line level preamp, with five inputs,

record out facility and a hand-held controller covering all functions. Purest Sound Systems' PSS is a passive preamp available in no less than seven versions, from the basic Model 500, with four inputs and mute control, Wonder Wire and silver soldering at \$265, up to the Model 1000 Dual Mono Deluxe for only \$485. With prices so low, even a transatlantic journey wouldn't add too much to the cost, so UK availability should seem a natural. After all, the UK is where passive preamps have received the most attention.

Atma-Sphere has developed an accessory for OTL (output transformerless amplifier) users called the Z Music Transformer. This allows an OTL to drive low impedance speakers. Being an auto transformer which doesn't have to block DC voltages and has no secondary windings, it doesn't compromise the qualities which make OTLs so transparent and desirable.

Also out from Atma-Sphere is the MA1 amplifier (100W per channel, Class A, all triode), the M-50 (50W per channel, class A, all triode) and the new MP-1 preamplifier with balanced inputs and outputs, and a complement of 19 valves. NRG released a line level preamp, the PA-1 with optional phono section and remote control. Inputs are provided for six sources (including two tape units), the front panel contains a polarity inversion switch and there's a circuit breaker rather than a fuse on the back panel.

The comeback of the year, or — more accurately — the major 'return to the high-end fold' is that of Crown (or Amcron in the UK). The 760W (into 8 ohms) Macro Reference runs Class A/AB, has a US price of under \$4,000 yet is said to give amps costing twice that a run for the money. The kind of audiophiles and reviewers who have been sneering at the brand for the past 15 years have been forced to sit up and take notice. Let's hope that the UK distributor, a pro audio company which thinks hi-fi people are train-spotting gimps, will break down and let us near the thing.

Loudspeakers

Plenty of conventional speakers were launched this year, including Proac's Response Three Signature with rhodium crossover, silver foil capacitors, all-silver wiring, rhodium bolts, rhodium spikes and a choice of rare veneers. Metaxas has followed its extensive range of electronics with a satellite/subwoofer system called the Mini Monitor. It uses all-aluminium drivers, the tweeter and midrange units being mounted in an open baffle.

Thiel has filled a gap in its catalogue with the CS3.6, in-between the CS2.2 and CS5. Selling for £3,495, this is a floor-standing system which, like all Thiels, employs a sculpted, sloped baffle. The model represents a first with the appearance of the new 114mm double diaphragm midrange driver — two cones bonded to form one ultra-light, very stiff diaphragm with air sandwiched between the cones.



Naim's new NAC 82 preamplifier is a scaled down NAC 52 and includes remote control.



Martin Logan, sensibly acknowledging the need for an 'entry level' electrostatic, introduced the *Aerius*. A hybrid system, it measures only 1410x267x343mm (HWD). The electrostatic element works down to a crossover point of 500Hz with a cone woofer operating below that. The look is traditional Martin-Logan, with a mesh grille and an 'invisible' driver. These will sell for under £2,000 in the UK.

The speaker also features a passive bass radiator in addition to the 254mm aluminium woofer.

Two brands new to the UK have already won raves around the world. Absolute Sounds will be distributing Linaeum, a company with a range featuring a radical

new tweeter, even on its least expensive (£600 per pair in wood) *LFX*. This baby is tiny, around the size of an *LS3/5A*, and it uses the figure-of-eight, mylar diaphragm tweeter in conjunction with a cone woofer. The sound is said to be open and transparent, with exceptional detail. A luxury version is available in a solid Corian enclosure for around £1,300.

The Sonus Faber *Extrema*, reviewed in this issue, has emerged as one of the hottest high-end loudspeakers, alongside the Wilson Audio *Watt/Puppy* combination (also in this issue). What's telling about the success of these two systems against such obvious champions as the larger Martin-Logans, Apogees, Duntechs and the like is that they're so small, not much larger than most medium-sized British boxes on 600mm stands. Their sound quality, though, belies the size, which initially contradicts price tags of £6,000 and £12,000 respectively. In other words, good things do come in small packages.

It's funny how the passage of time can change

hoots of derision into nods of admiration. MBL launched its pulsating sphere, the *101*, nearly a decade ago, with each of its three drivers made up of sections like a Terry's *Chocolate Orange*. The technology creates a system with true 360 degree dispersion. The bizarre looks and radical topology drew out the Luddite in most non-German observers, but the company stuck to its guns and now it's reaping the rewards. Distribution has been set up in the USA and the Far East, and there's talk of finding a UK importer for this £20,000 system. The transparency, speed and imaging capabilities make it a true contender for the high-end supremacy.

Apogee has enhanced its entry-level full-range ribbon system, the *Stage*, the *Stage Subwoofer* is a 280x673x476mm (HWD) enclosure containing a pair of custom-made 200mm woofers. Using Apogee *Grand* technology and supplied with a dedicated active crossover, the *Subwoofer* extends the frequency response down to 24Hz and increases the dynamic capabilities. The *Grand* itself is \$85,000 worth of floor-to-ceiling ribbons and massive cone woofers driven by dedicated onboard Krell amps. Despite the high price, there's now a waiting list for this incredible system, said by many to redefine the state of the art.

Dynaudio, best know for making drivers rather than whole systems, unveiled the *Consequence*. This 1250mm tall floor-stander uses six drivers in two enclosures, the top box containing two 300mm woofers (one inside) with the lower section sporting from the top downward a 170mm mid/bass driver, a 54mm mid dome, a 28mm dome tweeter and — at the very bottom — a 21mm super dome tweeter. (Note that this upside-down approach has been used before, by Mission among others.) The amazing finish, high component count, high perceived value and incredible dynamics make the five-figure pricetag seem somehow less than insane.

Digital products

Just about every company is now in on the digital action, including Linn, for years the strongest objector. With players from Naim, Linn, Roksan and others giving the format credibility among the anti-digital brigade, one can assume that it's now politically correct and acceptable to be seen at your local record shop with only five inches in your hand. It



Above: The London Jubilee cartridge in its chunky new solid aluminium body.

The Path Group is considering importing the *Alon* loudspeaker from the American firm Acarian, which has already established itself in the Far East. These speakers have their tweeters and midranges mounted on an open baffle, reminiscent of Vandersteen, and are known for exceptional bass extension from sensibly-sized enclosures. Acarian made its mark with the *Alon IV*, which has been followed by the smaller, less-expensive *Alon II*, that's much more suitable for British homes.



Mark Levinson, garnering acclaim for the staggeringly expensive No 30 DAC (£12,999) has finished work on the matching No 31 Reference CD transport. It incorporates a vibration-absorbing sandwich chassis, a lead-loaded, tuned-spring inner suspension for the laser mechanism, a lid which seals out airborne vibration, spiked and padded feet, a disc damper and magnetic clamping. The decoder and the computer control work from separate, regulated power supplies, all output types are accommodated and the unit offers top-loading, comprehensive display with adjustable brightness, full programming, memory storage for 1,000 CDs and sophisticated interfacing with other Mark Levinson products.

also explains why there's been hardly anything worthwhile on the analogue front this year. Aside from the SME Model 20 turntable, the completely revised London (nee Decca) Jubilee cartridge and the Transfiguration cartridge (reviewed in this issue), the analogue launches for the 1992-93 season have been low-key. But digital grows apace.

Primare can now supply its outrageous 'floating' 204 CD player, plus the 205 remote control which provides remote switch-off of the illuminated panel. Melos produced the MAX-1 digital processor and the CD-T/BIT dual chassis DC player, Enlightened Audio Design has a transport, the T-7000 (in black or gold) to match its well-established D/A convertor. Counterpoint's first DA convertor is now available, the DA-10 is based around a 20-bit AD1862 DAC mounted on a daughter board for easy swaps to other types. The company is prepared to cater for all DAC preferences, and the ability to audition all types of processing on one basic platform will prove an ear-opener for those wishing to choose between Bitstream, 18-bit, 10-bit, etc. It also features two digital tapes loops with dubbing, six inputs, phase inversion in the digital domain, a lock indicator, muting and a Most Significant Bit adjuster.

Audiomeca's beautiful Mephisto CD Transport is made from black polished metacrylate with gold details. It's a top-loader with a clamping mechanism and a real platter and it features three sets of outputs in the major configurations. Audio Alchemy has added more units to its growing all-digital system, including the DTI Digital Transmission Interface. This is said to reduce mechanical jitter through a sophisticated pulse transformer for a purer, smoother digital signal. The Arthur from Camelot is a bitstream convertor that can be battery-driven for cleaner sound. The switches and lights in addition

to the normal indicators showing sampling rate and input deal with various charge modes and the unit is fully operable during recharge mode.

Krell Digital has uprated its transports. The MD-20 is a top loader featuring a CDM-1 MkII single beam swing arm laser, four layer circuit technology, ultra-rigid chassis construction, full suspension, remote control, AT&T and TOSLINK optical outputs and balanced (XLR) or RCA coaxial outputs. The top of the line MD-10 uses the CDM-3 CD ROM laser system. Krell's processors now include the Studio, which uses 20-bit Ladder Network DACs achieving 19-bit resolution and a computational process controlled with proprietary coefficients which are stored in the DAC by user-replaceable EPROMs. The Studio can be upgraded as the company develops more powerful coefficients.

The flagship model is the Signature, a twin-chassis processor using 64 times oversampling, special 18-bit DACs, the newly developed TimeSync optical clock synchronizer to eliminate jitter (when used with a Krell transport), a Jitter Rejection Module to eliminate jitter from other makes of transport, a more powerful computer using two DSPs to run the processing software, four selectable inputs for all types of digital transmission including AT&T and AES/EBU XLR, selectable phase and tape monitoring.

Vimak has followed the 2000 digital preamp with the less expensive DS-1800, effectively a 2000 without the preamp section. The DS-1800 uses 18-bit DACs and 64 times oversampling. Four inputs are provided, including TOSLINK opticals, one unbalanced RCA coaxial and one XLR AES/EBU balanced, with AT&T an optional extra. Other features include interfaces for multi-room application, PC interfacing and diagnostic readouts via modem to the dealer or Vimak. Vimak's transport, the DT1000 Delta Tau should be ready for the January CES in Las Vegas.

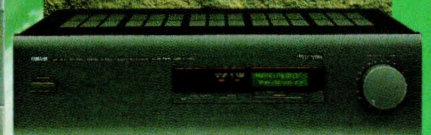
Theta's processors are now classified as 'Generation III', the latest DS Pro and DS Pre featuring three internal chassis, each isolated with its own Faraday cage to prevent interference between sections, Teflon circuit boards for the analogue sec-

Below: Counterpoint's DA-10 allows comparison between different chips on the same D/A circuit.



Cinema DSP

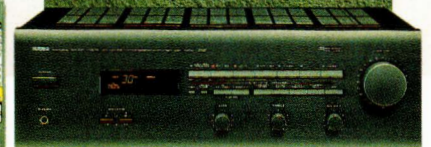
Where
The
Real
Action
Is.



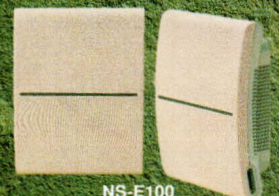
DSP-E1000
DIGITAL SOUND PROCESSING
AMPLIFIER



RX-V660
CINEMA DSP
AM/FM STEREO RECEIVER



DSP-A500
DIGITAL SOUND PROCESSING
AMPLIFIER



NS-E100
EFFECT SPEAKERS



Imagine the awesome power and majesty of *Niagra Falls* in your own home; the scale and atmosphere of a live concert; or the edge-of-your-seat action of a blockbuster movie in true Cinema 70mm Dolby* surround. Unforgettable.

Install a Yamaha DSP Cinema system and you can get all this. And more.

Yamaha continues to lead the world in audio/visual entertainment technology. Cinema DSP will integrate easily with your existing Hi-Fi and Video system to bring you a whole new home entertainment experience. Or you can build a system from start around it.

A wide range of components, including the award-winning DSP-A1000 and the budget DSP-E200 digital sound processing amplifiers, plus a range of surround speakers and subwoofers, means you can select the perfect combination to suit your environment. And your pocket.

To find out more about Cinema DSP, contact your Yamaha dealer today - it's where the real action is.

music
naturally

All Yamaha HiFi products carry
an exclusive 2-year guarantee.
For your **FREE** catalogue, contact:

YAMAHA HIFI

Wadia has a new standalone transport which is also available as a complete, remote-operable player in the same housing. The player version is the *Wadia 6*, measuring 350x406x140mm (WDH) and resting on integral spikes fitted to each corner. Access is via a slim tray at the front, with the disc read by a 3-beam, objective lens drive. An internal clamping system is fitted. The DAC section features a 20-bit processor with 64 times oversampling and the company's proprietary decoding software. The transport-only version is the *Wadia 8*.

The prototype lead uses genuine military connectors. Cost considerations are the only major concern, so expect to wait for this development to reach the shops.

Cables and accessories

If anything can be called 'affordable' in a high-end context, it has to be the cables and accessories which can satisfy the need for a hi-fi fix when funds are limited. On the other hand, cable prices are bordering on the mind boggling. Witness NBS, a US company with a range of hideously expensive, unwieldy cables named after snakes. The range consists of mains, digital coaxial, AES/EBU XLR balanced, single-ended RCA and speaker cables, and those fortunate enough to have heard them say they're sensational. Then again, at US \$1,200 for 1.2 metres of *King Serpent II*, so they should. Transparent Marketing has introduced its own brand of high-end cables called *Transparent Cable*, while XLO (now with UK distribution) has launched a

ditions, dual monaural topology in the balanced version, 20-bit DACs and 50 percent more computing power. Theta also developed a completely new digital link, currently in early prototype stages. With the working name of 'Real Laser Interconnect', it's said to be ten times faster than AT&T, with a bandwidth of 4.5GHz and minimal jitter.

budget range. Mapleshade, best known for CDs, has announced a range of costly interconnects and digital cables. Kimber introduced a staggeringly good mains cable called *PowerKord*. And word on the street suggests that the new range of wires from Van Den Hul are simply 'awesome'.

The Combak Corporation of Japan has introduced a range of products under the Harmonix banner, to be distributed in the UK by Absolute Sounds, all of which are said to reduce 'resonance-induced distortion for improved sound quality.' The range is extensive: The *Model RF-22* tuning base for speakers, enclosures and drivers consists of adhesive, gold-coloured metal discs for positioning on chassis, magnets, around the terminals and anywhere else there might be unwanted vibration. The *Model RF-33* tuning belts are adhesive lozenges for electronic circuit boards and loudspeaker drivers. Plug fetishists will approve of the *Model RF-414* tuning rings for interconnects, little gold rings to slip over the plug collars and held in place by grub screws. Most impressive are the *Model RF-11* tuning sheet for CDs, self-adhesive CD discs with cross-shaped cutouts and green borders, which are said to enhance all CDs by improving clarity and bass reproduction, while removing digital nastiness. Other items include various feet for placing under components, including heavy, adjustable pointed types and wood-and-metal pucks. The prices are high, but response to the products has been nothing short of phenomenal.

As you can see, the high-end community hasn't been idle during the past year. 1992 saw less resistance to digital products and there are even signs of approval for digital processing of whole systems, with developments from Sigtech, Meridian, Snell and Marantz showing us the future. Prices are as crazy as ever, power outputs are increasing, balanced operation is gaining more supporters, the AT&T connector is ousting the dreaded TOSLINK . . . so much for the recession.



Left: Harmonix tuning devices are designed to control resonances in all types of hi-fi component.

**WITH PHILIPS DCC, TOM CAN LISTEN TO MOZART
DYNAMIC INFLECTIONS. IN OTHER WORDS IT SOUNDS**



FA 930 AMP

Philips new Digital Compact Cassette player, available as part of the superb 900 Series Hi-Fi separates, will
And whilst Tom is very impressed by how we've managed to accommodate the 16-bit 44.1 kHz signal of CD

PHILIPS

**ON A TAPE AND RELISH THE DETAILED YET COHESIVE
JUST LIKE A CD.**



CD 950 CD PLAYER



FT 930 TUNER



DCC 900

enable you, for the first time, to perfectly combine the digital sound quality of CD with the convenience of cassette. onto tape by means of Precision Adaptive Sub-band Coding, we think you will simply be impressed full stop.



Subscribe Today!



Take advantage of this month's fantastic subscription offer and not only will we shower you with free That's MG-X metal tapes, but you can also make a substantial saving of over £12 on our normal cover price.

As a reader of *Choice* you are already aware that it is quite simply the best hi-fi magazine on the market. By taking advantage of this most excellent subscription offer not only will you have a regular copy of the Worlds Number One Guide To Buying Hi-Fi delivered directly to your door each month, but we'll even send you a free gift to thank you for subscribing.

If you decide to take out a standard one year subscription we'll charge you only £22.95, which represents a saving of over £12 on the normal cover price. You'll also get a super free gift of three That's MG-X C90 cassettes, worth over £7.

However if you wish to pay by direct debit, which is cheaper for us to process, we will pass on the saving straight back to you in the form of five That's MG-X C90 cassettes, worth over £12.00. And don't forget that which ever option you chose, we'll even pay the postage.

Five That's MG-X C90s can be yours for free if you subscribe to Hi-Fi Choice.

Unfortunately this offer is only available to readers in the UK, but if you live further afield you can still make a substantial saving by subscribing, the rate for Europe and Eire is £32.95 while non-European readers can have 12 copies of the magazine winging their way around the world for just £49.95. Dont delay, subscribe today, as this offer closes on 1st November 1992.

Priority Subscription Form

ADDRESS TO WHICH YOU WISH YOUR MAGAZINES TO BE SENT

Mr/Mrs/Ms ... Surname First name

Address

.....

..... Postcode

Daytime telephone number

PLEASE TICK THE SUBSCRIPTION YOU REQUIRE:

UK, £22.95 Europe/Eire, £32.95 Rest of the world,

£49.95

Please note: Tape offer applies to UK only

To claim your three free tapes:

I enclose a cheque/postal order for £..... made payable to Dennis Publishing Ltd

Please charge my Access Visa

Account number

Expiry Date

Signed Date.....

To claim your five free tapes:

Your bank details:

Bank's name

Bank's address

..... Postcode.....

Bank sort code

Name of Account Holder

Account number

Your instruction to your bank and your signature

◆ I/We instruct you to pay direct debits from my/our account at the request of Dennis Publishing Ltd.

◆ The amounts are variable and may be debited on various dates.

◆ I/We understand that Dennis Publishing Ltd may change the amounts and dates only after giving me prior notice.

◆ I/We will inform the Bank in writing if I/We wish to cancel this instruction.

◆ If any direct debit is paid which breaks the terms of these instructions the bank will make a refund.

Your signature(s).....Date.....

Originators identification number 724680

NB: BANKS MAY REFUSE TO ACCEPT INSTRUCTIONS FROM SOME TYPES OF ACCOUNT.

BY TAKING ADVANTAGE OF THIS SPECIAL SUBSCRIPTION OFFER YOU GET:

- UP TO FIVE THATS C90 METAL TAPES ABSOLUTELY FREE!
- A SAVING OF OVER £12 ON THE NORMAL COVER PRICE
- FREE DELIVERY TO YOUR DOOR
- SPECIAL READER OFFERS

NOW POST TO:

UK SUBSCRIBERS: Post to *HI-FI CHOICE* Subscriptions, FREEPOST 9 (WD7), London, W1E 4UZ

OVERSEAS SUBSCRIBERS: Post to *HI-FI CHOICE* Subscriptions, 19 Bolsover Street, London, W1P 7HJ

HOTLINE FAX: Fax your completed form on 071 580 6170 (PLEASE NOTE WE ARE UNABLE TO ACCEPT DIRECT DEBIT INSTRUCTIONS VIA FAX)

TELEPHONE: Call us on our 24hr Subscription Hotline 071 580 8908

Please tick here if you do not wish to receive further details of any special offers

FOR A SIMPLE EXPLANATION OF PHILIPS DCC AND WHERE TO FIND IT, DON'T ASK TOM JUST READ ON.

London

Army & Navy, SW1 071-834 1234
 Atlantic Electric, NW10 081-451 0302
 Bartletts Hi-Fi, N7 071-607 2296
 Comet, Mill Hill 081-203 8558
 Covent Garden Records, WC2 071-379 7635
 Deans, W2 071-723 4630
 Desgate/Galaxy, E1* 071-247 0567
 DH Evans, W1 071-629 9470
 Dixons, Oxford Street, W1 071-408 0890
 Francis, Streatham 081-769 0466
 Harp Electronics, W1* 071-636 4611
 Harrods, Knightsbridge, SW1 071-730 1234
 Hi-Spek, N3* 081-349 1166
 Hi-Way Hi-Fi, W2* 071-262 9267
 House of Fraser, W8 071-937 5432
 Hyper-Fi, Barking 081-591 6961
 John Lewis, Brent Cross, NW4 081-202 6535
 John Lewis, Kingston upon Thames 081-547 3000
 John Lewis, W1 071-629 7711
 Massey, Chiswick 081-994 1317
 Peter Jones, SW1 071-730 3434
 Selfridges, Oxford Street, W1 071-629 1234
 Studio 99, NW6 071-624 8855
 Tempo, Kingston* 081-547 0404
 Woolfmans, Ilford* 081-553 2587

South East

Adams & Jarrett, St. Leonards on Sea 0424 437165
 Audio T, Enfield* 081-367 3132
 Bonds, Norwich 0603 660021
 Brittain & Hobbs, Sheerness* 0795 665 551
 Chew & Osborn, Epping* 0992 574242
 Comet, Guildford 0483 32625
 Dixons, Kingston 081-546 3611
 Heelas, Reading 0734 575955
 Invicta Co-op, Dartford 0322 223444
 Jenners, Tenterden 0580 63230
 Ricemans, Canterbury 0227 766866
 Sevenoaks Hi-Fi, Sevenoaks* 0732 459556
 Smythe & Barrie, Eastbourne 0323 29192
 Standens, Tonbridge 0732 353540
 Trewins, Watford 0923 244266
 Vernon Collard, Rayleigh 0258 772237
 VJ Hi-Fi, Folkestone 0303 56860

East Anglia

Hughes TV/Audio, Lowestoft* 0502 585 611
 Levett & Ward, Colchester 0206 210 844
 McCullough, Cambridge 0223 426766
 Robert Sayle, Cambridge 0223 61292
 Rose & Wright, Bury St. Edmunds 0284 768 586
 R.C. Snelling Ltd, Norwich 0603 712 202
 Tavistock Hi-Fi, Bedford 0234 356323
 Wheelers, Kings Lynn* 0553 774 037

South

B&B Hi-Fi, High Wycombe* 0494 535910
 Bryants Hi-Fi, Aldershot 0252 20728
 Burden Electronics, Swindon 0793 490613
 Churcher Audio Video, Worthing 0903 230558
 Vic Climo, Maidenhead 0628 21765
 Cosmic, Weybridge 0932 854 522
 Hemmings, Farnborough* 0252 520 472
 Hickmans, Swindon 0793 537 971
 Hi-Fi City, Watford 0923 226169
 John Lewis, High Wycombe 0494 42666
 John Lewis, Milton Keynes 0908 679171
 John Lewis, Welwyn Garden City 0707 323456
 C.F. Lake, Slough* 0753 538287
 Mid-Sussex Electronics, Burgess Hill 0444 242 336

Power People, Bicester 0869 320280
 P. Shee Television, Farnborough* 0483 503606
 Sinclair Youngs, Basingstoke 0252 28623
 Suttons, Salisbury 0722 327171
 Tru-Fi, Redhill 0737 766 128
 Tyrrell & Green, Southampton 0703 227711

Wales and West

M.A. Buzzard, Banbury 0295 250 036
 Cavendish House, Cheltenham 0242 521300
 Comet, Bristol 0272 591445
 Dixons, Cardiff 0222 228611
 Hinchly & Lloyd, Cardiff 0222 621561
 Horns of Oxford, Oxford 0865 511 241
 Hutchinsons TV, Cheltenham 0242 573 012
 John Lewis, Bristol 0272 279100
 F.H. Moss, Bath 0225 465 085
 Oxford & Swindon Co-op, Abingdon 0235 53366
 Radford Hi-Fi, Bristol* 0272 240 878
 Radiocraft Sonus, Cardiff 0222 231 166
 Paul Roberts Hi-Fi, Weston-Super-Mare* 0934 661 204
 T.E. Roberts, Wrexham 0978 364 404

South West

Central Radio Services, Burnham on Sea 0278 782 112
 Chelston Hi-Fi, Chelston 0803 606 863
 Dorchester Hi-Fi, Dorchester 0305 264 977
 ETS, Helston* 0326 573 801
 Ford & Sons Electrical, Sidmouth 0395 512 501
 Hi-Fi Attic, Plymouth 0752 669511
 James TV, Barnstaple 0271 43731
 Mike Manning Audio, Yeovil 0935 79361
 Plymouth Co-op, Plymouth 0752 662800
 Upton Electronics, Paignton 0803 551 329

Midlands

James Beattie, Wolverhampton 0902 22311
 Derann Audio Visual, Dudley 0384 233191
 Hereford Hi-Fi & TV, Hereford 0432 268922
 John Lewis, Peterborough 0733 44644
 McCarneys TV & Video, Shrewsbury 0743 368972
 Naam Hi-Fi Vision, Birmingham* 021-633 4944
 Queens Park Radio, Birmingham 021-427 4008
 Universal Electronics, Wolverhampton 0902 23741
 Walls TV & Video, Leamington Spa 0926 883883
 Webb Brothers, Cannock 0543 570787

East Midlands

Comet, Leicester 0533 630688
 HN&L Fisher, Nottingham 0623 553 436
 Forum Hi-Fi, Nottingham 0260 622 150
 Jessops, Nottingham 0602 418282
 A.G. Kemble, Leicester 0533 881 557
 Logic Electrical, Heanor 0773 769 680
 Manton Electric, Derby 0332 48369
 Mays Hi-Fi, Leicester 0533 625 625
 Nottingham Sound & Vision, Notts 0602 264 711
 Ratby TV, Leicester 0533 394544
 D. Robinson, Buxton 0298 85424
 F.L. Smith Electrical, Chesterfield 0246 823 167
 Sykes Video links, Lincoln 0522 542 325
 J.H. Wand, Bourne 0788 421 250
 Stuart Westmoreland, Melton Mowbray* 0664 63366

North West

Armstrong Smith Hi-Fi, Wallasey 051-639 9257
 S. Bakewell, Penrith 0768 62187
 Beaver Radio, Liverpool 051-709 9898
 Brooks Music Centre, Whitehaven 0946 692 116
 Clearstone Hi-Fi & Video, Bolton* 0204 31423
 Comet, Liverpool 051-228 8032
 Martin Dawes, Warrington* 0925 30521

D&T, Manchester 061-445 2694
 Kenneth Gardner, Lancaster* 0524 64328
 George Henry Lee, Liverpool 051-709 7070
 Goodrights, Preston 0772 57528
 Hi-Fi Centre, Barrow in Furness 0229 838757
 Island CD, Ramsey, Isle of Man 0624 815 521
 John Littler, Warrington 0925 812 963
 Misons Sound & Vision, Carlisle 0228 22 620
 Morris & Pinch Ltd, Eastham 051-327 4170
 New Dawn Hi-Fi, Chester 0244 324179
 Partingtons, Isle of Man 0624 676 767
 E.A. Stevenson Video, Liverpool 051-420 8054
 Tomorrow's Studio, Warrington* 0925 601354
 Peter Tyson, Carlisle 0228 25891
 Waltons TV Manx, Isle of Man 0624 675 310
 Yeoman & Russell, Altrincham* 061-941 3131

North East

Action Acoustics, Redcar 0642 480723
 Amrik Electronics, Bradford* 0274 722530
 Bainbridge, Newcastle Upon Tyne 091-232500
 Chesterfield Co-op, Chesterfield 0246 220200
 Cole Brothers, Sheffield 0742 768511
 Comet, Sheffield 0742 617747
 DeCobain Sound & Vision, Goole 0405 720 001
 Dixons, Gateshead 091-493 2003
 Jones, Leeds 0532 400666
 G.F. Manders, Grimsby 0472 351391
 Lintone Audio, Gateshead 091-477 4167
 Miller Brothers, Doncaster* 0302 321 333
 Scarborough Hi-Fi, Scarborough 0723 374 547
 F.L. Smith, Chesterfield 0246 823 167
 Thompson Bros., South Shields 091-456 2551
 J.G. Windows, Newcastle 091-232 1356

Scotland

J.D. Brown, Dundee 0382 26591
 W.M. Coupar, Blairgowrie 0250 872436
 F.B. Craig, Hamilton 0698 882 029
 Dixons, Glasgow 041-221 8828
 Carl Dyson, Edinburgh 031-554 0355
 Hi-Fi Corner, Edinburgh* 031-220 1535
 Bill Hutchinson Hi-Fi, Glasgow* 041-248 2857
 John Lewis, Aberdeen 0224 625000
 John Lewis, Edinburgh 031-556 9121
 Laser Audio, Kilmarnock 0563 40292
 A. McKenzie, Stranraer 0776 2818
 John McLachlan TV, Paisley 041-889 3026
 Bruce Millers, Aberdeen 0224 592 211
 Music Room, Glasgow* 041-332 5012
 Robert Ritchie Hi-Fi, Montrose 0674 73765
 Robert Smith, Glasgow 041-248 5242
 Robert Whyte Photographics, Glasgow 041-334 3238

Northern Ireland

Audio Times, Belfast* 0232 238 495
 C.S. Supplies, Belfast 0232 241181
 Dixons, Belfast 0232 439266
 Lisnasure, Dromore 0762 881628
 Nicholl Bros. Radio, Ballymena 0266 49616

Channel Islands

Fortuna, Jersey 0534 32549
 Teleskill, Guernsey 0481 56508

And at all Currys Superstores.

*These dealers have more than one branch at which DCC and 900 Series may be stocked. Please telephone the given number for a dealer near you. **Or call the DCC Information Line on 0800 212 643.**

Contrary to the way Tom may explain it, DCC is not only simple but simply brilliant.

There will be 500 titles available at launch encompassing all music tastes from light opera to heavy metal. But the real beauty of Philips DCC is that it's totally backward compatible, which means that not only can you play those new DCC tapes on the machine but also your old tape collection as well.

And because the 900 Series FA930 amplifier has digital circuitry, Tom can record a selection from his Mozart CDs onto DCC

with no loss of sound quality.

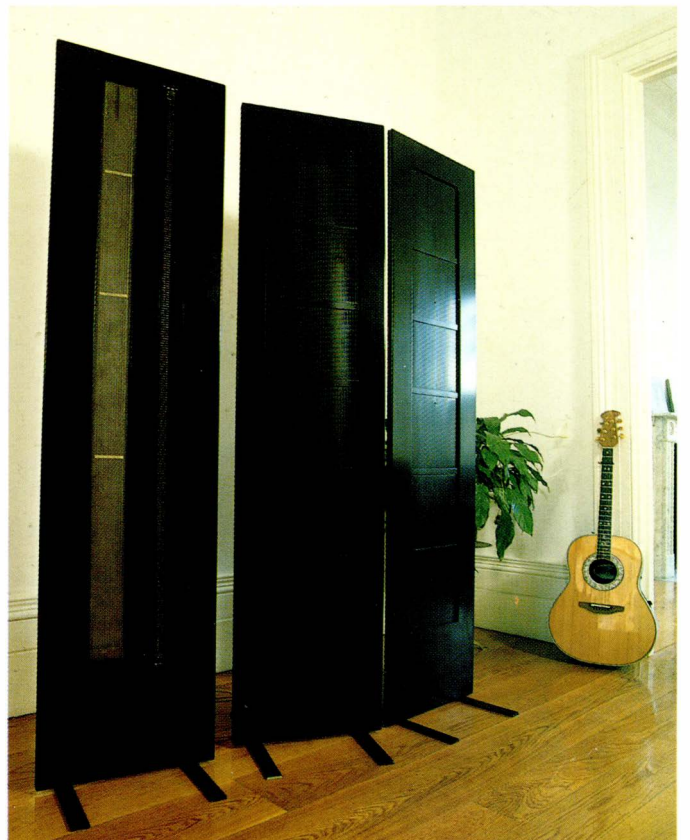
Also in the 900 Series is the FT930 digital tuner, equipped with Radio Data System (RDS) for easy station identification and storage, whilst the CD 950 Compact Disc player has DAC 7 Differential Bitstream conversion for absolute clarity of sound.

The system is available from £649.99 (R.S.P.) and is also available as separates from £149.99 (R.S.P.).

For more information on DCC and the rest of the 900 Series see your local Philips dealer. What could be simpler?

PHILIPS





Sounds to remember

Dan Houston takes a retrospective look and listen over some of some of the best Aspirations systems we've encountered.

In his 1979 book *The Hitchhiker's Guide to the Galaxy*, Douglas Adams uses the idea of a little yellow fish which translates any spoken language when inserted in the ear. With ultra-large scale integrated circuits promising a solid state equivalent in the foreseeable future, the 40 year old novelist was being prophetic — though the fish-fancier's version will presumably remain science-fiction. However, like much transference of data, something will be lost in translation, such as the nuances and tone of the speaker.

It's the same with hi-fi. Sound systems are little more than the electronic equivalent of Adams' yellow fish, translated devices which try to recreate a musical moment, with varying degrees of success, by a variety of media. Of course some are better than others and in the quest for perfect translation many companies and individuals are busy refining and redefining the state of the art. They concentrate on diverse areas of sound reproduction, from isolating equipment to room acoustics.

Aspirations seeks out the best of these 'fish' and in April 1991 we visited Adams himself replete with a £40,000 sound system in his rather imposing four storey

Islington home.

Adams is a purist, and has consistently upgraded his system from his Cambridge University days where he used a Pioneer turntable, Cambridge amplifier and KEF *Cadenza* loudspeakers. Millionaire status now allows him to listen to a superb Absolute Sounds-based system, with Micro Seiki CD player, Goldmund *Studio* turntable, Audio Research pre and power amplification and large screen-like Magneplanar *Timpany IV* loudspeakers. The hardware is hidden in a cupboard off Adams' first floor living rooms, which are minimally furnished with a few pot plants and large sofas. Adams' dealer, Robert Taussig, of Hi-Fi Consultants, ran loudspeaker cable through the walls to the Magneplanars which were also modified for the installation. The cloth covers were removed and the speakers were painted gloss black to make them look like Japanese screens. Between them, in a redundant fireplace, the Sony Trinitron television, Pioneer Laserdisc machine and VCR ably convert this to a video system, with sound from the hi-fi.

Having spent so much time mentally travelling beyond this planet, the novelist has been physically travelling over it, producing a quirky travelogue, *Last Chance to See*, about endangered species, and staying in France. He admits he has had little time to listen to his hi-fi, but carries a Sony *Discman* with active loud-

Top left: Nakamichi ZXL 1000 in rare gold livery. Bottom left: B&W's prototype Nautilus and right; Douglas Adams' custom finish Tympani IVs.

Linn hi-fi. An en

PEOPLE NEED MUSIC.

Everyone has the ability to appreciate music. It can stimulate the imagination, help you relax and change your mood, as well as provide entertainment and pleasure.

Learning to enjoy music is important, and hi-fi is the key.

The job of a hi-fi is to reproduce music. The better it does this, the better it sounds – the more benefit it offers.

SIMPLY BETTER.

Only music reproduced above a certain standard can bring you lasting pleasure, so at Linn accurate reproduction comes first.

Real hi-fi provides more accurate reproduction than standard mass-produced products, and makes it easy to respond naturally to recorded music. The better the music reproduction you have at home, the more pleasure your hi-fi will bring and the more you'll enjoy an ever-widening variety of music.

HOW GOOD A SOUND DO YOU NEED?

We all respond to live music without effort because the emotion of the performance is felt clearly and we are moved by the message of the composer.

With Linn equipment the more you spend the better the sound, and the more often you will use it. For this reason it's worth spending as much time and money as it takes to choose and build the best possible system. Linn systems range from £1,000 to £20,000. Only you can decide how good a hi-fi you need to respond naturally to the music.

THE BASICS.

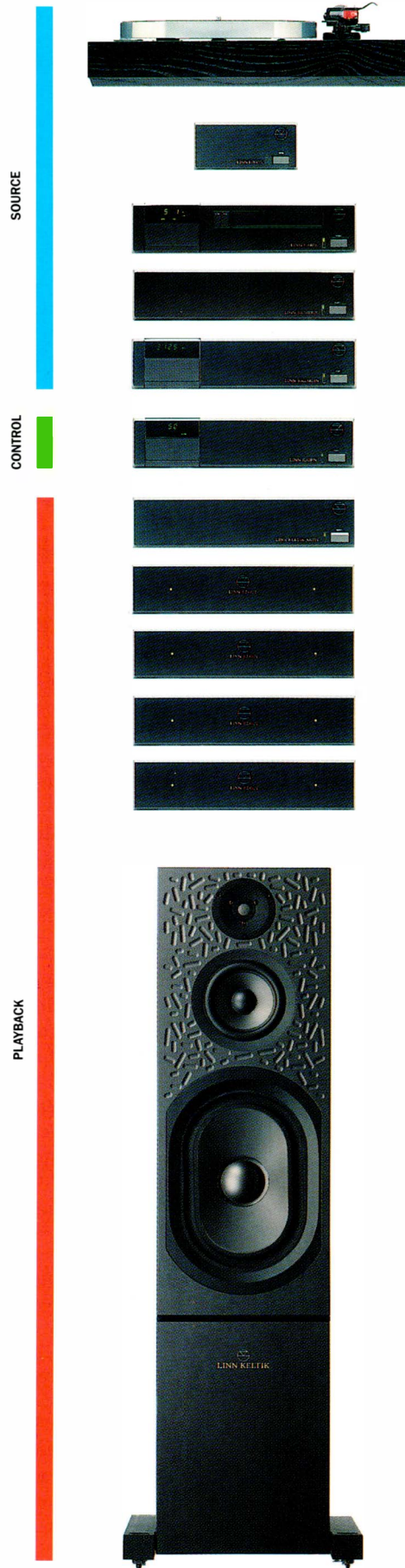
Every hi-fi system has three sections: the source, the control and the playback. In our top system the source includes a turntable, an FM tuner and a CD player.

The control at the heart of the system is the preamplifier. The playback section comprises an electronic crossover, power amplifiers and loudspeakers.

In a real hi-fi system you have the freedom to improve any of the three sections. With Linn you can start with our more affordable components and, upgrading step by step, build up to the best.

To appreciate the quality of Linn hi-fi, you have to hear not only our best system, but also our minimum standard.

We make sure that even our most affordable system is good enough to



communicate the emotion of the performance and broaden your taste in music.

CHOOSING YOUR HI-FI SYSTEM.

To choose a real hi-fi, first choose where to buy it. Because your choice of hi-fi is important, we choose our retailers carefully to meet the standards of the most discriminating customers.

A Linn shop will be staffed by genuine music enthusiasts who will enjoy spending time to help you make your choice. They will also install your equipment to ensure it performs at its best and exchange it if you're not delighted.

This is the level of service you should expect. You won't find it everywhere but it's worth searching for if you want the best sound and the best value.

THE BENEFITS OF DEMONSTRATION.

Linn retailers are trained at our factory to demonstrate our equipment and ensure the best performance.

To allow you to select the best components our retailers will let you choose each part of your hi-fi system by listening and comparing.

IF IT SOUNDS BETTER IT IS BETTER.

It really is as simple as that. Choosing hi-fi is nothing to do with jargon or interpreting specifications.

All equipment sounds different, and you don't have to be an expert to make the best choice. Often the less you know the easier it is. If you have an open mind you can trust your own judgement. A Linn retailer will allow you to relax and take your time. Remember, all you have to do is listen.

HOW LONG WILL YOUR HI-FI LAST?

All our hi-fi is built to the highest standards for continued and frequent use.

The Linn Sondek LP12 turntable caused a sensation when introduced in 1973. What astonished everyone was that a precision-engineered source could improve the performance of any hi-fi system.

The LP12 we make today may look the same, but we have continually improved its performance as our expertise has expanded. The latest and most significant upgrade to date is the Lingo external power supply. Benefiting from our

thusiast explains.

work in professional digital recording equipment, the Lingo enables more musical information to be extracted from records by more precisely controlling turntable speed and stability. It takes us closer to the sound captured in the studio.

Our other products have benefited from similar programmes and we continue to invest in product development aiming to make similar advances in the future.

Like the LP12, the Linn Karik CD player is the outcome of many years of research and development to obtain the performance required to meet Linn's high standards. Unlike other manufacturers, we have designed and built our own CD transport to allow our customers to benefit from future upgrades as digital expertise and components improve.

With the advent of more diverse radio and more quality live broadcasts we developed the Linn Kremlin tuner. The control circuitry offers superb receiving performance with clean, stable, no-drift tuning and natural sound quality.

The unique circuitry we developed for the Linn Kairn preamplifier will do justice to any source. Its innovative solid-state switching does not interfere with the music or degrade with use.

Like the Karik and the Kremlin, the Kairn is operated principally by remote control. The powerful handset has dedicated buttons for all sources and operations, making it simple for anyone to use.

The Kairn is equipped to deal with multi-room sound systems when used with the Linn Matrix. This enables remote control operation of various products around your home. So you'll be able to listen to your tuner in one room, your turntable in another and your CD in a third.

Our policy of continual improvement to all our products enables our customers to benefit from our knowledge as it grows. Even when we discontinue a product, we maintain, service and upgrade it if required.

Quality hi-fi represents exceptional value. You use it more often, it lasts longer, gets more music from your software and will provide pleasure from your investment for many years.

WHAT MAKES IT RELIABLE?

Care and attention to detail are crucial to obtain the extra performance that enables Linn to sell by demonstration.

Our factory in Scotland is highly auto-

mated. We use robotics and sophisticated design and test equipment to make the best hi-fi. Skilled people assemble, test and listen to our products. Only when they are completely satisfied will they sign their name on the back and pack it for despatch to the customer. This build, test and pack philosophy at one workstation ensures a standard of construction impossible on a production line.

CONFIGURING YOUR SYSTEM.

Linn hi-fi equipment is designed to work best in a domestic environment. After you have auditioned and selected our products, you will find that when the retailer installs your system it will sound even better.

All Linn equipment is designed to look unobtrusive and be easily accommodated in your home. Our electronics are designed to allow stacking without impeding ventilation and have screened transformers to avoid inducing hum.

Loudspeakers are the crucial interface between your hi-fi system and your home. Therefore their location is important.

All Linn systems offer the facility to play your TV or video through your hi-fi. The improvement to the sound can be surprising. Our loudspeakers have low external magnetic fields to minimise interference with your TV or video.

HOW IMPORTANT IS INSTALLATION?

Your retailer will set up your system and make constructive suggestions as to how top performance can be obtained.

He understands that correct set-up is vital, will ensure that the equipment is positioned to perform at its best and will confirm that you have made the right choice for your room.

He can advise on how to locate equipment discreetly.

After siting the equipment in the best agreed position and professionally cabling your system, a Linn retailer will show you and your family how to use and look after it.

Linn retailers will be on hand to help and advise you on all aspects of your system long after your initial purchase.

Linn provides its retailers with training and equipment to assess and maintain product performance quickly and easily. With proper care and maintenance, a good hi-fi will last a lifetime.

MUSIC FOR LIFE.

Customers who love music have built our business, so we look after them by continually improving our products and making it easy for them to upgrade or expand their systems.

Linn hi-fi is sold only by selected specialist retailers who share our commitment to music. They will help you get the benefits of the best possible hi-fi by demonstrating the full range of possibilities and explaining how to judge the differences so that you can decide for yourself.

Ivor Tiefenbrun MBE
Managing Director

Together with the top Linn sources and preamplifier, the active Keltik loudspeaker system, illustrated on the opposite page, delivers our best sound. For a personal demonstration at your nearest Linn retailer, simply phone Linn (041-644 5111) Monday-Friday between 9am and 5pm or post or fax the completed coupon to Linn Products Ltd, Floors Road, Waterfoot, Glasgow G76 0ER, Scotland. Fax: 041-644 4262.

- Please arrange a personal demonstration at my nearest Linn retailer.
- Please send me a Linn brochure explaining how to choose a hi-fi system.
- Linn hi-fi is sold worldwide. For details of your national distributor or local retailer, please tick this box.
- For information about music from Linn Records please tick this box.

Name _____
Address _____

Postcode _____ Tel No _____

HFC 2

LINN HI-FI

music for life™





Top left: Douglas Adams' Audio Research and Micro Seiki hardware. Top right, the celestial hitch hiker at play.

speakers on his travels. He enthuses about this as much as his proper hi-fi. "If you're in a new place night after night you want something to tell you it's home." His travelling bag will contain a handful of CDs plucked from his comprehensive collection. Mozart and Bach are favourites supplemented by more modern stuff like Joe Cocker, Randy Newman or John Lennon.

Even though his home system is the stuff that most of us can only dream about, Adams finds it less than perfect, "One of the drawbacks of a system like this is that you can get sucked into the technology of it all. I sometimes wonder if it is all worthwhile, because I find myself not listening to the music so much as the sound of the system," he says.

Nevertheless he puts up with the finicky nature of the ARC monoblocks which tend to break down on occasion, and uses the hi-fi and music as a method of relaxing while working. "If I'm working very hard I will have a particular piece of music which I play over and over again, absolutely all the time . . . the music be-

comes like a mantra when you listen to it like that."

Muddied waters

Adams uses CDs more than records, and his digital collection is now greater than his head-high rack of record shelves. He admits that on absolute sound quality he prefers the sound of vinyl, but plays CDs for ease of use.

For many audiophiles this would be no compromise as for them the analogue system of turntable and LP records is still the ultimate playback source. Indeed it can be argued that while CDs boosted the hi-fi and record industries in the Eighties, they also muddied the waters as to what was state of the art. The problem was that while CD players tended to sound much better than cheap turntables, when you got into the more expensive range of equipment the reverse was true.

Expensive record players with finely honed bearings, precision platters, suspended subchassis and proper isolation from the motor and surroundings allow

more musical information to enter the chain of events that is the hi-fi system. In theory, and often in practice, analogue technology can reproduce the whole audio bandwidth allowing recreation of the most subtle inflexions of voice and musical instruments so that the feeling of 'being there' is more completely realised.

Conversely, no matter how expensive a CD player is, no matter how much 'turntable technology' of isolation and refinement is applied, the information on a Compact Disc is limited by the Red Book standard to begin with. All CDs are pressed to a 16-bit standard, and even though some companies use higher quality 20-bit recording systems, and bitstream machines can offer advantages on stand-

Below left: Lord Gowrie's LP12, about 20 per cent better than his CD player. Right: Dave Ruffell's listening room.





Above left: Space is the key to good sound according to Jim Moore. Right: The Cello Audio Palette with friends.

ard 16-bit circuitry, there is still this bottleneck which limits both the information content and bandwidth on CDs.

Regular readers may remember such gems as Lord Gowrie's comments in June 1990 where he said he had his CD player sounding 'about 80 per cent as good as the Linn'. This was in spite of the fact that the chairman of Sothebys (and president of the Federation of British Audio) has invested some £14,000 in the CD playing front end as opposed to about £2,000 worth of Linn, Alphason HR100S tonearm and Koetsu Red Signature cartridge.

Most of his digital investment had been in a £11,800 Cello Palette equaliser. In professional sound systems, such as those used in clubs and auditoria, equalisation

Below left: Shiny delights from Burmester and right; Robert Trunz's distinctly non average listening room.



is used to compensate for imperfect room acoustics. Audiophiles fight shy of equalisers, treating them as little more than glorified tone controls which place an unacceptable series of hurdles in the path of the signal. Aspirational hi-fi firmly follows the philosophy that less is more. In a bid to create a clear window onto the sound of musical instruments, engineers concentrate on trying to create simple circuits using high quality components. From many one hears the comment that it's not so much what goes into equipment as what can be left out.

This leaves audiophiles living in imperfect rooms with a problem; if they want the best hi-fi with its singular lack of frills then how can they tone down surfaces which sound too 'live', or address the effects of large bays which create audible 'suck-out' to the sound from loudspeakers.

One example of a music lover and musician who had always wanted a decent room in which to play the piano and listen to hi-fi was Jim Moore, whom we

visited in February 1991. Jim was the cocktail lounge pianist at the Europa Hotel in Belfast during the Seventies when it was a favourite target for the IRA. Arguably the most bombed musician in the world he eventually quit because, "I got sick of cleaning sugar and plaster out of my keyboard."

Jim knows more about music than most of the people we have visited, and as an uncompromising fan of analogue has a fabulous collection of early Decca and EMI records from the Fifties and Sixties, the Golden Age of Recording. Without going over the top he invested in a very capable system consisting of Roksan Xerxes turntable, Artemiz tonearm, Ortofon Q cartridge, Cambridge pre and power amplification and Celestion 7000 ribbon loudspeakers. It sounded fabulous in his converted terrace house. Rather than move, when his family grew up and flew the coop, Jim merely tore out the top floor of the house, creating a sizeable music room where before there had been three bedrooms.



He describes the room extension as the biggest improvement to his listening pleasure and told us he had always wanted a large listening room. "I discovered that years ago when I used to play in a band in Belfast, where we used to have our office in a large studio. I was there quite a lot and so I set up my hi-fi system there. There is a tremendous difference in sound between rooms. Opera took on a scale and depth in that studio which I had never had at home. I realised then that if ever I could afford it I would make it a priority to get a larger room."

This might seem a drastic path to audio bliss, until you consider some of the installations we came across when *Aspirations* visited Japan (May 1991). There on a quiet Sunday afternoon we saw how committed music lovers in the orient get their kicks. Chiaki Imada is the president of the Toei Video Corporation and a classical music buff who had his listening room extended (upwards and outwards) to incorporate a £32,000 Royal Audio horn loudspeaker system using Goto drive units. The building work was carried out to allow a pair of twelve feet long Goto bass horns to be installed, vertically, at the back of Imada's living room. The result is an incongruous tiled steeple extending above the eaves of his traditionally-built Japanese house. Goto midrange, high-mid and treble horns are all installed on the wall and on high stools underneath the three foot wide mouths of these horns. Imada's room has also been acoustically 'treated', with Royal Audio's M Iwaoka creating a little pile of beer bottles in one corner to remove a particularly reverberant 'standing wave'. To be honest, and in retrospect, the look of the system was a touch *Boys' Own* and reminds me of my brother's early attempts at 'surround sound', with TV speakers and trailing wires all over his bedroom walls — certainly not the designer fare you'd find in *Elle Decoration* magazine.

But like other audiophiles who tread the solitary path towards musical nirvana Imada couldn't care less about the looks of his system. Gesticulating in the air like a conductor encouraging a crescendo from his orchestra he explained it simply, "It's the sound, the sound is so good."

He was right, and like all revelations the memory seems to have distilled the experience of that afternoon so that I can

easily recall the sheer effortlessness of the system. The set-up put an almost limitless boundary on the timbre of instruments, recreating the musicians as if they were on a stage at the end of the room. Imada's £70,000 system also copes well with digital sources and his favourite pastime is 'watching' classical concerts on his Sony *Trinitron* with a state of the art Pioneer Laserdisc player. He uses a Denon CD player and heavy Denon turntable with one of Goto's preamplifiers and four custom made battery powered power amplifiers, which use DC (direct current) as opposed to the AC (alternating current) of the mains.

Batteries are often favoured as the best way to sidestep mains problems such as spikes or surges when kettles are switched on after the *Nine O'Clock News* (and the Japanese equivalent). Audiophiles swear they can hear the surges in the current supply. Many say listening to music late into the night is much more pleasurable as the supply is then cleaner.

Roadworks

So we shouldn't have been surprised in the September issue 1991 to come across an enthusiast who persuaded the electricity board to dig up the road outside his Sussex home, and provide him with £600 worth of 25mm square copper shielded cable. It's the sort used for blocks of flats, but Dave Ruffell, an ex-recording engineer, swears by its merits, saying that during cold evenings when the power supply is under duress, his £70,540 system sings as sweetly as ever!

During our visit, Dave Ruffell's system centred around his Goldmund *Reference* turntable, *T3F* microprocessor controlled parallel tracking tonearm and Koetsu *Urushi* cartridge. These represent over half the hardware value and follow the philosophy that the front end of the system is more important than what comes later. Even so the Audio Research pre and power amplifiers and Snell Type *AIII* loudspeakers are among the best of their type, Dave's friends visit him and play their records to find out what their own systems are missing!

A rarity in this feature was the gold plated Nakamichi *ZXL 1000*, one of only three imported to the UK and considered priceless by its owner. The three-head deck was conceived by the Nakamichi

brothers in the Seventies as a statement on what could be achieved with the humble compact cassette. Listening to it you'd be forgiven for thinking that what Philips and others are saying about DCC is mere hype.

The Ruffell system also houses a *Dragon* cassette deck, a later offering from the Nakamichi stable, which has also achieved hallowed status among tape fans.

Like many audiophiles, Dave is constantly upgrading in search of the sound he knows so well after a decade spent behind a studio mixing desk. He has now reversed the balance between the Goldmund and the rest of the system, substituting a walnut *Voyd Reference* turntable, *Audionote M7 Silver Sound* preamplifier and *Audionote Keron* power amplifier, bringing the amplification to a staggering £59,000! In addition he hired an acoustics expert to improve his room's sound, and has hung velvet drapes, underpinned the floorboards, and also overlaid them with marine ply and carpet. He has reinforced the area under his newly Rosewood veneered *AIII*s by pouring in concrete foundations. He describes the upgrades as phenomenal. "It's made everything image properly, and the bass is more controlled. To say you can now tell what the conductor had for breakfast is an understatement," he beams.

While a capable record or CD playing system is an obvious starting point for the aspirational audiophile, it does not follow that the most time, effort or money should be spent on the front end, or amplification. August this year found us in rural Wales at the home of Fred Davies who makes and uses a concrete horn loudspeaker system he designed himself.

The Axhorn loudspeaker is, in essence, simple. In Davies' listening room a single speaker driver is built into a horn configuration in each of two adjoining walls. Behind each driver exponential channels take its rear-firing energy down, under the floor and back out through two large horn mouths. The system uses the horn's size and length as an acoustic crossover to provide bass, there is the minimum of electronic circuitry.

For my money Davies has achieved what many strive for, a simple system — though far from simplistic in execution — and with uncompromised sound quality.

However, the sound in Davies' listen-



ing room, supplied either by a Linn LP12/*Ittok* tonearm/Audio Technica OC9 cartridge combination or Aiwa XC700 CD player, was merely a foretaste to his 'other' set of concrete horns which stand on grass outside by the driveway to his courtyard of ancient stone farmbuildings.

These are a similar horn design, but two-way with a pair of 50mm Jordan tweeters and one Jordan 150mm bass driver each. Like those built into the house, the back of the drivers are coupled to exponential horns, again with acoustic crossovers. Fed by a Quad 33 preamplifier and 405 stereo power amplifier this £10,000 loudspeaker system produced breathtaking imaging. Of course listening outdoors one is not beholden to room acoustics, but you do need space, and clement weather helps.

Eye-Fi

While some audiophiles like Douglas Adams alter or hide their equipment to

Quad amplification from across the ages is used to drive Fred Davies' horns.

make it visually unobtrusive, and others like Chiaki Imada put up with the looks because of how it performs, it is rare to find hi-fi which is pleasing to both eye and ear. With cabling and cupboards it's easy to hide most equipment, but many find loudspeakers to be an unacceptable intrusion in a room designed for visual appeal.

An exception, depending on your taste, is from B&W Loudspeakers which has embarked on several new designs which look less like loudspeakers than designer sculpture.

In January 1991 we visited B&W's chairman Robert Trunz who has turned several listening rooms in his home into an historical shrine to B&W design. The most startling of these is the new £10,000 *Nautilus*, a clean sheet project which we reported in full in a *Craftsman* feature in

March. Visually stunning, the *Nautilus* was originally christened 'Brian' by engineers who likened its folded horn appearance to the snail of *Magic Roundabout* fame. The sound of these actively driven four way speakers was staggeringly good, with Trunz Compact Disc jockeying from a vast and comprehensive collection of digital jazz on his Krell CD player. Sadly, his SME *Model 30* turntable, a £10,000 statement on vinyl replay had not arrived at the time of our visit, so his equally enviable array of valuable LP records was left unheard.

The futuristic shape of the *Nautilus* is a direct result of engineering and there were few preconceptions about how it might look. A spin off from the programme will almost certainly mean less ambitious and cheaper alternatives in the future. Who knows, having made something that looks like a giant prehistoric sea snail, B&W may come up with a design that looks like a yellow fish.

Krell System

**Absolute Sounds Ltd, 58 Durham Road, London
SW20 0DE. Tel: (081) 947 5047**

One-brand systems provide something which mix'n'match assemblies never can: guaranteed compatibility. Maybe that's not the right word, because compatibility — especially now that the LP has been relegated to the Luddite sector — isn't really a problem for any components other than the power match between amp and speakers. A better word is 'synergy', the various components not only working together electronically but also matching each other in subjective terms.

There's no mystery involved. If all of the components come from a single source, it's obvious that they were designed to work together. Indeed, some manufacturers argue that it's unfair to assess their products with models from another company. After all, Linn and Naim have milked this approach for years (together and now alone), affording their brands special treatment by all but insisting that they be reviewed with approved partnering components. In cases where companies make all but one part of the chain, it's still possible to treat the whole package as a one-brand system if the remaining items are chosen with care. Or factory approval.

Reviewing an all-Krell system from the bottom/middle of its catalogue involved the selection of everything bar the speakers, which Krell does not produce.

There's no such thing as an 'entry-level' Krell package because Krell does not cater to the mid-market. Even using their one-from-the-bottom power amp, least expensive pre-amp and one-from-the-bottom single-chassis CD player resulted in the creation of a system selling for £4,867+£2,298+£3,790, or a heart-stop-

ping £10,955. Add to that sufficient cable for balanced operation (we used Mandrake throughout), speaker wire (Symo) and speakers worthy of the brand, and you might wish to budget closer to £20,000. As far as approved speakers are concerned, it's well-known that designer Dan D'Agostino is a fan of both Apogee and Sonus Faber, so the system was auditioned with Apogee *Divas* and *Stages* and Sonus Faber *Extremas*.

The *CD-DSP* is an unusual offering in that it thinks that it's a two-box player despite the single chassis. Krell-watchers would be forgiven for thinking that it's one of the company's standalone transports, as it's a dead-ringer for one of the

top-loaders. Under the acrylic lid is the hub of a Philips CDM-1 Mk II drive with the swing arm laser visible through an arc cut into the top surface.

The clues that this unit contains more than a transport are on the front and back panels. From left to right, the fascia includes a vertical row of LEDs indicating signal, phase (invert or non-invert) and emphasis. Next is the on/off button and a window telling time and track status. To the right of the logo are the phase inversion switch and the necessary transport buttons and — unusual in a CD player — a button which selects 'CD' or three inputs. There are no numeric track entry keys on the player, though the remote controller has this facility for easy programming.

The back reveals all. While most contemporary CD players provide a digital output, the *CD-DSP* also allows users to access its DAC via twin RCA or single Toslink inputs. Digital outputs include RCA electrical and Toslink optical (with AT&T as an option), while analogue outputs for feeding into the preamp are provided in the form of RCA single ended phono and balanced XLR outputs.

The heart of the multi-bit *CD-DSP* is a 16-times oversampling version of the company's proprietary Waveform Duplicate software, run on a Motorola DSP-56001. An added benefit of this circuit is that the software, contained on EPROMs, can be upgraded to accept future algorithms without necessitating a return to the factory. (Krell also makes a single-bit player, the *CD-1-Bit*.) With the ability to feed two systems and accept three other digital sources, the *CD-DSP* is designed to fight obsolescence as well as

There's no mystery involved. If

all of the components come

from a single source, it's obvious that they were designed to

work together. Indeed, some

manufacturers argue that it's

unfair to assess their products

with models from another

company.



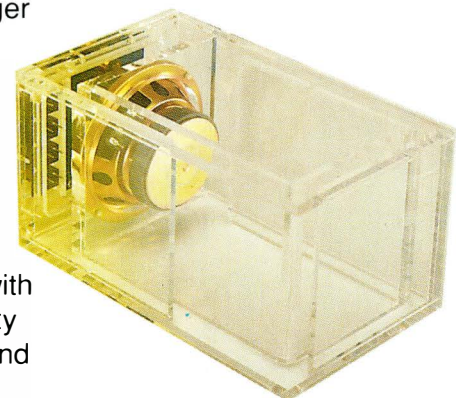


**ACOUSTIMASS - 3
SERIES II**

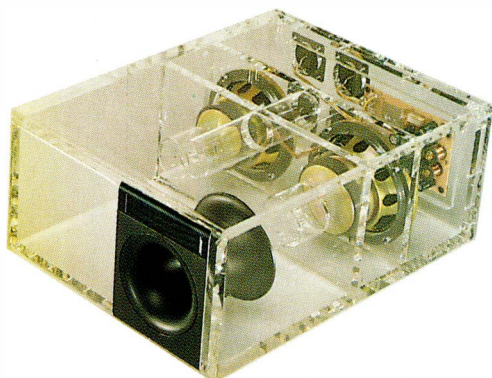
Hearing is believing and Bose® have pioneered the key to large speaker

performance from a small Virtually Invisible® speaker system. The Bose Acoustimass® 3 Series II and Acoustimass® 5 Series II achieve remarkable sound performances that have been compared to larger and more expensive systems.

These results have been obtained within a technical system of elegance and engineering coupled with Bose exacting creativity resulting in Better Sound Through Research™.



YOUR EYES WON'T BELIEVE YOUR EARS!



The Heart of the Acoustimass speaker system, the patented Acoustimass module generates room – filling bass, yet is small enough to be hidden anywhere. The module launches sound into the room by an air mass



rather than a vibrating surface creating the impression that the sound source is emanating from a pair of stereo imaging cube speakers. The commitment of Bose to detail is legendary and linked with our customer back-up and five year warranty we provide a unique package.

**ACOUSTIMASS - 5
SERIES II**

Why not try the Bose Sensation; call (0795) 475341 for your nearest authorised dealer and ask for details on the Bose Acoustimass speaker systems.



BOSE
Better sound through research.

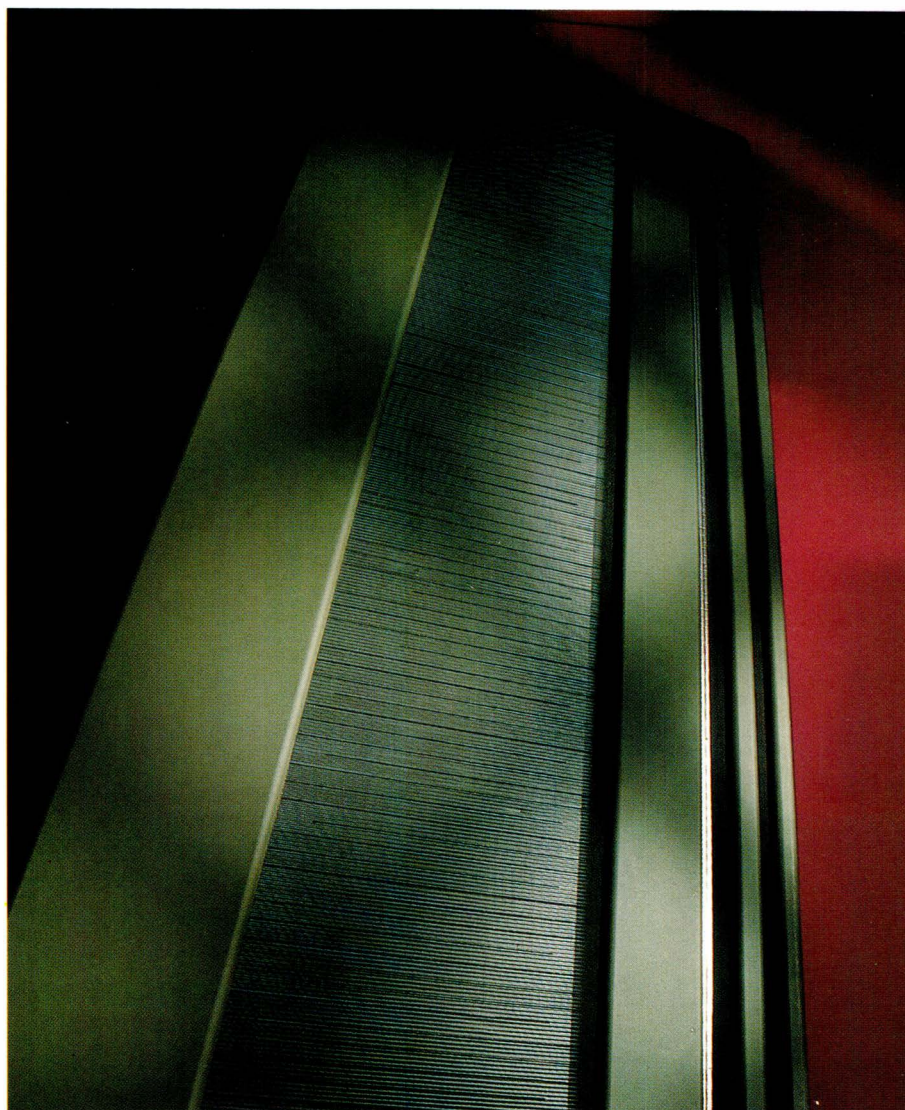
any of the practical limitations inherent in single-chassis designs.

The pre-amp used to accept the *CD-DSP* is the *KSL*, which was employed in balanced mode for both incoming and outgoing signals. This line pre-amp accepts two balanced sources via XLRs, as well as two single-ended sources plus tape. At the top of the rotary source selector is a mute position. Next to this is a rotary control to choose between source and tape, while the right hand half of the fascia contains the balance and volume controls, the former using fixed value parts for stepped setting while the latter is a custom-made precision potentiometer with a logarithmic taper. The power supply is internal, and all active circuitry is Class A. An optional phono stage is available as a plug-in phono board which takes over the S-1 (single-ended) input. The main outputs, single-ended and balanced, can drive two amps simultaneously.

There's no shortage of amplifiers in the Krell catalogue, but we opted for the *KSA-150* producing $2 \times 150\text{W}$ into 8ohms and doubling with each halving of the impedance. As is Krell's wont, the *KSA-150* is a pure Class-A device, which accounts for the acreage of heatsinks running down the flanks. And they do run hot. The heat sinks are part of the subassemblies which contain all of the heat-bearing structural components and the output devices. Inside the case are the massive power supplies — the front half is occupied by a huge toroidal — and circuitry mounted on daughter boards which suggest both easy updating and simplified repairs.

Not that it seems likely the Krells will cause problems. Much of the design has been focused on making the Krell fault-free and immune to danger. The amplifier can cope with AC mains voltage swings of 20 per cent, while automatic self-adjusting bias and DC offset control circuitry maintain ideal operating conditions. Other protective details include a series of opto-coupled, non-intrusive circuits to monitor it's behaviour, and instant protection is provided against shorts, oscillation, out-of-phase earthing and other ills.

Connections at the back include RCA and balanced XLR inputs, a three-pin IEC mains socket and two pairs of speaker terminals for easier bi-wiring. Throughout the review the system stayed in balanced mode, while bi-wiring was accomplished with the spare sets of ter-



minals rather than doubling up on one set per channel. (Note as well that the *KSA-150* can be returned to the factory for conversion into a mono unit, the *MDA-300*, for a cost-effective upgrade.)

Krell's angels

All of the parts of this system are subject to long run-in periods and warm-up from cold of 30-60 minutes for near-optimum performance levels. If your electricity bill can stand it, leave them on at all times as you will notice slight sonic gains for up to as much as two hours after switch-on from cold.

Then again, this system sounds so good that seconds after switch-on, whatever the temperature, the constituent parts combine to sound like little else. And that sound is one of sheer authority.

As mentioned by Editor Benham in his introduction to *The Collection*, the best products reflect their designers' personalities. The performance of a Krell system is one of no nonsense, no weaknesses, no time for compromise. It's, well, pugnacious — more a bulldog, though, than a Rottweiler. If the young Jimmy Cagney were an amplifier, he'd be a *KSA-150*.

No-one in his or her right mind would call any Apogeos or the Sonus Faber

Extremas 'easy loads'. They are not. Neither should their designers be criticised for making such hungry systems because they — rightly — feel that their products have been designed with a clean slate; part of the recipe for deriving the performance they promise includes the provision of top-quality amplifiers. In other words, makers like Apogee, Sonus Faber, Wilson Audio and others are saying, 'Don't buy our speakers if you don't have an amplifier which will do justice to them.'

What Krell has done during its first decade is upped the ante for speaker makers. By producing amplifiers which will, quite probably, drive any known speaker load, they've freed speaker designers from producing compromised systems — compromised for sensitivity or impedance. Such amps mean that the power and stability is there to drive any odd load resulting from radical speaker technology.

The Krell system looks at 2ohm loads the way an OTL looks at 15ohms: smacking its lips and rubbing its hands. If it had lips and hands. Over a period of weeks, using and abusing the review samples (which had seen some action before reaching *The Collection*), they never misbehaved once. Direct-driving some Stax cans, hooked up to old (15ohm) *LS3/5As*, ham-

Do you live in **GUILDFORD?**...

...or Addlestone, Aldershot, Ashford (Middx), Bagshot, Basingstoke, Bracknell, Camberley, Chertsey, Cranleigh, Dorking, Epsom, Esher, Farnborough, Farnham, Frimley, Godalming, Haslemere, Hook, Horsham, Liphook, Leatherhead, Odiham, Petersfield, Reading, Reigate, Redhill, Shepperton, Virginia Water, West Byfleet, Weybridge, Windsor, Woking?

Nobody else in these areas stocks all the following major brands: Acoustic Energy, Arcam, Audiolab, Aura, B&W, Celestion, Creek, Cyrus, Dali, Epos, Deltec, Finestra/Lectern, Furukawa, Harman Kardon, Heybrook, Infinity, JPW, **KEF (Reference)**, **Linn Products** (including records), Marantz, **Meridian**, Mission, Musical Fidelity, NAD, Nakamichi, Onix, QED (Systemline), Quad, Revox, Rogers, Rotel, Sony, Supra, Sound Org, Target, Yamaha & Top Tape.

Visit us first and you won't need to go anywhere else, we have superb demonstration rooms, where you can decide in comfort, and we will deliver and install free of charge (and part exchange is possible).

Complete service – We are the only outlet in the area to offer the *complete* service. As well as stocking selected items from the above manufacturers we are able to service and/or repair *on the premises* all the above brands (and others also).

The **Hi Fi** Shop

Guildford's only **REAL** Hi-Fi shop

We are at:-

3 BRIDGE STREET, GUILDFORD
(by the traffic lights – next door to Alfred Marks)

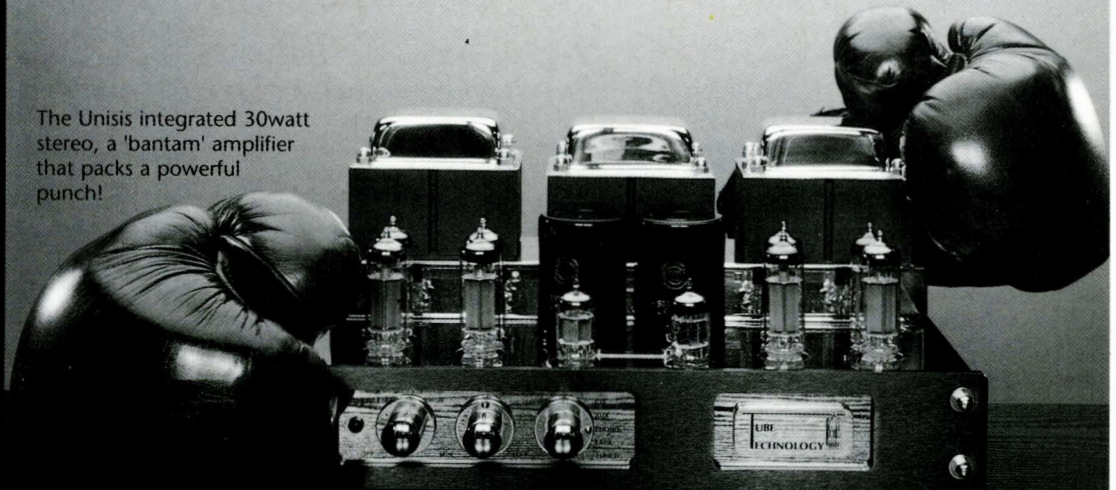
0483 504801 · 0483 304756

Access • Visa • Switch. Open Monday-Saturday 9am-6pm (later by appointment)



Have you been gobsmacked lately?

The Unisis integrated 30watt stereo, a 'bantam' amplifier that packs a powerful punch!



Hatch Farm
Chertsey Road
Addlestone
Surrey KT15 2EH
England

Tel: 0932 850361
Fax: 0932 850354

With Phono Stage
£1299 inc Vat

If not, take a ringside seat at your nearest dealer and we guarantee you'll be left hooked!

Herts:- Radlett Audio Tel: 0923 856497
Kent:- Progressive Audio Tel:- 0634 389004
Surrey:- Surrey Hi-Fi Tel: 0883 744755
Nottingham Analogue Studio Tel:- 0773 762947
Birmingham:- Midland Radio Tel:- 021 430 7817

York:- Vickers Hi-Fi Tel:- 0904 629659
Belfast:- Zeus Audio Tel:- 0232 332522
Leeds:- Doug Brady Hi-Fi Tel:- 0943 467689
Hampshire:- The Audio Gallery Tel:- 0730 895194
Scotland:- Audio Suite Tel:- 0224 625635



mering two types of Apogee, feeding rap into the *Extremas*, using them with all sorts of odd cables — nothing proved beyond the Krell's capabilities.

Describe one product in this chain and you describe all three. The 'Krell Sound', if it has one distinguishing characteristic, is that of solidity, especially in the lower registers. In addition to plumbing the depths, with extension that would seem to be bottomless, the Krell is able to deliver slam and control with transient precision more closely associated with upper frequency behaviour. In smaller systems, it maximises the bass performance because the damping and control ensure that the woofer behaves; the driver doesn't have to compensate for signal weaknesses when it has enough of a job merely reproducing bass. In larger systems, all of the bass comes through without any of the flap or sluggishness sometimes found with large drivers fighting to accommodate their own weight. Apogee users will notice less visible activity from the larger ribbons, for example.

Another Krell trademark is convincing spatial presentation, derived in part from the system's banishing of smearing due to mechanically induced resonances. Solid is as solid does, so to speak, and

there is no wandering or vagueness, no blurred edges to the images. Krell images have depth and body, a tactile presence often thought to be the province of LPs played through valves.

Krell for leather

But are Krell products at all tubelike? Hardly. There is no romance at all with this system, merely unvarnished truth. All three components offer ghostly silences between and behind notes, there is a near-total absence of texture and the transparency is beyond clean glass: it's an open window. What's most surprising about the Krell experience is the aspect which contradicts the system's authority. However total the control, however stiff and near-militaristic the treatment of the signal the sound still flows with the best rhythmic sense. It's the kind of looseness which thoroughly experienced musicians impart to a performance which is note-perfect, that impression of making things seem so easy. Agassiz does it on the courts, Senna on the race track. Krell balances discipline with freedom.

Okay, that's about as pretentious a description as you're likely to find in these pages but it's absolutely true. The Krell inspires confidence in the two areas which

matter. You know you can trust this gear to work dependably, for thousands of hours. At the same time, you know that you're hearing the source material and not the hardware. It almost begs the question, why aspire to the dearer models?

One can only imagine what more Krell will do. It's only during side-by-side comparisons that you notice the gains provided by a doubling of the power or the sampling rate. It's not quite gilding the lily, but it is a case of small refinements notable only through cost-no-object speakers or — more practically — when room size shows the limitations of the power amplifier. Other gains might include a bit more weight to the foundation, a trace faster attack. If anything at all is missing from a Krell system, it may be a bit of warmth in the midband. If anything should be removed, one could argue that the top can prove relentless with CDs of a certain vintage or recordings produced for those who can't hear above 3kHz. But the former denies the system its neutrality while the latter criticises it for being too revealing. And in hi-fi, 'too revealing' is a contradiction. It's like a meal being 'too delicious'.

Maybe an all Krell system is too good.

The Hi-Fi Choice panel

close your



eyes and see

Close your eyes and see the difference between listening to hi-fi and listening to music.

Arcam has dedicated almost twenty years to the design and manufacture of British hi-fi that, ironically, we want nobody to hear. That's because every Arcam hi-fi component - from our budget Alpha range to our audiophile Delta system - is designed for listeners who demand total clarity from their music. Who are only satisfied when the sound from their speakers is precisely the sound that has been committed to disc, tape or vinyl.

Without the slightest hindrance from their equipment.

And the more faithfully the music is reproduced, the more involving it becomes. The emotions it stirs are deeper, the pictures it paints in your mind are more real, more vivid, more exciting...

...just listen.

Call the number below or return the coupon to find out where to sample the Arcam experience. Then close your eyes, open your mind, and see the light.

ALPHA 3 AMPLIFIER 'WHAT HI-FI?' BEST AMPLIFIER 1991 FEDERATION OF BRITISH AUDIO BEST AMPLIFIER 1992 AND CHICAGO CES DESIGN AND ENGINEERING INNOVATIONS AWARD 1992 ♦ ALPHA 2 TUNER 'HI-FI CHOICE' RECOMMENDED 1991 ♦ ALPHA CD PLAYER 'HI-FI CHOICE' BEST BUY 1990 AND FEDERATION OF BRITISH AUDIO BEST CD PLAYER 1992 ♦ ALPHA SPEAKERS 'HI-FI CHOICE' BEST BUY 1990 ♦ DELTA 150 NICAM TUNER 'WHAT HI-FI?' BEST AUDIO VISUAL PRODUCT 1990 ♦ DELTA 170 CD TRANSPORT 'HI-FI CHOICE' RECOMMENDED 1989 ♦ DELTA 170.3 CD TRANSPORT CHICAGO CES DESIGN AND ENGINEERING INNOVATIONS AWARD 1992 ♦ DELTA BLACK BOX 5 CHICAGO CES DESIGN AND ENGINEERING INNOVATIONS AWARD 1992 ♦ DELTA 60 AMPLIFIER 'HI-FI CHOICE' RECOMMENDED 1989 ♦ DELTA 90.2 AMPLIFIER 'HI-FI CHOICE' RECOMMENDED 1989 ♦ DELTA 100 CASSETTE DECK 'HI-FI CHOICE' RECOMMENDED 1992 AND CHICAGO CES DESIGN AND ENGINEERING INNOVATIONS AWARD 1992 ♦ DELTA 110 PRE-AMPLIFIER 'HI-FI CHOICE' RECOMMENDED 1991 ♦ DELTA 2 LOUDSPEAKERS 'HI-FI CHOICE' AND 'WHAT HI-FI?' RECOMMENDED 1991

ARCAM

For more information, complete the coupon and post it to: Arcam, Pembroke Avenue, Waterbeach, Cambridge CB5 9PB. Or telephone: (0223) 440964

Please send me information about: (please tick box)

Arcam CD players **Arcam tuners** **Nicam TV tuner**

Arcam amplifiers **Arcam speakers** **Arcam cassette deck**

Please send me a brochure with details of all your products

Title _____ First Name _____

Surname _____

Address _____

Postcode _____

In Australia: Silver Australia Pty Ltd., 4 Rushdale St., Scoresby 3179, Victoria Tel: (613) 7630177
In Canada: Avalon Audio Ltd, Unit 17, 975 Frazer Drive, Burlington, Ontario L7L 4X8 Tel: (416) 333 4633
In New Zealand: Avalon Audio, PO Box 5373, 119 Wellesley St., Auckland Tel: (649) 779351
In South Africa: Hi Fi Installations, 134A Fox St., Johannesburg, 2001 Tel: (2711) 3312011
In the USA: Audio Influx Corporation, PO Box 381, Highland Lakes, New Jersey 07 422-0381 Tel: (201) 764 8958

Linn Keltik System

**Linn Products Ltd, Floors Road, Waterfoot,
Eaglesham, Glasgow G76 0EP. Tel: (041) 644 5111**

Hearing I was scheduled to carry out an extended review on the complete new Linn 'high-end' system, my heart fluttered in trepidation as much as anticipation. No company polarises industry opinions quite like Linn, a fact which inevitably adds a political dimension to any product review, let alone one that covers the company's brand new flagship system.

Industry politicking has been particularly fierce of late, and I'm just one of several journalists to have criticised Linn's recent policies, so it says something for the company's guts that it was prepared to cooperate by supplying equipment at all.

As it turned out, the experience did much to answer my criticisms and prove Linn's point of view. Aspects of the sound quality will certainly not meet with universal approval, and that fact alone will continue to fuel controversy. But assessed as a complete system, and taking into account the information retrieval criterion that Linn has always considered of prime importance, the *Keltik* combination must be regarded a notable success.

Game plan

However, the one condition of the review did come as a bit of a surprise. The goods would be TNT'd down on the Wednesday; Linn personnel would arrive on Thursday and spend the day doing the installation and setting everything up, leaving time for some listening in the afternoon and evening. The system would be left for the weekend, and on the following Monday another Linnper would arrive to pack everything up properly, ready for TNT to uplift on the Tuesday.

When I demurred that this seemed an absurdly short time to make a fair and full assessment of such a complex and elaborate package, it was disarmingly pointed out that this was similar to — but actually rather longer than — the sort of home demonstration Linn expects its dealers to offer the serious potential customer.

Confronted by such unassailable logic, how could I refuse? The reviewer as punter may not be the way I prefer to go

about things, and would certainly leave stones unturned. But at least it would get the job over quickly, I mused, pondering on some of the less than complimentary rumours I'd heard about this system.

Linn certainly deserve credit for the slick professionalism with which the game plan was carried out. Everyone and everything arrived on time, and the whole set-up procedure went through with nary a hiccup. Neil Gaydon put together the turntable from its constituent travelling parts on the kitchen work surface, while Martin Dagleish assembled all the electronics in the lounge/listening room.

All I had to do was supply a couple of modest Sound Org tables/stackers for the electronics, plus nine mains sockets (my regular eight plus one extender did the trick). I guess it took about an hour and a half to de-box and get some sort of sounds out of the package, and then a further hour or so was spent fine-tuning everything to their (and my) satisfaction — a fascinating, almost formalised procedure that deserves further scrutiny, after I've outlined the constituents of the system itself.

Domesticity

The total carton count may have come to a rather fearsome seventeen (including cables, a turntable set-up jig and so on), but the system is in fact surprisingly compact and discreet. Aside from the turntable and its outboard *Lingo* power supply (and the speakers of course), there are just nine near-identical chocolate-box-size components in all, all the relevant bits taking orders from a single, rather complex remote handset.

A little narrower than midi system com-



ponents, self-effacement takes precedence over style in units that are plain to a fault, with just the odd small display and fold-down panel revealing a simple pushbutton array for optional manual operation where appropriate. Furthermore, by linking up the remote control bus sockets, all but one component can be hidden away out of sight, which is great for those who prefer their hi-fi to be heard but not seen. A switching unit currently under development will extend the system to multi-room operation.

Though far from small and intended for sitting away from walls, even the speakers are physically less daunting than most others of equivalent price/weight/performance. Few (if any) upmarket systems are as well house-trained as this one, once the complexities of the handset have been mastered.

Breakdown

£20,000 may sound an awful lot of money to pay for a hi-fi system, but it's by no means out of order in a high-end context, especially considering it includes three top quality sources and all the extra power amplifiers needed for full active drive. Broken down, that's roughly a third each on the sources, the amplification, and the loudspeakers, while from a historical perspective the package is no more expensive in real (inflation adjusted) terms than the original Linn/Naim active *Isobarik* system of fifteen years ago.

Starting with the sources, the latest state-of-the-*Sondek* art comprised 'old faithful' (the *LP12* turntable itself), complete with recent new motor and top-plate bolt updates, and driven from a *Lingo* power supply. The *Ekos* tonearm was fitted with a pre-production (sans bodywork) sample of Linn's brand new *Arkiv* cartridge.

Six years on from the very successful *Troika*, the £898 *Arkiv* retains the familiar and unique tripod headshell clamping, but shows detail changes practically everywhere else. Among these the overall mechanical integrity of stator, magnet and top plate has been much improved, reducing microphony and allowing an as yet unseen lightweight plastic body to be used, while the response is claimed to be flatter too.

The turntable was also fitted with the relatively recently introduced £85 *Trampolinn*, which substitutes the standard (hard rubber foot) base for one with very soft and bungy synthetic rubber decoupled feet. Linn claim this is worth an extra 30dB of vibration isolation at some frequencies, though this effective superimposition of two different suspension systems can cause unfortunate interactions under some circumstances.

Silver disc replay is provided by yet another relatively new Linn introduction. Its first CD player, the £2,496 two-box



The Kremlin, Kairn and Karik combine to give a truly Keltik sound.

Karik/Numerik, combines Linn's own painstakingly developed transport mechanism with a separate DAC based on the company's earlier professional device, which also supplies a high quality sync signal to control the transport. The final source is the £1,645 *Kremlin*, an FM-only tuner that's been around a year or two now, and which features some rather natty electronic features, including an 80 station preset memory.

These sources (and others such as tape decks, TVs, VCRs and so on, up to eight in all) feed into the fully electronic and preferably remotely-operated £1,349 *Kairn* pre-amplifier. Though I can't quibble with the flexibility of a device which has plenty of spare capacity for any future possibilities, and the up/down and mute buttons and numeric display work well enough, I have to admit I did rather miss having a nice round volume control that stays where you put it, providing permanent at-a-glance visual feedback.

The *Kairn's* ergonomics may not hold much appeal for nostalgics and tradition-

alists, but do include a number of 'user selectable options' regarding the information displayed, and incorporate a particularly clever feature that normalises the sensitivities of all the connected sources, so that each gives the same subjective volume at any given volume control setting.

Active drive

The appropriately switched and volume controlled signal is then fed into a £995 electronic active filter unit codenamed *Keltik Aktiv*, which is dedicated to providing the correct crossover, phase and equalisation characteristics for each of the drivers in the three way speaker system.

In order to achieve exceptional bass extension from a manageable size enclosure, this crossover incorporates substantial very low frequency bass boost (much like Mission's 767 flagship model). The *Keltik* is therefore only available in active-drive format, which also offers a measure of individual relative adjustment over the three bands to suit different room characteristics.

Providing the all important muscle are the power amplifiers. Four stereo ones to

want to live with it day in and out, and my partner (who was away during the weekend in question) found the cosmetics of the presentation more unsettling still. Highly informative it may be, but it's by no means a relaxing experience, with a measure of harshness and aggression that will certainly not be to every taste.

Though the low bass is much stronger than the norm, the overall frequency balance is actually pretty good and the sound in consequence broadly neutral, but there is a fair amount of coloration to contend with, which somehow seems the more subjectively obvious because of the minimal time-smear. Stereo imaging is a little peculiar too; it passes muster but lacks the pinpoint coherence of the best and has little in the way of sonic transparency.

Dynamics sound rather pinched and constrained, without quite the natural freedom, flow and texture of higher sensitivity systems. A formal sensitivity rating is not appropriate to an active system, though the equivalent subjective rating here is not particularly high. Although the system probably goes loud enough to satisfy the majority of households, I did rather miss the seriously high levels obtainable on my usual (though far from normal) system.

The only measurement I took was the usual far-field in-room energy response of the complete system as set up, which served to confirm several of the above observations. The overall balance is indeed pretty good ($\pm 4\text{dB}$ in-room 70Hz-16kHz), but there's unevenness below 500Hz and a 7dB suckout at 2kHz, which probably accounts for some of the perceived colorations.

The truly extraordinary feature is the way the bass output rises and carries on rising below 70Hz, registering +10dB in-room at 20Hz ref the midband level, whereas even the largest speakers I have assessed in the past have rarely exceeded 0dB. The *Keltik* is so far outside the norm here, I'm frankly uncertain of all the implications.

Certainly the sound has very satisfying weight and scale, and because the boost is at very low frequencies only, there's none of the midbass boominess that plagues so many large loudspeakers. The sound is perhaps a bit too heavy, but the bass is inherently agile enough to get away with it (more or less), so the net subjective effect is more like that of a very mild loudness contour. Which perhaps explains why the system works so well at fairly modest levels, and progressively less so when it's really wicked up.



Feeling groovy: the Ekos arm (above) and the Lingo (left) make a klassik kombination with the LP12.

Sources

What is very impressive is the consistency of the sound delivered from the three different sources, and the way each delivers a similarly and unusually wide-bandwidth and time-coherent signal.

As a long term and mostly satisfied *Troika* cartridge user (currently on my third example), I can't wait to get my hands on a production *Arkiv*. Variations in tonearm and turntable support made close comparison impossible, but I'm in no doubt the new model is a major advance over its predecessor, avoiding the *Troika's* rather recessed presence band and delivering greatly improved low frequency bandwidth and resolution.

I was also much impressed by the *Kremlin* tuner, which had the vivacity and coherence to make even Radio 1 a listenable experience on more than one occasion, notably a live concert by James from Alton Towers. I made no attempt to check weak signal performance, selectivity and so on, but fed via a top quality aerial installation with the best signals the BBC's prime Wrotham transmitter can

provide, I enjoyed speed and realism beyond my expectations of the medium, which more than made up for a measure of coloration.

It wasn't a good weekend for assessing CD players, as most of my (all too few) favourite discs had got themselves shut up inside a car bootchanger mechanism. It's not my favourite medium anyway, and I was far too busy playing the record player and radio, but the few discs I did get around to trying gave results very consistent with the other sources. Superb speed and coherence with stunning low frequency resolution made for plenty of enjoyment, though again presentation seemed slightly suspect.

Conclusion

Neither the sweetest, the smoothest nor the most relaxing high-end system around, the *Keltik Kombination's* wonderful lack of time-smear and splendid wideband coherence makes for a highly informative and enjoyable experience. Built-to-last engineering in user friendly and well housetrained packaging are added bonuses that extend its appeal well beyond the worshipful company of audiophiles.

Paul Messenger

Roksan System

**Roksan Engineering PLC, Ddole Industrial Estate,
Llandrindod Wells, Powys, LD1 6BR. Tel: (0597) 824 911**

It was seven years ago that I first visited a small craftsman's workshop in the no-man's land that separates London's City from the East End to pick up a review sample of Roksan's first ever product, the *Xerxes* turntable. There I met Touraj Moghaddam, a keen ex-university bod with a passion for music and a real flair for engineering.

Although the organisation was embryonic, the ideas that informed the product were original and appeared to be well conceived. The turntable was being designed to a set of criteria that were unique then, and remain so to this day. In a small side listening room, a sample of the player was connected through an amplifier, whose identity I have forgotten, to a single, centrally mounted prototype of what would shortly become the *Darius* loudspeaker. Even then it boasted that curious sprung sub-chassis, hung within the main chassis to accommodate the tweeter.

History records that it was the *Xerxes* that broke the hegemony of Linn Products over the high-end turntable market, and that it did so with a design that was profoundly rational, yet which displayed very little of the hyperbole and black magic that had played so prominent a role in the turntable industry until that time.

Seven years down the road, Roksan has grown from its cottage industry roots into a substantial concern which is now based on a modern industrial estate in Wales, the refuge of so many high tech electronics and engineering companies. The range has broadened considerably from turntables and loudspeakers, and Roksan is now one of the handful of Brit-

ish producers capable of making complete record and CD playing systems.

Description

The system as supplied for review was Roksan-branded down to the last nut and bolt, including Roksan interconnects and speaker cables, an equipment stand, and the smaller triangular turntable stand. The equipment tally included the *ROK-DP1/ROK-DA1* two box CD player (£995/£495), the *ROK-L1* line level preamplifier (£2,250) and two of the *ROK-M1* power monoblocks (£2,250 a channel). *Darius* speakers (£1,725) were used in this system, but the undoubted celebrity of this review was Roksan's stunning new turntable which is known as the *Touraj Moghaddam Signature* (or, colloquially, *TMS*), a name intended to indicate that it should be viewed as a personal statement. Given the recent history of the vinyl market, the £2,500 *TMS* will probably be one of the last ever important new turntable introductions. For this test it was equipped with the £690 *Artemiz* arm and £800 *Shiraz* MC cartridge, the £560 *ArtaXerxes* phono stepup device completing the package. The hardware complement was completed with various power supplies, which although they add another £700 or so for each device, are strongly recommended on sound quality grounds.

With one important exception, I detected nothing during the test period that implied any particular synergy or lack of synergy when the components are used in combination, and I would have no hesitation in using any of the Roksan components in any of a wide range of systems.

That single exception concerns the *Darius* speakers. I spent a long time with them, and about a week before putting this review to bed I was able to try a new crossover (which is readily accomplished since the network is housed in a steel can in the base of the loudspeaker and can be replaced with ease). This did quite a lot to restore my confidence in a loudspeaker that until that time I had found difficult to get along with, though it had been quite hard to pick specific faults. However, even with the new crossover, I found myself making equivocal comments on my trusty laptop and I have to confess, ruefully, that I may still not have got the best that can be had from these speakers.

Keeping an eye on the future

There is another feature of the equipment that any prospective buyer should know about. Most of the components are built with a high degree of modularity — the separately housed crossover mentioned above is a typical example — and when manufacturing changes become available, units already in the field can be retrofitted. Roksan isn't alone in this respect of course, and it has yet to be tested over a long period of time with its newer products, but the various upgrades that have been made to the *Xerxes* have all been made available to existing users, albeit at a price.

Most of the equipment is well enough known not to require the full guided tour, so the following is of the nature of a refresher course. All products are constructed to very a high standard, and if you thought that was a standard get-out



phrase, just take a look. The electronics are built into housings constructed from machined alloy sections which gives a fully engineered appearance, though it adds considerably to costs.

The control systems are simple in the extreme, and all socketry is of high quality, with audio processing boards positioned vertically just inside the rear panels to minimise signal runs. I was supplied with various power supply options for the system turntable and CD player, and in its ultimate trim the system involves a formidable amount of signal and mains cabling.

The one item you probably will not have seen so far is the *TMS* turntable. A large and heavy design, it is closer in its fundamentals to the *Radius* and even the *ROK-DP1* CD transport, both of which use multiple selectively decoupled plinths sections nested vertically, than to the *Xerxes*, which uses a less refined version of the same idea. The *TMS* has three such plinths, the top one, with the now customary cut-through construction to control resonant behaviour, acting as a base for the arm and main bearing. The motor

is coupled to the centre plinth section, and like the *Xerxes* motor is allowed to pivot around its spindle. The remaining electronics, including the quartz-locked synthesiser circuitry used to drive the motor, are mounted onto the base section with power supplied by a *ROK-DS1* power supply. Much of the mechanical engineering is derived from the *Xerxes*, in many cases with improved tolerances. Nothing apparently has been overlooked: even the specially constructed transport bolts, which have dual threads of different pitches as well as gauges, are little less than works of art.

The deck is manually operated, and includes Roksan's customary removable centre spindle cap. Speed change is switched so you won't need to manhandle belts when changing from 33 to 45rpm.

Visually the *TMS* is a stunner. The combination of a deep piano gloss finish with the bright metal cornerpieces is opulent and the impression of engineering integrity was just as apparent when digging below the surface. The faceted corners reflect similar features on the electronics when rotated through 90°, and

this gives the system a family feel without slavish copying of styling features from one product to the next. The *TMS* even has a park for that detachable spindle, which is a much needed improvement.

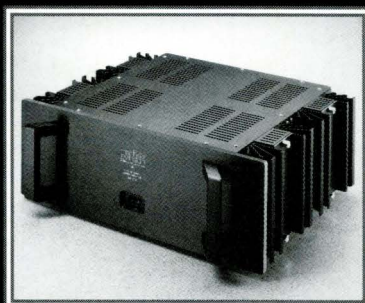
Operating problems with the system were minor. One power amp had a mechanically noisy transformer, but this turned out to be a known problem which had already been cured by a change of suppliers. I also noticed that high momentary peak current swings when switching the power amplifiers on sometimes caused the house circuit breakers to trip, but again this is said to have been solved in production with a delayed turn-on circuit. The only other problems noted were a rather noisy cover over the Compact Disc loading bay, and for reasons Roksan claims to be related to performance, the lid for the record player is not hinged, being provided simply for dust protection when the deck is not in use.

Sound quality

The articulate and punchy bass/midband of the *Darius* speakers gives an unusual sparkle and vitality to a range of rock



IS PLEASED TO ANNOUNCE ITS
NEW AUTUMN COLLECTION



mark
evinson

No 31 - REFERENCE CD TRANSPORT
No 35 - DIGITAL PROCESSOR
No 27.5 - DUAL MONAURAL POWER AMPLIFIER

 PROCEED™

SERIES 3 CD DIGITAL PROCESSOR AND CD TRANSPORT

LUXMAN *ULTIMATE SERIES*

D500X CD PLAYER
L570 PURE CLASS 'A' INTEGRATED AMPLIFIER

STAX

SR-GAMMA PRO / SRM-X PRO ENERGISER

MIDRIGAL

MDC DIGITAL CABLES

 LYRA

LYDIAN MOVING COIL CARTRIDGES

FOR COMPREHENSIVE DETAILS ON ANY PATH PREMIER PRODUCTS PLEASE CONTACT:

PATH PREMIER. UNIT 2, DESBOROUGH INDUSTRIAL PARK, DESBOROUGH PARK ROAD, HIGH WYCOMBE, BUCKS. HP12 3BG.
TEL: 0494 441736, FAX: 0494 461209

recordings. Treble was incisive and clean too, and both tonal and spatial definition turned out to be first class. Above all the *Darius* played tunes: the bass was accurately pitched and beautifully controlled without any trace of excessive leanness or over-damping, and rhythmic information was well presented, without any dragging of tempi or loss of articulation. Positioning of the speakers within the room turned out to be relatively uncritical, though sound quality was at its airiest and most persuasive with the speakers positioned well away from room boundaries and large furniture.

Despite all this, however, there was what is best described as a pervading greyness and graininess that I could not eradicate however the speakers were set up, and irrespective of the equipment used to drive them. The *Darius* clearly lacked transparency, and my perception was that the music remained somehow locked to the enclosures. The long and the short is that although I ended up with real admiration for the Roksan speakers, I can't say I liked them very much, and I concluded that they needed a rather different style of system to give of their best.

This then was the cue for a change in loudspeakers, and the test was completed using the Martin Logan *CLSIIz*, the latest version of the full range electrostatic panel which produced just the right degree of audio alchemy — and holography — for the job. Now I was able to hear what was going on, and for the first time I found I was able to relax and enjoy the music. This wasn't just a personal reaction by the way, but one mirrored by others who heard the system over this period.

Some of the differences wrought by the change to the electrostatics were cosmetic; the sound became much smoother and more refined, with silkier string tone for example. Image scale became larger and much more obviously detached from the means of reproduction. Musically however, the changes were profound. The sound acquired new layers of expression and subtlety. The range of tonal colours was broader and more variegated. Dynamics were more telling too, they were expressed in a much more finely graduated way. One consequence of this was that replay volume levels could be reduced without loss of presence or detail, and the sound became less obvious, yet more telling.

As you can see, we're not talking about minor changes here. It is perfectly true that panel speakers don't suit all listeners, and they certainly don't suit all rooms as they require the best part of a couple of

meters of open space behind them and they are voiced to sound best at about a 13 meter range, which implies a fair size room. They also cost a lot of money. But these things are irrelevant to the argument, which is that with the panels the Roksan system was capable of tremendous musical feats that were unequalled with the *Darius* speakers. The *CLSIIz* is a pretty remarkable speaker in many ways, but it can no more make the sounds of its own account than Icarus could fly near the sun without help from NASA. The Martin-Logan's demand electronics of unusual abilities, and the Roksan system provides just that.

If it is possible to sum up the Roksan pre and power amplifier in a few succinct words, they would include articulation, detail and dynamics. Above all, however, it is the exquisite combination of control and definition, even with difficult loads like the aforementioned Martin Logans, that marks it out from the crowd, though those used to archetypically British am-

plifiers may find the Roksan a little too lean and dry — even trans-Atlantic in flavour — for their tastes. Although the preamp and power amp characteristics are consistent with each other, the latter's sublime indifference to the load to which it is connected is quite unusual and makes it the real star of the show. The preamp teetered on the brink of dryness, even sterility, with some acoustic material.

This brings us around to the source components. I believe I remember a throwaway comment when the equipment was being installed to the effect that the design work that went into the *TMS* record player helped in the development of the CD player and *vice versa*. If I am wrong and I only imagined it, then maybe it was a Freudian slip. Or perhaps they should have said it anyway because the degree of consistency between the two at the fundamental level is remarkable, and plainly to the benefit of both products.

Of course they don't sound exactly the same. Even supposing it was possible to



WHEN YOU'VE PRODUCED A GOOD RESPONSE, IT'S GREAT TO GET ONE BACK.

6 Splendid! Stunning! Gorgeous! Breathtaking!
Whew – these are killers – KILLERS – K-I-L-L-E-R-S!!!
What more is there to say? I've been more impressed
with the ProAc Response Threes than I've been with
any – *any* – speaker I've ever auditioned!

– Jack English, *Stereophile* Vol. 14 No. 9, September 1991 9

We'll remain neutral.

Suffice to say that the subject of the review, the Response Three, is our flagship loudspeaker and the culmination of more than twenty years' design experience.

As you can see from the picture, a pair of Threes is a hefty proposition. They stand almost four feet high on their sonic plinths and weigh in at a hefty 100lbs each. And that's before you start tuning the bass with sand or lead shot.

They feature a unique blend of critically positioned drive units fed by an expensive and sophisticated crossover network. Available in a range of beautiful finishes they work best with high quality ancillary equipment.

We shall say no more. For the rest, perhaps we should just let Mr. English have the stage:

"*Bass. The low end of the Threes (once they are properly loaded with sand) is extended, controlled and powerful. I never expected this quantity and quality of bass out of a two-way speaker every note is clear, rich and precise.

Subtle gradations in volume are recreated with aplomb. Nuances, such as fingering and plucking techniques, are admirably real. On more complex material the double basses are dynamic, clear and powerful. On powerhouse rock recording the bass is startlingly visceral, the dance beat unavoidable. In short, the character of bass in the recording is exactly what you'll get."

The bass/midrange drive units are two 6½" polypropylene models built to ProAc

specifications. With the tweeter they are positioned in a mirror image offset configuration on the front baffles. The review continues

"*Midrange. Full, rich, lush, musical, involving – in short, lifelike. The midrange suffers not a whit from the bass load on these smallish, doubled-up drivers. The unique sonic signature of every instrument, a result of its own unique mixture of fundamentals and overtones, is simply right (listen to the naturalness of the oboe, the blat of the brass, the

tured exclusively for ProAc. It seems to meet with approval

"*Treble. ProAc has always impressed me with upper-end performance; the Three is no exception. The top is extended, lightning-fast, and extremely clean. Triangles, a devastating task for most speakers, float effortlessly within the sonic fabric of the music (again, listen to Dukas's playful tone poem). Upper harmonics abound, and there's air aplenty. No, the Threes are neither peaked nor exaggerated in the highs, neither bright nor hard. They're

fast and real. If the source has a rough top end, you'll have to live with it. The Threes will reveal all and hide nothing."

Mr. English is equally enthusiastic on aspects of Soundstaging and Imaging, Inner Detail and Dynamics. But his summary says it all:

"The ProAc Response Threes are marvellous in every regard, and merit audition with speakers at any price. They are without question, the most satisfying audio component I've auditioned in years.

Without doubt the ProAc Response Threes are Stuart Tyler's crowning achievement. They are outstanding in every aspect of sonic performance usually discussed. More important they are unequivocally faithful to the music. *Go hear them now!*"

We couldn't have said it better ourselves.

For a copy of the full review and dealer information, contact us at the address below.



plucked strings from *The Sorcerer's Apprentice*). Or try the richness of voice – the mix of chest and throat, the amount of nasality, are spot on. There's nary a trace of any textural coloration, and never a barrier between you and the performers. The crossover point doesn't seem to exist. No peaks. No dips. No attenuations. No exaggerations. Nothing. **Nothing but the music."**

The tweeter is a 1" soft dome with a special coating, once again manufac-

 **ProAc**
Perfectly Natural

make a totally fair, direct comparison between the two they probably wouldn't have sounded the same, and merely sticking the same titles on both players is no guarantee of anything. Nevertheless, I felt that across a wide swathe of music types and titles the Roksan record and CD players had much more in common, say, than a Linn LP12 and a Linn CD player.

The *Xerxes* has always sounded more Compact Disc like than most record players (in the best sense) since it lacks the slightly excessive upper bass quality and unevenness that is so obvious a part of most record players, and its stereo resolution is much better, even in the lower frequency area where stereo isn't supposed to be an issue. Cellos and basses, for example often sounded amorphous off vinyl, but not with the *Xerxes*, and certainly not with the new model.

As well as retaining the explicit imaging of the *Xerxes* through the whole frequency band, the *TMS* adds a degree of authority and gravitas that in the final analysis just eludes the *Xerxes*. The *TMS* also sounds peculiarly open and three-dimensional. At higher frequencies it is the arm and cartridge (in this case the *Artemiz* with its 'intelligent' swinging counterweight and the *Shiraz* low output moving coil respectively) that dominate, but the extra low frequency range and ability of the *TMS* add a certain something higher up too, and the deck as a whole sounds more precise, colourful and dynamic than the *Xerxes* or other comparable designs. This by the way is the kind of precision more usually associated with Compact Disc.

Subtlety of tonal renderings is often lacking in digital media, but this is an area in which the *CD-1/DA-1* CD player combo excel. Again each component of the pair is very well attuned to the other, and their special strength is in the midband which is vivid and translucent, with little of the grain or 'hash' of inferior players, and with better stereo resolution than most.

The Roksan gives full rein to the superior large scale dynamics associated with multi-bit conversion, yet the subtlety and grace of the sound when reproducing early classical or intimate jazz was little if any worse than the best of 1-bit. At the frequency extremes the Roksan isn't quite so impressive, though the use of an outboard power supply does a lot to help. Even so the bass end doesn't have quite the ideal physical presence, and the treble can sound slight flat and thin. I wasn't supplied with the optional AT&T interface, but it is quite likely that at least some of the residual shortcomings of the player are addressed by this option.

On a rough scale of ten, the Roksan duo scores about seven, a little short of the better Wadias and Thetas and excellent oddballs like the Acoustic Research DAC, but well up with the best British designs, though the Roksan's price lies towards the bottom of this exalted territory. We're talking about a fast moving target though, and given the state of the market, definitive statements about CD player ranking orders have a kind of Arthur Daley-esque dodginess.

Fully configured and running, the Roksan equipment completely filled a four shelf Roksan equipment table and took some room on an adjacent Alphason support, not forgetting Roksan's own turntable support. The system presents acres of aluminium to the room, and imposes considerable loads on the floorboards. The turntable looks magnificent, and in practice the Roksan system has a certain discreteness that edges towards elegance with the Martin Logan speakers. Even the *Darius* is less agricultural looking than was once the case, but on both visual and sonic grounds, this is the component that has weathered the course of time least satisfactorily. The *Darius* is an unashamedly enthusiast's speaker, which demands careful system building and which presents a very particular view of the music, with the emphasis primarily on musical architecture and dynamics rather than subtlety or transparency.

The more I listened to the power amplifiers, the more it became clear that they have strengths which are very close to those of some of the better US monster amp combinations. An unfortunate side effect of the Roksan's physical presenta-

tion is that it may not be taken seriously by those most likely to appreciate what they do. If the power amps came in a massive US-style box covered with acres of heatsink, the world would probably be beating a path to Roksan's door. Despite appearances, however, the *ROK-M1* is one of the true heavyweights, and one of the most convincing and articulate big amplifiers it has been my privilege to use. The preamplifier is consistent with the power amp, and scarcely detracts from what it does, though it is somehow the less convincing part of the duo.

The CD player stands up well, and will prove particularly attractive to some for its upgradability, which means you can start low and finish high. An AT&T interface can be added, and the internal power supply can be replaced by the outboard supply used for most of this test. Roksan even promises to make available improved convertor processing boards. All these things help make the player look viable to a wider range of buyers than the price suggests. As supplied it worked wonderfully, only being convincingly outstripped by the best US exotica, all of which cost much more than the Roksan.

The star of the show was the *TMS*, the one wholly new component in the system. Used in the combination described, it built on the *Xerxes* ability to add CD like precision and imagery to the other acknowledged qualities of black vinyl. With a good record and a following wind, the sheer conviction of the sound was without parallel. It beat the pants off the CD player. What more can you want from an obsolete music carrier?

Alvin Gold



Extrema



Sonus Faber's inert Poly Stratum cabinet system — a patented sandwich construction with solid walnut wood and black satin lacquer finish

Extrema has been described as 'one of a handful of loudspeakers which qualify as legends'. *Hi-Fi News & Record Review* warned: 'this'll take your breath away'

(Ken Kessler, October 1991).

With appropriately powerful amplification this staggeringly capable box delivers sound on a massive scale with unfettered dynamics. Stereo performance and detail rendition are exceptional.

The bi-wire Extrema is the most sophisticated miniature dynamic loudspeaker available. A gentle crossover with 6dB/octave slopes is designed without series capacitors to give maximum signal transfer for exceptional stereo imaging. The solid walnut/sandwich cabinet is utterly vibration free. Special low distortion, high power handling drivers are used. At around £6,000, Extrema competes with far more costly systems — and wins.

Sonus Faber's Extrema is a celebration of the extreme — an undeniably small loudspeaker with the pretensions of a giant.

Sonus faber[®]

Electa loudspeakers and Amator electronics are now considered classics. Sonus Faber designs for style not fashion. The £898 Minuetto is a most exciting addition to the Sonus Faber family — rightly described as a mini-Electa. A handmade cabinet with 16 layers and solid walnut gives astonishingly neutral sound quality, outstanding value and beauty.

The leather covered baffle minimises diffraction effects for superb stereo imagery. Contact Absolute Sounds to find out where you can hear the Minuetto — exceptional performance at an affordable cost. You can not afford to miss Minuetto.



Absolute Sounds
58 Durham Road · London SW20 0DE
Telephone 081-917 5017
Facsimile 081-879 7962



Minuetto

Accuphase DP70-V

**MPI Electronics UK Ltd, Wood Lane, Manchester
M31 4BP. Tel: (061) 777 8522**

While a lot of fuss is being made about various combinations of CD/transports, exotic digital link cables and digital decoders, there is one integrated unit which does it all without any drama. This is the Accuphase *SP70-V*, a serious design combining a reference grade transport with a reference grade decoder, presented as a slick CD player package complete with versatile and effective remote control facilities that include digital volume.

The decoder section is universal, being RDAT, satellite and CD-compatible and digital input selection may be made from the remote control. The volume control is active on all inputs. Superbly and solidly built (24kg) with champagne gold alloy facia and polished hardwood side panels, this £4,999 unit sports a loading tray which has to be the smoothest ever, helped no doubt by Teflon and stainless steel bearings. The transport is also fast and quiet. The most

frequently used controls were boldly presented on the control panel: play/pause, track skip and stop/load. A hinged flap concealed track programming and A/B phrase repeat. Even a single 1/75th of a second data 'frame' may be accessed. Indexing and track time codes are available as shown in the high contrast display.

Engineering artistry

Digital outputs and inputs are duplicated in phono and TOSLINK optical formats while the audio output, a little higher than standard, is available at 2.5V, balanced and unbalanced with a low source impedance.

One claim to fame is the use of discrete 20-bit digital to analogue convertors. This is an Accuphase speciality working at eight times oversampling from an NPC high order digital filter which also incorporates the volume control section. Engineering quality is first-rate in this example of the art, with ample provision made for multiple mains transformers, regulated supplies and the like. It is certainly built to last. A series of lab checks confirmed an excellent performance with highly accurate alignment of the 20-bit convertor.

Now in its second year of production, the *DP70-V* continues to set a cracking pace at the front line of digital replay. In optimum mode, direct-coupled via balanced lines to a top class power amplifier, this one box Accuphase remains the class reference.

Its claim to quality was immediately recognised as a winning combination of dynamic authority; a superb sense of scale to the sound stage, of power to the overall presentation and, not least, consistently high definition. It sounded open and de-

diacy of the direct connection to a suitably matched power amplifier. The results so far have applied to the player as a whole, but we also made separate tests for the CD transport section and the universal decoder. When taken individually both were in the reference class, the transport performance placed between Wadia's excellent *WT3200* and *WT2000* units, while the digital decoder was itself of outstanding quality in the class of the Theta Basic, Wadia *DM64-4* and other similar front line models. Good as these results were,



tailed as well as excitingly 'present', all this achieved without significant mid hardness or treble grain.

Bass, mid and treble ranges were well balanced while an excellent recovery of detail was achieved over the entire frequency range. Transparency was the watchword and this imbued the stereo image with a marvellous quality of depth and perspective. Classical recordings were nicely layered, while extravagantly produced rock tracks containing heavy reverberation sounded cavernous and impressively spacious. Concert hall ambience was portrayed very well.

Stereo focus was excellent, almost holographic for well-recorded solo passages, and the lively and articulate nature of this player suited both the review system and all types of music, classical, rock or jazz. Even Gregorian plain chant sounded more vital and immediate when reproduced via the *DP-70V*. One aspect was very clear, namely that there is no preamplifier presently available that can fully exploit the performance of this integrated CD player. Despite the inconvenience it presents, the listener was repeatedly drawn to that extra clarity and imme-

something extra was obtained when this Accuphase player was used as a single unit, with that final bonus obtained when the digital volume control was the only one in circuit.

The one to beat

Matching the useful range of the digital volume control is important and this may require a small attenuator made with Vishay foil resistors to achieve perfect matching in a given system. Ideally, full CD output should just produce full system volume. This precaution is necessary because some quantisation distortion was audible for volume settings below -20dB.

While it may well be a fortuitous example from the Accuphase range, the *DP70-V* was definitely one of those naturally balanced designs where everything falls into place. Build quality and finish were superb and it should last a decade or more. Silent in operation and with a first class lab performance, this audiophile grade CD and digital control centre remains the one to beat. As a complete package the pricing is still realistic for this performance sector.

Martin Colloms

Best Product Range

Best Demonstration Facilities

Best Location

Best Prices

Best (and Cuddliest) Staff

BEST BUY

FROM KAMILA

AIWA : AKAI : AKG : ALBARRY : ALCHEMIST : ALLISON
ALPHASON : AUDIO INNOVATIONS : AUDIOQUEST
AUDIO TECHNICA : AUDIOSTATIC : AURA : B&W
BEYER : CERWIN VEGA : CONRAD JOHNSON
FURUKAWA : GOLDRING : INFINITY : IXOS : JPW : JVC
KEF : KENWOOD : KUZMA : MAXELL : MICROMEGA
MITSUBISHI : MONSTER : MORDAUNT SHORT
MOTH : NAKAMICHI : ORACLE : ORIGIN LIVE
ORTOFON : PANASONIC : PHILIPS : PIONEER
POWERMID : QED : REVOLVER : RUARK : SD ACOUSTICS
SEISMIC SINK : SENNHEISER : SHARP
SONIC LINK : SOUND AUDIO SOUND ORGANISATION
STANDESIGN : STRAIGHT WIRE : SUPRA
SYSTEMDEK : TDK : TEAC : TECHNICS : THATS
THORENS : TOSHIBA : TUBE TECHNOLOGY : VPI

OR ELSE!

Alchemist Genesis

Alchemist Products Ltd, 4 Rosebery Mews, Muswell Hill, London N10 2LG. Tel: (081) 883 3008

Alchemist is a small British electronics company that has been building amplifiers for about two years and currently has two ranges to its name. At the less expensive end of the scale are the *Kraken* integrated and pre/power amps and top of the range are the brass clad beauties you see on the right. Both ranges bravely shun the traditional black box approach to case design and aim to stand out rather than blend in.

Here we have an assessment of the *Freya* line preamp (£1,020), a pre-production *Bragi* phono stage (£495) and *Genesis* monoblok power amps (£1,525 per pair).

Freya and *Bragi* share the same case styling and power supply, the latter occupying a smaller, less exotic though similarly shaped case that supplies current via a fairly long umbilical cable.

Freya is a dual mono affair with irritating left and right volume knobs and also input socketry arranged horizontally — right on one half, left on the other — which means that bonded interconnect cables will have to be peeled apart.

Selling England . . .

There are six inputs and two sets of outputs and as with *Bragi* the select and volume controls have amber LEDs set into them. If this had been a Japanese product these lights would have flashed as you operated the remote volume control, but here they just glow seductively. There is no remote.

Bragi, despite its slavish name, is an MM/MC phono stage which optionally derives its power from and transmits signal to *Freya* via a chunky umbilical fitted with XLR style connectors. Alternatively, you can use a separate power supply and your choice of interconnect between it and the preamp. Apart from accepting both types of cartridge it can tailor the impedance that the cartridge sees across a five strong range that spans 30ohms to 47ohms.

Genesis is a 60W bi-polar monoblok



power amplifier of unpretentious scale; a pair placed side by side will sit atop a Target table.

Its technical claim to fame is that there's just one 10mF capacitor in the signal path which reduces the overall capacitance of the circuit and is supposed to improve midrange transparency.

Externally, each amp has an extra pair of speaker terminals for bi-wiring, which because of the choice of internal wiring, are marked LF and HF for low and high frequencies. Apart from the obvious bi-wiring option, they allow a degree of tailoring to the speaker when single cables are used; apparently some smaller speakers sound better with the little bit of low frequency roll-off that the high frequency output offers.

Audio Note silver cable was used to connect the *Genesis* to Audio Note *AN-J* and Kef *Q90* speakers, front ends were: Voyd/SME *IV*/Audio Note *Io* and JVC *XL-Z1011*/Micromega *Duo BS*.

Listening to this set-up and comparing notes with my earlier experience of the *Genesis* amps it seems that a subtle change of character has come about. The originals sounded almost tube like, but somewhere along the line this fluidity has been

replaced by a subtle forwardness that's less well suited to a speaker like the *AN-J* with its slightly exposed mid/treble and which will harden up without much provocation.

However, there are plenty of very good things to say about these amps. They've got lots of power and they can resolve information, especially in the midrange, very effectively. Probably as effectively as most of the alternatives, and comparisons were made with the Rotel *Michi* phono stage and power amp, which sounded a bit more laid back and full at low frequencies but at the same time a little less 'detailed'.

Tracks like Joe Walsh's *The Confessor* came through with a very serious vitality and the steel strings really zinged.

Rock tracks in general benefitted from the Alchemist set-up's power and fleetness of foot; however, tracks with a lot of timbral detail sounded a bit lacking in body compared with the Second Audio tube amps. (But then again, the latter will set you back around twice as much.)

The Alchemists also have a fairly dry bottom end, it goes right down, but when combined with a dry martiniesque loudspeaker the end result is a bass shy balance. Basically the *AN-J* isn't the right speaker for these amps, a much more suitable partner is Kef's *Q90* which has a far more complimentary character. This combination boogied along in an entertaining and relatively relaxed fashion that proved much more enjoyable to me in the long run.

The Alchemist *Freya*, *Bragi* and *Genesis* is an interesting amplification set-up, it won't suit everyone but it will appeal to many if incorporated into a sympathetic system.

If you've been considering investing in Musical Fidelity or Naim then these well built, chunky little beasts deserve some attention and time.

Jason Kennedy

First published in Hi-Fi Choice January 1992

Alchemist Products

"Every now and then a product comes along that causes a stir in the HiFi industry. I feel the Kraken well built and with a superb sound quality has this potential."

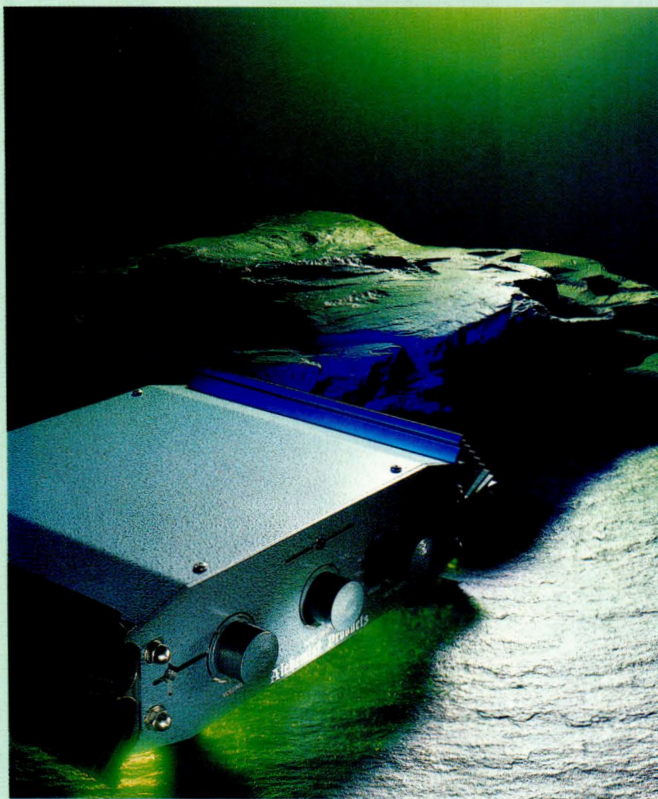
"Throughout the frequency range the Kraken displayed a detailed performance that did not overstate one aspect in favour of another . . . it was extremely musical and rhythmic."

Alan Sircom
HIFI WORLD SEPTEMBER 1992



For more information on these and other products contact:

ALCHEMIST PRODUCTS
Telephone (081) 883 3008
Fax (081) 883 1160



ALCHEMIST RECOMMENDED DEALERS

London
Kamla W1
Telephone: (071) 323 2747
HiFi Confidential SW1W
Telephone: (071) 233 0774
Bradys WC2H
Telephone: (071) 379 4010
KJ West One
Telephone: (071) 486 0552

West Midlands
Music Matters
Telephone: (021) 429 2811
West Midland Audio
Telephone: (0905) 58046

Kent
Sevenoaks
Telephone: (0732) 459 555
Standens
Telephone: (0732) 353 540

Hampshire
Audio Gallery
Telephone: (0730) 895 194

Wiltshire
Salisbury HiFi
Telephone: (0722) 322 169

Milton Keynes
Audio Insight
Telephone: (0908) 561 551

Northern Ireland
Zous Audio
Telephone: (0232) 332 522

you don't have to be a ..



.. to discover the **BEST** Hi-Fi Sales & Service in Somerset

mike manning audio

"the hi-fi emporium"

our wide range includes....

Naim Audio - Ion - Audio Innovations - Arcam - Rega - Roksan - ATC - Rotel - Pink Triangle
Audio Alchemy - Mission - Heybrook - Marantz - Micromega - Epos - Shahinian - LYRA
Acoustic Energy - JPW - Nakamichi - Denon - Pioneer - Aiwa - Yamaha

110 Middle Street, Yeovil, Somerset. Telephone (0935) 79361

0% - INTEREST FREE CREDIT- PLEASE PHONE FOR DETAILS - 0%

ATC SCM50A

ATC Ltd, Gypsy Lane, Aston Down, Stroud, Glos GL6 8HR. Tel: (0285) 760 561

While I was preparing the *Statements* piece on the ATC SCM20 loudspeakers (issue 94), I visited ATC's factory to see the speakers being built and tested. Naturally, ATC used the opportunity to demonstrate the next model up in the range, the SCM50A, and I started lusting right away.

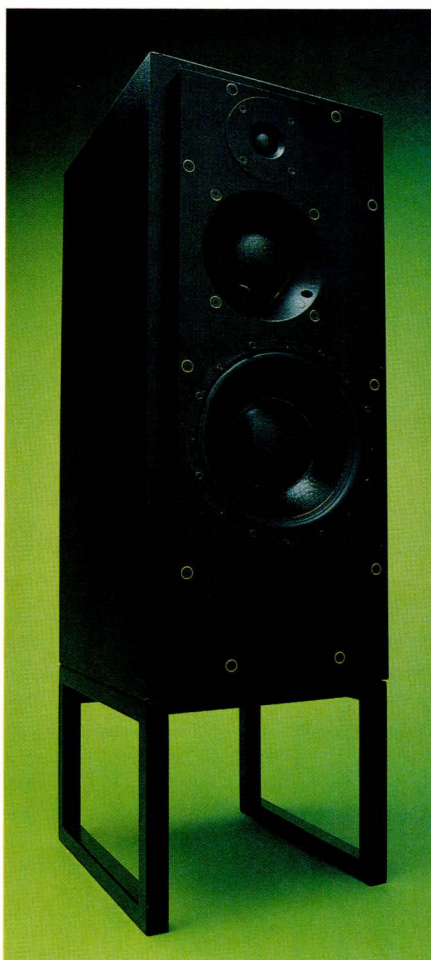
Strictly speaking, I suppose the SCM50A is the next model but one, as it is an active version of the passive SCM50. However, it is arguably the cheaper option since the price of the 50A includes 350W of amplification per channel, for a premium that would hardly buy that sort of power to go with the passive model (it costs £4,283 per pair in standard trim, against £3,065 for the passive). It is also the option preferred by ATC, as the company argues that it likes to know that its speakers are being used with amplifiers which can drive them properly.

The SCM50A is a large loudspeaker, but not unusually so. It reaches a little over a yard high on the small stands that are supplied with it, and has a footprint of about a foot square, plus the large heatsink, some two inches deep, at the rear. This heatsink is the visible manifestation of the three power amplifiers and electronic crossover built into each loudspeaker. Without the usual constraints of a standard metal box, ATC has been able to construct a very neat electronics assembly which provides 200W for the woofer, 100W for the midrange driver and 50W for the tweeter. All one needs is a preamplifier with a healthy output (2V required for full output).

Two of the three drivers used in the SCM50 are built by ATC; the tweeter is bought in. The soft dome midrange unit is probably ATC's best-known hallmark in professional monitoring, while the woofer is an eight-inch paper-cone driver. A reflex port provides extra low-frequency extension. Cabinet construction is conventional but massive, a fully assembled SCM50A weighs nearly a hundredweight.

Hammers on strings

In my own system, the SCM20 works well, with a clean, undistorted sound that is easy to listen to — or more accurately, 'through' — for long periods, and a remarkable sense of scale given its small size. However, chez ATC, I noticed at



once that the 50A extends that scale considerably, while providing even more fine detail and sounding even smoother and more refined.

I did have some doubts about whether the sound would be a little overwhelming in my listening room (5.5x3.35m), but in the event these doubts proved unfounded. What I heard was much the same improvement as in ATC's own demonstration, although admittedly slightly less marked than in the company's much larger room.

This is not to imply that I've gone off the SCM20s, nor that I have suddenly found them to be flawed in some unsuspected way. But the 50s, with their extra volume, more refined midrange driver (ie dedicated, rather than the integrated bass/midrange unit of the 20) and active crossover system, do reproduce music that little bit more faithfully.

With piano music, for example, one

hears the impact of the hammer on the string much as it occurs in real life; a fast but clear transient, accompanied by a rather dull, low-frequency thud which is largely due to the piano's body resonating like a large bass drum, the pitched part of the note following on after the resonance has built up in the string. Reproducing the transient is already quite a tall order, if it is not to be coloured by twangy resonances, but the thud needs a loudspeaker with a very good, extended and clean bass response to do it justice.

The SCM50A manages all of this, and, even more impressively, it doesn't lose its bottle when asked to do it at very high levels. It is most refreshing to find a loudspeaker that can put out some really serious peak sound pressure levels without becoming distressed and uncomfortable to listen to. Nor does it compress the dynamic range or lose reverberation and subtle stereo clues.

Detail or overview

Of course, that ability to cover an immense dynamic range is just as useful in large orchestral works, operas and rock music, while the speaker's transparency makes the most of any signal fed to it. Even recordings that are over sixty years old sounded as good as I've ever heard them!

One of the features of live music that is so often lost in reproduction is the way one can hear all the individual strands that make up the whole structure while, if one chooses not to dissect the sound consciously, it remains a cohesive whole. Many hi-fi systems either mash all the strands inseparably together, or highlight some of them so that one can hardly see the wood for the trees. These loudspeakers give one the option, as with live music, of listening in detail or in overview. And that's a major achievement.

In summary, ATC's SCM50A is a remarkable loudspeaker, capable of extremely fine results in every department, unless you prefer the 'euphonic coloration' type of sound. Obviously, its market is limited by its price, but when cost is but a minor object this is one hi-fi artefact that can well justify its expense. I would happily recommend it to anyone.

Richard Black

First published in Hi-Fi Choice Aug 1991

Audio Note IO

Audio Note UK Ltd, Unit 1, Block C, Hove Business Centre, Fonthill Road, Brighton, East Sussex BN3 6HA. Tel: (0273) 220 511

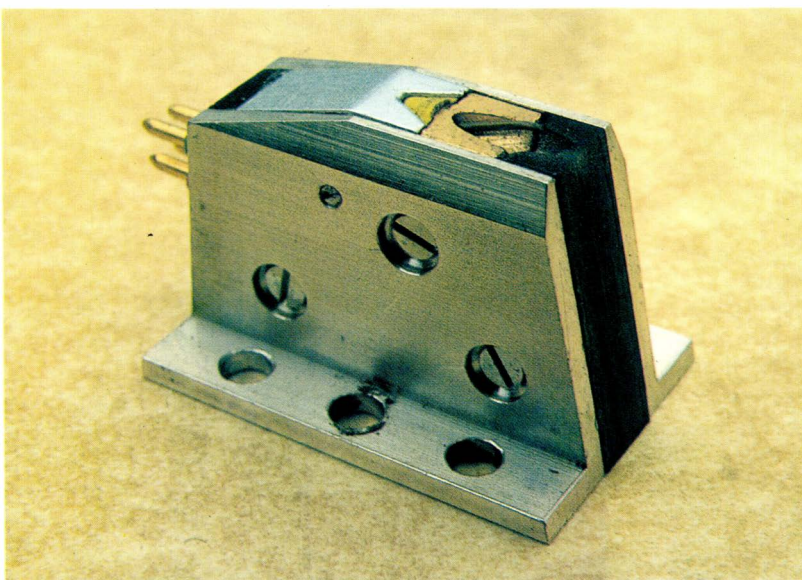
Followers of high-end audio and avid readers of *Hi-Fi Choice* probably associate the Audio Note brand with a small Japanese company that specialises in hand made hi-fi exotica. There have of late been a few changes going on behind the brand name; Mr Kondo, the company's founder, is concentrating his efforts on amplifiers like the awesome *Ongaku*, silver cables and loudspeakers for cars and houses. He has stopped making one of the products on which the company's reputation was built, the *IO* cartridge.

But Audio Note's European distributor wasn't going to let one of his top products disappear just like that and set about finding someone else to make them. He talked an old associate, Rob Dowse, into taking on the job. A trip to the Master followed, and a year later the first British built Audio Note cartridges are appearing, and I'm very pleased to say that one has found its way onto my turntable.

High-end masochism

The *IO* (as this British version is known) is a cartridge with a reputation for anaemic output (0.15mV!), immense weight and high sensitivity to set-up, but then again it's a high-end cartridge and that means masochism. You'll need a well matched step-up transformer (with an output this low you'd be hard pressed to find a quiet/sensitive enough active gain stage), a medium to high mass tonearm with a counterweight of *SME Series 300* or higher weight (the *IO* weighs 18g) and, of course, a first class turntable. In this instance these parameters were adequately filled by a *Voyd* supporting an *SME IV* and an *Audio Innovations Series 1000* passive step-up. You'll also need a steady hand, as there's no stylus guard, and patience, as this thing has to be almost entirely set-up by ear. And of course, the £1,350 asking price comes in handy.

One of the reasons for the *IO*'s high weight is a pair of alnico magnets. These



have to be larger than samarium cobalt or neodymium magnets to achieve the same flux density, but Audio Note believes that they sound better. The internal wiring is high purity silver, and the long, tapered, titanium cantilever supports a vdH type 1 stylus. The latter, which is one of the smallest tips in use, is cut and fitted in Japan.

The *IO* is encased in a pair of brass panels, which are bolted together around the magnet assembly, and a rosewood surround. This forms an extremely rigid block that's devoid of internal cavities save for that around the coils. Even greater rigidity can be conferred by using all six of the bolt holes available for mounting the *IO*, but the extra weight might be too much for many counterweights.

After a lot of experimentation with vertical tracking angle and tracking force I got to the stage where the cartridge was working optimally with most records. However, it is easy to imagine adjusting arm height for every record, if this could be done without too much hassle. To say it's sensitive to set-up is understatement on a grand scale. But with a cartridge like this I'd rather listen to loads of records than spend my time fiddling, such is the extra life and dynamics that the *IO* extracts from the grooves. After the *MC2000II* (see issue 99), which isn't a bad cartridge, the *IO* was in another league, it even managed to significantly improve

on one of the *Ortofon's* fortés; the high frequencies. This aspect enabled the cartridge to produce superbly defined acoustic spaces with incredible width and depth.

The *IO* managed to sound tight and dynamic across the entire bandwidth. Good classical recordings made the most of the *IO*'s dynamic and imaging capabilities, as it found the gusto, power and delicacy that other cartridges had suggested but failed to fully resolve. One felt that the

limitations of the medium were close at hand, only the thought of experiences with the same cartridge but better ancillaries reminding me that the full potential of the vinyl was still evading my ears.

IO silver

Jimmy Hughes once wrote a piece which said that the mark of a good audio component is the ability to make all the records (tapes, CDs etc) it plays sound very good. At the time my reaction was quite negative, surely better recording, mastering and pressing should result in a higher fi sound? However, subsequent experience has taught me that he was right, a good enough system is capable of making the most of everything you play on it. Which means that what had previously sounded like a nasty or flat record became highly enjoyable, and the *IO* has been pulling off this trick with records that I'd consigned to the boring and/or painful bin. One tends to assume that greater resolution will reveal a record's faults to a greater degree, but it would seem that if you dig deep enough into the grooves you'll find something worth playing.

The Audio Note *IO* is an excellent cartridge, you have to work hard to get the best out of it but the rewards are such that you'll not regret it. I for one would be hard pressed to survive without it.

Jason Kennedy

First published in Hi-Fi Choice Nov 1991

Audio Note Neuro

Audio Note UK Ltd, Unit 1, Block C, Hove Business Centre, Fonthill Road, Brighton, East Sussex BN3 6HA. Tel: (0273) 220 511

Avid readers will remember my review and subsequent ravings on the Audio Note *Ongaku* amplifier, a mortgage and hernia inducing hand built, silver wired, valve power amp.

The *Neuro* is from the same stable, Audio Note being renowned as a small but nigh on perfectly formed company which produces a range of tube amplifiers and loudspeakers for the well heeled. The *Neuro* is a seven and a half watt single ended, zero negative feedback design that's available in two versions. The dearer model, retailing at £8,950, uses handmade silver foil capacitors whereas the model reviewed here, and priced at £6,950, uses paper in oil versions.

The amp looks great, a substantial copper plate chassis and chunky transformer housings contributing to the hefty bulk. Seven grand for an output that wouldn't inspire an *AE1* to sneeze may seem pretty steep. But this being a single ended tube amp, with a pair of paralleled 2A3s per channel, these are seven and a half of the cleanest watts around. They are fed to the speaker terminals via output transformers that are wound with age annealed copper wire (apparently this stuff is stored whisky style for 10 to 12 years before it is wound on the double C cores).

But of course, however powerful or dynamic each of those class A watts are, you will still have to have speakers with an efficiency of at least 90dB and preferably more before you're going to be able to move much air.

For the purpose of this review I used the Audio Note *AN-ES* that have been impressing me with their effortless transparency over the last couple of months. Paul Messenger measured them at 92dB which makes them more than suitable for this application. Other equipment used included a Voyd/Audio Note arm and *lo* cartridge, Audio Note *M7* phono stage and an Ariston *Maxim*/Micromega *Duo* digital source. Equipment support was provided by Mana, and Audio Note silver cable (*AN-Vx*, *AN-SP*) carried all the signals. The *Neuro* has a single pot per channel so preamplification isn't absolutely necessary, though the single input makes this a somewhat impractical approach unless you enjoy switching interconnects every time a different source is



required. I started off using a passive preamp but abandoned it when it became clear that it was acting as a filter for certain upper mid and treble frequencies. With this, and for that matter most, power amps it would seem that active preamps are the only avenue to full bandwidth fidelity, unless great care is taken with impedance matching.

True faith

I won't say that using the *Neuro* was easy. The process of evaluation was not without a few hiccups of the loose connection/faulty valve variety, but it was extremely enjoyable.

In true Audio Note tradition the *Neuro* manages to escape the usual limitations of the components used, ie triode tubes, and reproduced music with the focus and power of a good transistor design allied with the naturalness, dynamics and purity of a valve amp. My *Second Audios* sounded positively blowsy by comparison. The *Neuro* is just so clean, open and precise that it wiped the floor with anything I had to compare it with. The *M7/Neuro* set-up, with the aid of the other components in the system, proved to be the most transparent and analytical combination that I've ever used. It was like a

magnifying glass on the source material, the better discs sounding quite stunning with extraordinary depth.

The low output rating didn't seem to hold things back either, there being no lack of power, courtesy of the phenomenal dynamics on tap — which could catch you out on occasions. OTT classical productions like Rachmaninov's *Symphonic Dances* (Athena) had me diving to turn the volume down. And serious bass from the likes of Jan Garbarek led to concern about the structure of the building. You don't get Naim style onslaught; in fact it's quite the opposite. The sound is so clean that you don't need that much absolute volume. Some live Zappa material was reproduced with all the energy of the event, the system bringing out the atmosphere and size of the club in a formidably tangible fashion — and this was on CD!

The Audio Note *Neuro* is another masterpiece from Audio Note's fabled Kondo San. You need the finest of ancillaries and very efficient (see large) loudspeakers to appreciate the fact, but if you want to open the audio window this wide there are few alternatives. Long live the single ended triode amplifier.

Jason Kennedy

First published in Hi-Fi Choice April 1992

Audio Note M7 Silver Sounds/Kassai

Audio Note UK Ltd, Unit 1, Block C, Hove Business Centre, Fonthill Road, Brighton, East Sussex BN3 6HA Tel: (0273) 220 511

Audio Note is a company that has had a fair amount of exposure in the pages of *Hi-Fi Choice*, not least because of the persistence of its distributor Peter Qvortrup, whose enthusiasm for the product is legendary.

The other reason is that Audio Note products of both Japanese and British origin offer unusually high levels of musical insight. The *M7 Silver Sounds* preamp and *Kassai* power amp under review here are no exception. Both are products of company founder Hiroyasu Kondo and reveal his fanatical character in every aspect, they have a subtlety and hand crafted feel that you don't seem to get even with other products made in these sorts of small numbers.

The silver age

The most obvious structural characteristic is that the chassis are built out of unusually thick copper plate, a material that the Japanese seem unusually fond of and which has now permeated down to budget components from many of the audio electronics giants. All of the Japanese Audio Note amps are built in this way and partly as a result all of the power amps are inordinately heavy. For the uninitiated weight is one of the more primitive, but nonetheless effective, parameters of audio equipment assessment.

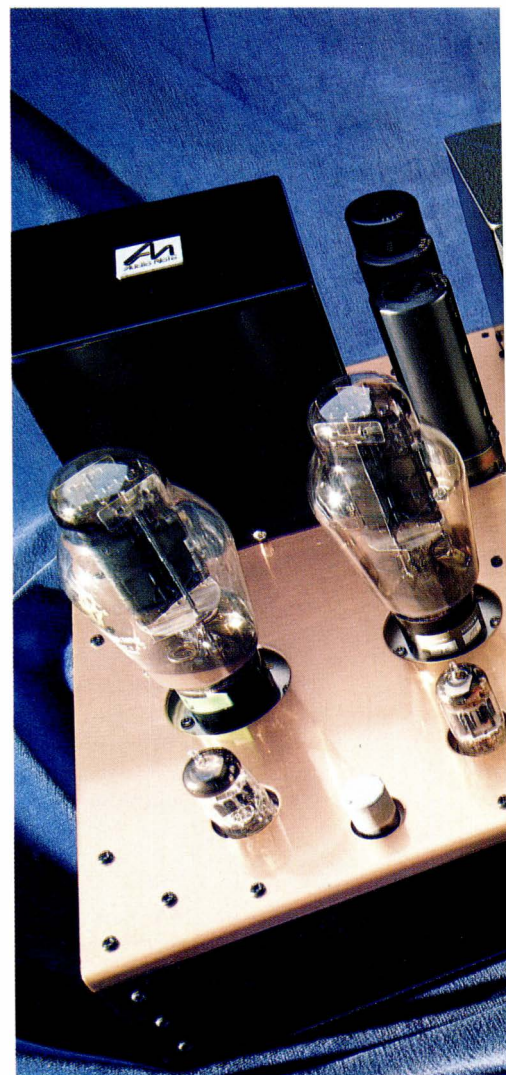
The £9,550 *M7 Silver Sound* preamp is an inconveniently brick shaped component that positively shouts esoteric at you while it's sitting in the middle of the rack looking distinctly out of place. It first saw the light of production in 1979 using FET transistors with valve rectification and no negative feedback, since then it has adopted triode tubes throughout. For something with this much cult audiophile appeal the *M7* is pretty well equipped, it has two sets of main outputs, though only

one tape loop, a phono stage (MM only in traditional tube style) and four line inputs. The mains lead is a chunky captive affair devoid of an earth lead but undoubtedly chosen for its sonic qualities, Audio Note used to offer a silver mains cable version of the *M7*!

The *Silver Sound* suffix not only makes this version £2,700 more expensive than that standard model but indicates the extensive use of 99.99 per cent purity silver Audio Note cable, silver foil capacitors and tantalum film resistors with silver end caps and lead out wires. In short, silver has been used to an unheard of degree by audio standards. It may seem a tad extreme but it's interesting to note that silver cable, which Kondo has been making since the Seventies, is becoming increasingly popular with other manufacturers, witness the B&W Silver Signature on page 58.

The £19,800 *Kassai* power amplifier is not the most expensive product in Audio Note's range by any means, in fact it's one of the more reasonable ones. Its brother, the *Kegon*, which looks exactly like it but has output transformers entirely wound in silver and silver foil capacitors costs more than twice as much. It's obvious that prices like these are beyond the means of most of us but if the products genuinely advance the state of the art then they warrant some attention.

What you get for your money is an uncomfortably heavy chassis that houses two separate mono amplifiers, it even has twin on/off switches. If this amp had been built anywhere else in the world it would have been a pair of monoblocks, but the Japanese seem to have a tradition of sticking to one chassis if at all possible, it's probably considered more Zen. On the very basic technical spec front the *Kassai* puts out 17W per channel with pairs of



paralleled 300B triode tubes working in single ended mode with no negative feedback. It's a very simple purist design that's been put together with the finest components and unusual insight into the ways tube amps work. AN could have increased output by operating the *Kassai* in the popular push-pull style, but that would have compromised signal purity and added extra devices in the path.

In true AN tradition there's no shortage of silver in the *Kassai*, all the hardwiring is silver as is each output transformer's secondary windings, although the primary windings use age annealed copper.

Pots of fun

On the user interface front the amp has a volume pot for each channel, so the truly fanatical can run a line source directly into it, bypassing the preamp. The rather irritating speaker outputs are designed for spades or bare wire. When is someone going to market a spade to dual banana adaptor for those of us tied to bi-wiring with plugs?

I have used the *M7/Kassai* on and off for a few months now with an assortment of different digital front ends including hot hatches from Rotel and Pioneer, JVC's *XL-Z1011* and Micromega's *Duo* BS DAC,



and latterly the rather acceptable Marantz CD12 two box combo. The analogue source was my venerable Voyd / AN arm / AN IO with a silver wired Audio Innovations step-up transformer. The loudspeakers were for the most part Audio Note AN-Es, but I also tried a pair of far less efficient Vandersteen 2Ces with considerable success. In short, the sort of system that these amps should be at home with, if a little modest pricewise. Some bigger and more efficient loudspeakers wouldn't have gone amiss, the Tannoy Westminster Royals would, for instance, have done the amps greater justice but the AN-Es in their silver wired form did a pretty good job. And I can get them up the stairs.

Listening to records and CDs with these amps was a most enjoyable experience, they have the ability to make chaotic, grungy recordings that previously sounded shut in open up and flow. Somehow complex, even apparently messy pieces become cleaned up and organised, I guess accessible is a suitable word.

The AN amps achieve this by virtue of extraordinary clarity, totally convincing tonal shading and a remarkable ability to resolve subtle variations in level within music. All of these factors combine to bring out the fine details in recorded music that make it come to life. You really have

to reassess your music collection when pieces you thought you knew turn out to be much richer and more expressive than you had imagined. Joni Mitchell's *Miles of Aisles* is just such an album, I'd bought it because it seemed like a great album when I heard it down at Paul Messenger's. But my initial reaction when I got it home was less than enthusiastic and I put the experience down to other factors. However, playing it through these amps I discovered what it was that I'd first heard, a great live album that was well recorded and contained superb songs.

Returning to more familiar hi-fi terminology, these valve amps don't sound like valve amps, they are neutral almost to the point of coldness and the *Kassai* certainly has grunt. The *Kassai* is a dry sounding amp by valve standards and less apt to inspire ardour than many of the rose tinted alternatives but, on the other hand, it's a more accurate sounding creature by the standards of high-end amps as a whole.

Traditional tube bloom and sweetening/curtailing of high frequencies are notable by their absence, on the contrary the treble is very extended and can be forced into hardening up with the wrong CD. The amp's bass prowess is stunning for a design of this type, the power is

extraordinary, a revelation by the standards of single ended triode amps. By the standards of the 200W Mark Levinson No 23.5 it's not quite so impressive, lacking that model's depth and control. However the dynamic subtlety that the *Kassai* adds makes up for this short-coming.

Adjusting the volume controls on the *Kassai* alters the range you have to play with on the M7. If the *Kassai* is set at about 12 o'clock then you've got a user friendly 90° range. However, the system sounds its best with the pots on the power amp fully opened up, leaving you with only 25° at most of range on the pre, which is mighty inconvenient. Basically the preamp has too much gain for the sort of speakers that the power amp is most at home with (ie very efficient ones), so you either have

to be subtle with the volume pot or live with the system operating less than optimally. I chose the former option.

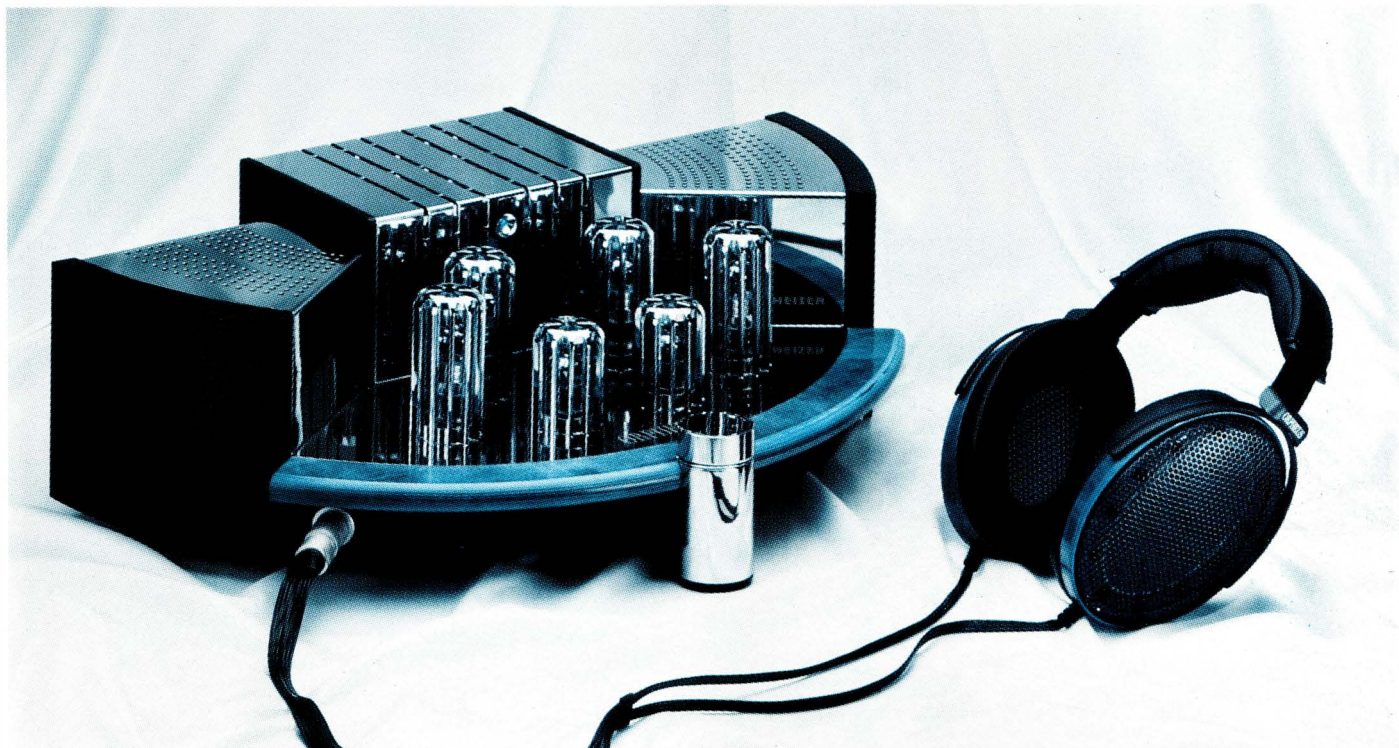
Another inconvenience is that both units take several hours to warm up and give of their best. This is something that is usually only a problem with solid state designs which sometimes take days to reach optimum temperature and can be left on ad infinitum, electricity bill notwithstanding. However, given that tubes don't last forever it's a bit of a drawback in this instance.

Conclusion

The Audio Note M7 Silver Sounds preamp and *Kassai* power amp when combined with a first class source and efficient, transparent loudspeakers make one of the most convincing arguments for triode amplification that I've ever heard. It's easy to see where the classic 300B tube got its reputation, when it's applied this well it can produce extreme realism from a good recording. What's more the system has the uncanny ability to make nearly all recordings sound good, and at the end of the day that's what hi-fi is meant to do, so why not put off the new 535i for another year and treat yourself to the stuff that musical experiences are made by.

Jason Kennedy

Adding perfection to pedigree



ORPHEUS

What else would you expect from a company where performance is all, whose impressive pedigree is instantly recognisable in every one of its products.

Now ORPHEUS has translated Sennheiser's pursuit of perfection into a living reality.

A reality that has placed it right on the leading edge of technological achievement in headphone design.

And nothing has been spared to create the ultimate in musical excellence.

From the exquisite laminated beech-wood of its elliptical chassis to the sensitive 1µm gold coated polymer foil diaphragm capable of responding to the minutest changes in the audio-frequency voltage.

The same level of attention to detail which gives the ORPHEUS headphones such an unprecedented level of performance has been extended to the development of the HEV90 valve amplifier/DAC system which drives them.

Sennheiser takes valve technology further than it has ever been taken before. Its totally unique DAC process ensures excellent signal-to-noise ratio.

And provides the basis for superb undistorted sound reproduction.

This level of sophistication all points to a remarkable exclusivity and indeed, one of the greatest pleasures in owning ORPHEUS is just that. Only 300 pairs are available worldwide.

Sennheiser – putting perfection into pedigree, ideas into actions.

For a copy of the brochure, please write to the address below.

 **SENNHEISER**

*SENNHEISER UK LTD, FREEPOST, LOUDWATER,
HIGH WYCOMBE, BUCKS HP10 8BR*

Audio Research D400

Absolute Sounds Ltd, 58 Durham Road, London SW20 0DE. Tel: (081) 947 5047

There is something magnificently — what's the word — *reassuring* about owning an amplifier like the £5,200 D400. Apart from any more tangible considerations, the name alone is enough to inspire confidence. Audio Research is one of the classic marques of the high-end. Then there is the way it is presented. AR has taken no chances. There's nothing radical about the D400; but this of course is what monster amps are about. As much as for the absolute qualities of the sound it produces off record or disc, the reason you buy an amplifier like this is because it can cope with anything and everything that you may care to throw at it, consistently, reliably, at all power levels and without showing signs of deterioration in the the long term.

I can't vouch for the D400's longevity, reliability or its consistency except by repute, which is equalled elsewhere but not excelled. Servicing facilities are also first rate, and will certainly remain so long after most amplifiers are nothing more than scrap metal and plastic.

The super league

A grown up partner for the D240 MkII, the D400 is one of the latest American super amps. Weighing 33.2kg, the Class A/B D400 stereo power amp delivers 200 watts/channel into 8ohms, and 400 watts into 4ohms, and is fully rated into 1ohm loads, into which it can sink 60 amp peaks, corresponding to 2,600 watts, also peak please notice. The amp is constructed in classic fashion, with heatsinks covering both flanks, and a plain front panel adorned only by an on/off switch and LEDs. The output terminals are solid brass, and alternative unbalanced (non-inverting) and balanced (XLR) inputs are fitted.

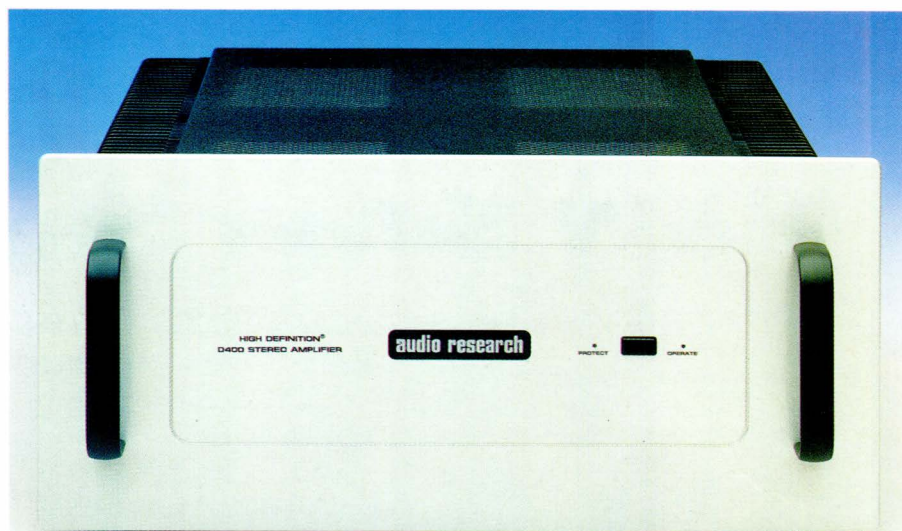
I knew of and have even reviewed some of AR's hybrid designs, but my mental image of Audio Research has always been of a manufacturer of valve based amplifiers. That is where I had always understood AR's heart to be; the hybrids I considered to be compromises, perhaps intended to keep prices in check, though I confess I had not encountered any diminution in performance simply because the number of thermionic devices had been cut. But the introduction of full solid stage operation from AR — and with a product that was not in any identi-

fiable sense cost constrained — was quite unexpected. When it came to the listening, I expected to hear something half way between a Krell and a traditional valve based Audio Research; an amplifier with the dynamics of the former and the grace and sophistication of the latter.

In fact expectations were fulfilled, sort of. The D400 sounds like no previous Audio Research. The way power is specified suggests that it will indeed cope with any loudspeaker, and with those I had to

It was not only these qualities that impressed. The Audio Research displayed a sense of spaciousness and an easy, unstressed feel that I believe marks a real point of departure from archetypal solid state amplifiers, and I include in this most Krells which tend to have a tauter feel.

Elsewhere the story was of an amplifier strong at painting the broader strokes, and which did everything with a feeling of complete confidence and solidity. Nevertheless there was none of the underlin-



hand this was certainly the case. It's not just that the D400 sounded in charge it also demonstrated a stability and penetration only normally associated with amplifiers of the Krell class.

The AR has a tremendously open and vivid bass, yet even with the most testing material the gross architectural changes in the music had no effect on the tiny and subtle background sounds that with other amplifiers are swallowed. This ability to present the disparate parts of a musical picture with what amounts to complete independence closely mirrors the real life experience, and therefore directly enhances realism.

In the deep bass region, I was simply unable to detect any obvious sign of the D400's limitations. Given suitable material bass extended to the most subterranean levels and in the process painted pictures of the recording venues that, even with my better discs, I had not previously experienced.

ing of detail that is found with solid state equipment, and while this is fair enough, I also felt that the Audio Research also lacked the harmonic richness sometimes associated with the best valve amps.

At the end of the day what we have is an assured yet almost understated amplifier which plumbs the depths like few others and which reproduces dynamics like the best solid state amps. At the same time it avoids the highlighting of detail and the synthetic quality of all but the very finest transistorised models, but in its pursuit of a valve like sound, it lacks some of the subtler nuances of the earlier valve amps.

But this remains a great amplifier, and when combined with the LS2 preamplifier, which is as near a perfectly transparent preamplifier as I have ever heard, the combination helps illustrate just how far ahead the senior US amplifiers are than even the best that this country has to offer.

Alvin Gold



B&W Silver Signature

Sussex based speaker specialist B&W manufactures a prodigious range of models to satisfy an enormous range of different tastes, from the value-oriented £150 *DM600* up to and including a number of decidedly dissimilar and original upmarket models, some destined for studio monitoring applications, others conceived primarily for their audiophile appeal.

Fundamental to all is a firm engineering tradition backed up by a very generously equipped and staffed research laboratory, which incites admiration if not downright envy among its marketplace rivals. But no less important is the key role played in all B&W designs by the primarily artistic skills of the industrial designer.

The upmarket echelon of models in particular often look more like modern sculpture than loudspeakers. Despite its great bulk and perhaps because of its strikingly geometric shape, the export-oriented *Matrix 800* has sold remarkably well for a £10,000 loudspeaker. Much more outrageous is the limited production £4,000 *Emphasis* with its resemblance to a small brass ensemble and the soon-to-be-productionised, spiral shaped *Nautilus*.

In such a context, the *Silver Signature* is almost straight-laced. The size and shape are unlikely to send aunt Agatha reaching for the smelling salts, while the good man-

**B&W Loudspeakers Ltd,
Marlborough Road,
Churchill Ind
Estate, Lancing,
West Sussex.
Tel: (0903) 750 750**

ners and nostalgic Art Deco embellishments are guaranteed to keep you in her will — a crucial consideration for the sort of hi-fi nut who is tempted to blow four grand on bookshelf size loudspeaker.

OK so the *SS* is an exceedingly expensive indulgence, but so too is a Porsche or a Rolex. The object in each case is a personal style statement available only to the wealthy and/or self-indulgent and as such it that transcends the mundanities of value for money.

The *Silver Signature* is really pitching for the title of world's best small loudspeaker, simply because many customers want the best at any price, provided that it doesn't take up much room space. It's a market niche that has already proved profitable for brands like Acoustic Energy, ATC and Sonus Faber, at the sort of prices that leave plenty of room for luxury touches and creative engineering.

B&W is arguably already in there competing with the successful £800 *Matrix 805* model, which was Recommended in

issue 98. The £4,000 *Silver Signature* has a very similar overall configuration, but takes the concept to a logical conclusion in terms of component luxury and integrating the total package. Even the User Manual is a classy piece of design and publishing, copiously illustrated and specific to just this one model.

The *SS* is supplied complete with its own specially commissioned solid slate stands, and 3m per channel of its own special speaker cable (5m also available). The latter is the key to the name and the *raison d'être*. *Silver Signature's* special — and probably currently unique — feature is the use of high purity silver wiring throughout, from the amplifier output through to the drive unit voice coils, taking in terminals, internal wiring and crossover resistors and chokes. Only the capacitor foil remains conventional, and B&W is hoping to change that soon.

The superiority of silver over copper as a conductor of audio signals remains unproven and by no means unanimously agreed, though there's no doubt that a substantial proportion of the audiophile community is convinced of the subjective benefits and prepared to pay for the privilege. In context, the sheer complexity of planning and sourcing all the various gauges and types of silver wire goes at least some way towards rationalising that pricetag.

The splendid styling emphasises the silver content by classy chromium-plated embellishments which highlight the generous front-mounted reflex loading port, form the nacelle for the superimposed vestigial tweeter, and emphasise the yellow cone hi-tech main driver.

Audiophiles as a breed tend to scorn grilles, removing them to avoid any impediment between the moving diaphragms and the ears, but *Silver Signature's* chrome driver trims incorporate a striking convex cross motif in wire (for the tweeter) and rod (for the main unit), providing a measure of protection against accidental damage, though not the inquisitive probing digit.

The outside is all covered in an attractive, if slightly anonymous, marbled laminate, the high surface polish modified by a slight hammer finish. The baffle edges use the same angled mouldings used in the *805*, with deep grooves that are designed to minimise the concentration of baffle edge diffraction effects.

Another unusual feature is an external crossover, mounted in its own neat little box. This has very short input leads and is sited next to the power amplifier, the frequency divided signal then travelling down the longer silver leads for direct connection to the individual driver terminals on the back panel.

Both main driver and enclosure are a little larger than those used for the *805*, but both models share two very characteristic B&W design trademarks. The first places the tweeter on the top, for the widest possible off-axis distribution and freedom from baffle focusing effects, while also allowing sufficient fore-and-aft flexibility between the drivers for optimum time alignment through the crossover region. The tweeter is actually offset laterally and set back a shade behind the baffle line, and some idea of the close attention to detail is seen in the little chamfer in the top edge that effectively removes this source of reflection and interference. The speakers are mirror imaged, of course.

The second feature is the so-called Matrix cabinetwork, the inside of the enclosure being substantially stiffened by a honeycomb structure formed from lightweight plywood strips that form a noughts-and-crosses grid if viewed from above. Large holes in the strips preserve the acoustic contiguity of the whole enclosed air volume, and shaped foam pads glued in place provide damping.

The surprisingly heavy 25mm metal dome tweeter is secured in place via a

very lossy mechanical linkage in order to prevent its vibrations being transmitted into the cabinet proper.

The main driver has a chunky cast frame, a massive magnet and a 140mm Kevlar woven fibre cone, and is fixed to the 16mm MDF baffle with six fairly modest coarse-pitch wood screws.

The external crossover boxes may be a bit of a nuisance to site, but do offer at least three important benefits. On the one hand the components are relatively well isolated from the vibration and powerful magnetic fields created inside the speaker. Then there's the added flexibility of permitting easy future upgrade to active drive (whereby each driver has its own power amplifier, and the crossover and equalisation are performed previously and electronically), the components for which are currently under development.

On test

Although graphs and test results are not published in *Collection* reviews, I nevertheless put the *Silver Signature* through the usual paces, so as to put it into context, comparison with the *805* results being particularly interesting and relevant.

Sensitivity is similarly round about average, and the impedance equally easy to drive. Taking these into account, the in-room 20Hz output registered -10dB, which is very creditable indeed bearing in mind the very modest enclosure dimensions. This is mainly achieved by tuning the port to a low 35Hz, well below the 70Hz needed for optimum driver/box resonance control.

The larger bass driver and box combine to give an output level at 30Hz which is some 4-5dB better than the *805*, while the overall balance is somewhat richer and smoother through the broad midband. A less welcome consequence of the larger main driver and slightly higher crossover frequency is rather poorer crossover integration.

As ever, the response plays its part in defining at least part of the sound quality story, and tends to be more obvious the better the innate quality of the speaker, though of course there's rather more to it than just this simplistic snapshot. These balance fingerprints confirm the speaker is best placed at least 60cm (and probably rather more) from a rearward wall, and are heard in the slightly rich and restrained overall character.

Smooth and sweet are adjectives that immediately spring to mind, and the *Silver Signature* is refreshingly open and free of

boxiness, delivering spectacular detail and stereo precision, with fine space and an impressive sense of scale. There's also genuine transparency here, which makes the selection of components further up the system chain fairly critical, especially if the full potential delicacy of the silver conduction chain is to be exploited.

I did in fact have an almost complete end-to-end silver system on hand during the week the B&Ws came to stay, comprising AudioNote *Ongaku* amplifier, AN-7 phono stage and IO cartridge in silver-wired tonearm (on a Voyd *Reference* turntable). A temporary but intransigent hum problem prevented this extraordinary system from giving its best at the time, but even so the sound was quite delicious and delightful, especially at high frequencies.

If the virtues of the *Silver Signature* are real enough, especially when the driving system is oriented and optimised towards similar ends, certain other aspects of the sound left me less overwhelmed. Dynamics seem a bit lifeless and short of realistic grip and surge, while a lack of true time domain coherence leads to a degree of smear with some loss of tension and precise timing, providing its own barrier against communication.

In direct comparison to a pair of *805s*, the *Silver Signature* was certainly more polite, refined, transparent and delicately detailed. But it also sounded somewhat less agile and perhaps a little too well bred, being relatively unwilling (or unable) to get down and boogie when the occasion demanded.

In these respects at least, I found the *Silver Signature* less than satisfying, though there's no denying the speaker puts in a superb performance in reproducing the soundfield with great accuracy, delicacy and transparency. Coloration is minimal, the midband particularly smooth and even, and the sense of scale remarkable from such a compact enclosure.

I also find the styling very appealing, though like the sound that must be a matter of personal taste. To what extent the extravagant price tag is justified is even more down to the individual concerned, especially in the context of the much less expensive *Matrix 805*. Fans of the latter could well develop an insatiable passion for the *Silver's* extras, and should certainly try to hear what they're missing, but others approaching both models could well be tempted to spend the £2,500 differential elsewhere in the system.

Paul Messenger

Basis Ovation

Reference Imports, Pineridge, Theobalds Green, Sandy Cross, Heathfield, East Sussex TN21 8BS. Tel: (0435) 868 004

As the CD threat to vinyl LP's position in the market place continues to grow, the equipment designed for the replay of this endangered medium becomes more and more esoteric. Maybe the turntable manufacturers believe that those who still bother with records are necessarily more dedicated. Whatever the reason, there are now far more record players which seriously vie for state of the art status than ever before. Most recent additions to the likes of Goldmund, Voyd, Townshend, Oxford and VPI are SME and of course, Basis.

Unfortunately, the range of multi-thousand pound turntables (sans arm and cartridge, naturally) is of little relevance to the majority of enthusiasts, so it's nice to see companies producing cheaper products. While the Basis *Ovation*, at a mere £3,950, could hardly be described as cheap it is at least £2,000 less than the *Debut Gold Standard*. Nor is it simply a 'cut-down' version of big brother, as it's been designed from scratch to meet the lower price.

Rock steady

The *Ovation* is a lot easier to set up than it is to describe the process. Central to the simplicity of the procedure are the 'cartridges', each one is a sealed fluid damped suspension unit. When you pull out its top plug, you extend the spring inside and the two halves float free. Once you have installed them, you screw in the cosmetic cap which, once tight, allows you to level the suspension.

The end result of your efforts is a 75lb turntable with a beautifully damped suspension. I hate silicon fluid with a vengeance, but I have to say that the sheer elegance of this arrangement could easily win me over. What's more, I feel the *Ovation* actually presents a far more elegant appearance than the *Debut*, but it's all a question of personal taste.

In use, the *Ovation* is a joy. The damping is simple to use and the incredible stability of the suspension means that its not essential to have a steady hand to cue up your Koetsu. The armboard may only sit on three spikes but it too shows no inclination to move. Want to change arms? Simply lift one out and drop the other one, ready aligned, straight in. In fact, there are only two operational concerns

you need to consider. To play 45s you need to swap the motor pulley (let *Lingo* owners say just one word . . .) and more importantly you have to provide some form of dust cover. The *Ovation* is, like anything black and acrylic, a dust trap. I'd recommend either a dust sheet or, if you've got any dosh left over, the base plate and dust cover that VPI makes for the *TNT*.

Mention of the big VPI brings me to the question of which one sounds better.

signer A J Conti was quick to confirm. He recommended pivoted-arms from Graham or Triplanar, or even better, an air bearing, his favourite being the Air Tangent.

Listening to the *Ovation*/SME I am certain that the freedom and air offered by arms such as the *ET II* and Air Tangent would produce an ideal match for the solid foundation provided by the *Ovation*. (We are promised a return date given



The answer is that they sound very different. Sonically, the key word to describe the *Ovation* is control. This turntable holds onto the music with an iron grip, never getting flustered or muddled. It lets you hear exactly what's going on, giving you detail and definition at the expense of the life and dynamics possible from designs like the VPI or Voyd.

This is an old, old debate in hi-fi circles, and you'll probably know where your feelings lie. It's not that one is right and the other wrong, in fact, all three turntables are extremely neutral in the tonal sense. Rather it's a question of presentation, like the differences between concert halls.

Because I wanted to review the turntable with a known arm, I settled on the SME V. In hindsight, this wasn't an ideal choice. I've always had reservations about the SME, and its dark tonal colours, overdamped bass and splashy treble really didn't suit the *Ovation*, a view which de-

the arrival of the long awaited Graham tonearm).

The Krell factor

The turntable's precision and stability are reminiscent of the Krell amplifiers, offering the same calm authority. Given Krell's advocacy of the marque, perhaps that's not surprising. Nevertheless, the likeness remains uncanny, extending to the deep, 'carved from solid' bass performance. Maybe not the power and weight of a *Debut* or *TNT*, but impressive for all that.

Essentially neutral, the confident and fuss free nature of the *Ovation* allied to its superb finish will be reason enough for many people to buy one. The poise and steadiness it brings to a system will be an added bonus, along with the fact that it will probably remain perfectly set up throughout a long and enjoyable working life.

Roy Gregory

First published in Hi-Fi Choice June 1991

Conrad-Johnson PV11/MV125

Audiofreaks, 15 Link Way, Ham, Surrey, TW10 7QT. Tel: (081) 948 4153

In our last collection we described the Conrad-Johnson *Premier Seven* as 'the most exotic preamplifier ever to have graced the pages of *Hi-Fi Choice*.' At that time it was priced at £7,700 and as such was probably beyond the reach of all but the most committed audiophile.

However, there are other, more affordable units for those that want to try out the C-J experience without having to sell a limb or two to do so.

The £1,995 *PV11*, shares the same fundamental circuit principles, zero feedback configuration and selection and application of audiophile quality components throughout the design.

It consists of three gain blocks divided between the phono and the line stage. The phono stage uses a pair of paralleled 12AX7 double triodes to achieve an impressive signal to noise ratio as well as proving a low source impedance to drive the passive RIAA network. Reflecting the sad demise of vinyl, a considerable saving can be made by purchasing the *PV11L*, the same unit without the phono stage.

However, for this review we decided on the vinyl equipped unit. Both phono and line stages feature a cathode follower to reduce the output impedance, which in turn, means that the *PV11* should be able to cope with relatively long runs of interconnect cables should the need arise.

The power of noise

The line stage consists of 12AX7 double triodes, used as previously mentioned, completely free of negative feedback. Each gain block is fed from its own, discrete DC power supply regulator.

In keeping with C-J policy, electrolytic capacitors are on the taboo list and the *11* uses both polypropylene and polystyrene caps, while rather tasty tin-oxide glass deposited resistors are used throughout. An ALPs pot is provided to control the volume while the channel balance is adjusted by means of an eleven position switch incorporating discrete resistors.

The device chosen to partner the *PV11* is the *MV125* power amplifier, a brand new unit, launched this Autumn to replace the respected *MV100*. In addition to a slightly modified circuit and improved transformers, the big change over its predecessor is a move from 6CA7 (aka EL34) valves to more powerful 6550s.

Operationally the amp consists of three

sections. The signal first passes to paralleled sections of a twin triode before being direct coupled to a cathode coupled phase inverter. This, high current, triode phase inverter stage provides a balanced, low impedance drive to the two pairs of General Electric/Richardson 6550s which provide the welly. The output valves operate in ultra linear mode, with massive output transformers providing the necessary high precision taps to get the best from this mode of operation. Separate, low imped-



ance, discrete DC power supply regulators are provided for the input and phase-inverter stages, preventing the output stage from modulating these stages via the power supply. Again electrolytics are strictly off the menu and the power supply reservoir uses a bank of custom made polypropylene devices. All in all a very impressive list, particularly when you consider the price, not quite £2,000, while the *MV125*, not cheap at £3,995, is still not into really silly money territory.

Putting the system together is simplicity itself, though the 80lb *MV125* is a two man job to move, even allowing for the imposing grab handles at either end of the rack mountable box. The only little niggle is that the *MV125* has some rather unusual speaker terminals which, although they will happily accept bare wires or spades, will not take speaker cables ter-

minated in banana plugs, oh well, out with the wire strippers.

Before the listening test I adjusted the bias of the output valves, using the built in LED indicators and the plastic screwdriver that C-J had thoughtfully provided, and after an overnight warm-up period, battle commenced.

First impressions were of a superb mid band, something that C-J has a reputation for. When coupled with the Thiels I was using, which share this enviable charac-

teristic, the combination achieved some astonishing revelations, even with discs I know by heart.

In the bass department the 125watts on tap for an eight ohm load give the amp more grip and a better sense of authority than some of the lower powered Japanese valve amps currently receiving attention. This was particularly apparent with modern pop recordings, from bands like the KLF, where the authority of the *MV125* kept the ludicrous levels of sub-bass in check and came close to doing structural damage to the

entire street, let alone my listening room.

The outstanding feature of this combination is the transparency across the midrange. The sound quality, therefore, has a fundamental rightness that has you listening to prized recordings in search of bits you might have missed.

This combination, and indeed the Thiels that I used them with are capable of real musical communication and as such cease to become hi-fi and merely become a means to an end, namely enjoying your record collection in the shape the original performers intended.

Any moans? Well yes, actually. C-J's British importer, Branco Bozic, sold the amplifier to some extremely lucky individual so my musical nirvana came to a rather abrupt end. Roll on next year's *Collection* so I can have another listen.

Andy Benham

Celestion System 6000/DLP600

Celestion International Ltd, Ditton Works, Foxhall Road, Ipswich, Suffolk IP3 8JP. Tel: (0473) 723 131

Look at the picture on the right and it's obvious that we are talking about a fairly major speaker system here. But whether it is the massive subwoofers, or perhaps the slightly smaller, but still perfectly formed *SL600Si* top boxes that catch the eye, the reason that this system was chosen for review in *The Collection* is actually the smaller of the two anonymous black boxes that can be seen sitting on top of one of the speakers.

Said anonymous black box is the £350 *DLP600*, a digital signal processor designed to sit between your CD transport and DAC, crunching the ones and zeros as they fly past, providing equalisation in the digital domain. Its aim is to improve the performance of the *SL600Si* speakers that form the main part of the system.

For those of you unfamiliar with the £820 *SL600Si*, it's a comparatively small two way infinite baffle design built around a 32mm copper dome tweeter and a 165mm base unit, the high tech drivers being enclosed in a low coloration Aerolam enclosure. The £1,500 *SL6000* is a stereo sub-woofer system intended to be used with the *SL6s*, *SL6Si*, *SL600* and *SL600Si* speakers. It is a boxless device consisting of a pair of 12inch bass drivers, arranged face to face with the magnets protruding on either side of the assembly. Each magnet is covered with a stiff, hemispherical cover and the *SL600* sits on a top plate above the main drivers. This top plate can be angled to toe in the *600s* and the whole thing weighs in at a back breaking 35kilos, not including an *SL600*. The system comes with an exterior crossover which uses a fourth-order Linkwitz-Riley network to feed sub-100Hz information to the *6000s* thus freeing up the *SL600* to concentrate on frequencies above this. The unit comes finished in the same dark grey Velvetex as the *SL600Si*, but the whole assembly can hardly be described as visually unobtrusive, although on the plus side they take up rather less space than a conventional, boxed design.

So why the *DLP600*? By now you're probably sick of every speaker review

pointing out that the art of speaker design is finding the best compromise, but there can be no doubt that this is the case. Take the tweeter used in the *SL600Si* for example. When the design of the tweeter was complete Celestion had to decide how to build it into the system that was to become the finished speaker.

The choice was between designing a complicated crossover to give the flattest possible frequency response of the overall system or to go for a simpler crossover. After prolonged listening tests it became clear that a simpler crossover offered the best sonic solution albeit at the expense of the absolute flatness of the frequency response.

Analogue tweaks

When it comes to fine tuning a system numerous attempts have been made to improve the amplitude and phase responses of speakers by analogue means, and generally, these have been concentrated in two areas. The first, and indeed most common, approach is to use either a stepped or sloping baffle. A stepped baffle sorts out a lot of problems by eliminating the physical offset in drivers produced by a flat baffle, however it introduces a whole new set of problems courtesy of the reflections and diffraction around the baffle steps. A sloped baffle is perhaps the best approach, and indeed the Thiel 2.2s, which I had at home at the same time as the Celestions, use just such a system with great success. However, even here you then have to deal with the vertical dispersion of the drive units.

The other approach is to use an analogue delay line, usually inserted between the treble unit and the crossover. This delay line is usually adjusted to compensate for the phase response of the crossover components as well, in an attempt to finish up with a system that just has a pure time delay. These analogue filters can have as many as 20 capacitors and inductors to form a delay line, and all these components can influence sound quality.

Celestion has taken a rather different approach in that it has decided to tackle these problems in the digital domain, hence the *DLP600*. This is a black box which sits between the digital output of a CD player and the digital to analogue convertor, so obviously vinyl users need not apply. The unit comes with both electrical and optical inputs and outputs, the electrical variety taking preference if both are connected.

Inside the box is a Yamaha YM3623B data decoder and an Analogue Devices ADSP-2105 digital signal processor, which does the actual number crunching. The software that runs the DSP is stored alongside the correction coefficients in an EPROM, on power up these are loaded into the DSP. There are in fact two sets of coefficients stored in the EPROM, one set for the chosen correction to the *SL600* and the other a blank set of coefficients which give the user the facility to switch between processed and unprocessed sound by means of a switch on the front fascia.

Setting up a *6000* system can be quite a time consuming process as the dipole nature of the *SL6000s* requires fine tuning, both in terms of position and orientation, to get them giving of their best. Fortunately I'd had a standard *6000* system a couple at home a couple of years ago and could remember roughly where to place the units, so set up was more a matter of fine tuning than the suck-it-and-see approach I'd had to adopt the first time round.

The *DLP600* was duly wired in between a Meridian 200 CD transport and a 203 DAC, the signal from the DAC being fed to the preamp and thence out to the outboard crossover that is an integral part of the *6000* system before going onto the speakers via a pair of Musical Fidelity power amps. Because of the outboard crossover you'll need at least a pair of chunky power amps to run the system, and even better results can be obtained by going the whole hog and using four, a pair for the *600Sis* and a pair for the subwoofers.



I'll pin my colours to the mast right from the start here, and say that I am a fully paid up member of the system 6000 fan club. I loved the system the last time I borrowed one, so I was keen to find out what difference the DSP unit would make.

To get used to the sound again, and it is very different from a big 'box' system, I ran it with the DSP unit in the pass mode for a couple of days to let things settle down. The big advantage of this system is the quality of the bass, and the sheer freedom from coloration that the dipole bass drivers are capable of producing. For anyone that's used to conventional, enclosed bass units the clarity, speed and above all accuracy of a dipole system has to be heard to be believed, the downside, of course, is that the positioning of the units is absolutely critical. With as much coming out the back as comes out the front, rear walls, in particular, can play a major part on the sound.

When it's tuned properly the system can have a remarkable sense of air about it. The decay of notes, particularly from acoustic double bass, is quite breath tak-

ing as the note just dies away to nothing rather than disappearing into the resonances of the cabinet. Drum sounds are also particularly well rendered, to the extent that the differences between various kits become blindingly obvious and complex drum lines can be followed with ease, the notes separating from each other rather than disappearing into a morass of bass energy as is often the case.

Over to the top

The contribution of the *SL600Si*s is rather more individual, and more open to criticism. They image quite superbly and are detail merchants of the first order, but the overall effect can sound a little sterile. They are very fast and precise, but you can end up listening to hi-fi rather than music and wondering at the precision of the speakers rather than the skill of the musicians. Obviously this is to a certain extent a question of taste and the extra resolving power can be very impressive with large scale classical music, but tends to leave a little to be desired if you ask them to get down and boogie.

This fact doesn't seem to have been lost on the designers of the *DLP600* because as soon as you switch the unit into the circuit the sound somehow comes alive. There is definitely a slight sweetening of the overall balance, with some of the mid-band leanness disappearing, although not at the expense of that exquisitely detailed sound stage.

The unit also seems to smooth out the transition from sub to mains speaker, which can occasionally sound a little exposed with a standard 6000 system. With the *DLP600* strutting its digital stuff the whole system tends to come alive, losing that slightly sterile feeling and allowing you to enjoy the marvellous bass to full advantage.

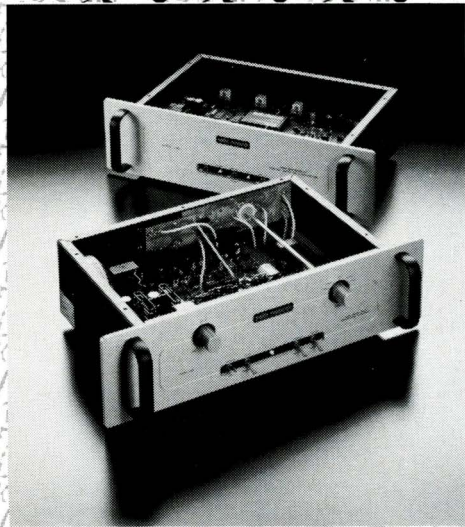
The digitally modified system is still a very analytical performer, but the addition of the *DLP600* adds some balls to the proceedings, it's almost as if the system 6000 has learnt to rock and roll. The *DSP600* proved to be an improvement with most everything I threw at it, female vocals took on a degree of warmth that had been somehow lacking before while acoustics became that little bit more convincing.

It's still a little fussy when it comes to the choice of partnering equipment, and needs the best to give of its best, particularly in the amplifier department, but the overall effect is a definite improvement.

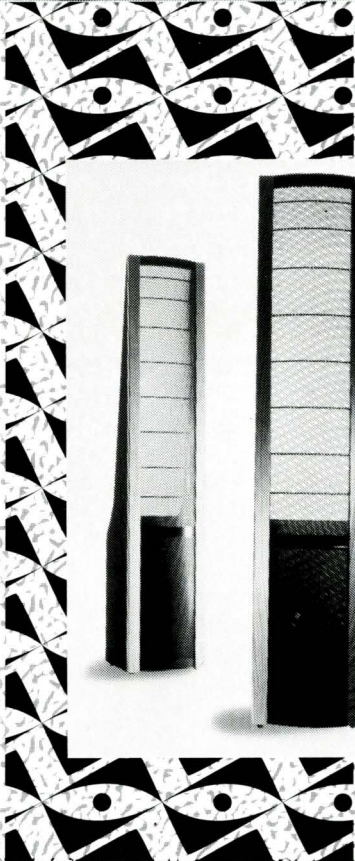
The Meridian combination proved an ideal source, its laid back presentation tending to suit the system 6000 better than some slightly harder sounding machines such as the new Arcam transport.

The drawback to this system, of course, is that you'd need to invest in an analogue to digital convertor to use it with a vinyl source, so as it stands it is almost exclusively going to end up in single source CD systems. But for existing system 6000 users who are also CD fanatics, the *DLP600* is such a resounding success that you should stop reading this and go and buy one immediately. Considering the system as a whole the *DLP600* represents a significant advance in performance terms, the dipole bass is definitely one of the very best bottom ends available. By improving the performance of the weak link in the chain, the *SL600Si*, Celestion has succeeded in considerably broadening the appeal of what has always been a novel, but well thought out, solution to the problem of cabinet coloration in top flight systems.

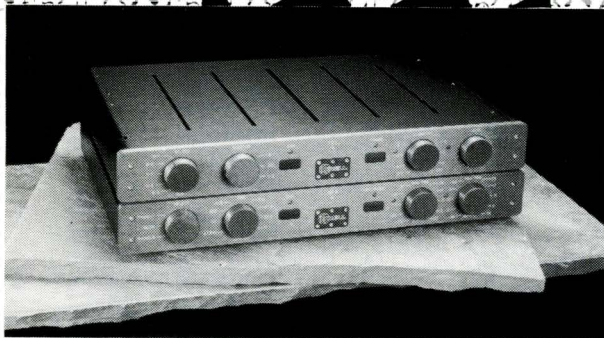
Andy Benham



Audio Research IS-2 and DAC-1



Martin Logan Sequel II



Krell KP-A and KBI



LISTEN ONLY TO THE FINEST

A unique musical experience will reward visitors to **The Listening Rooms**. We are appointed dealers for the world's finest audio products, including loudspeakers from Apogee, Magnepan, Wilson Audio and Martin Logan along with digital and amplification components from Krell, Audio Research, Classé and Theta.

The Listening Rooms is one of London's leading hi-fi specialists with principal staff having over 35 years' experience. Our aim is always to provide the best possible sound quality. A relaxed and friendly atmosphere will be found in our two comfortable listening rooms where you can audition the very best in hi-fi.

We also specialise in networked hi-fi systems through the house and can provide a full planning and custom installation service.

Linn • Quad • Meridian • SD
• Nakamichi • Arcam • Audio Research • Acoustic Energy
• SME • Sonus Faber • Koetsu • Musical Fidelity • Kiseki
• Revox • Rogers • Pioneer
• Tannoy • Stax • Micromega
• Audiolab • Systemdek
• Wadia • Audio Plan • Deltec
• Monitor Audio • BB Audio
• Yamaha • Marantz
• Pink Triangle • KEF • Dual
• Celestion • Epos • Goldmund
• Mission • Denon • Michell

Visa, Access, Amex
Export and Credit Facilities.

The Listening Rooms Ltd
161 Old Brompton Road
London SW5 0LJ
Tel 071-244 7750/59
Fax 071-370 0192
Monday-Saturday 10am-6pm

 **THE** listening rooms

Copland 501

Absolute Sounds Ltd, 58 Durham Road, London SW20 0DE. Tel: (081) 947 5047

The 501 is the big brother of the Copland CTA401 which Malcolm Steward reviewed back in issue 103, although the two units are quite different in design philosophy. While the 401 is an integrated unit, the 501 is more of a power amp, but it does have two switchable inputs and a meaty looking Alps pot. The idea is that you connect a CD player or DAC to the CD direct input and then use the pot to control the volume, the 501's input sensitivity being high enough to ensure that you won't have any problems when the unit is used in this manner. Thus for £1,500 you can put together a decent system without having to invest in a preamp.

Of course if you want to go for a multi-source system then a preamp can be wired into the other input and the 501 used as a power amp.

Enter the dragon

The 501 is some 40 per cent more powerful than its little brother, offering 30watts per channel into eight ohms. This is provided by means of two matched pairs of Golden Dragon EL34 pentodes, run in ultra-linear mode. What this means in practice is that although the unit uses pentode valves, with the associated gain in output power, the feedback inherent in the system makes them behave more like triodes in terms of linearity.

The trick to getting this to work properly lies in the winding of the output transformer, and in the case of the CTA501 these were designed by Copland boss Ole Moller himself.

Each transformer is constructed from soft iron laminations and the E1 core is welded to ensure a tight coupling between primary and secondary sections. In order to minimise the output impedance of the transformer, the secondaries are wound in parallel while the primaries are coupled in series, with six separate sections being used in all.

You get a choice of either black or aluminium finishes and the whole bag of tricks is fully enclosed in nicely finished casework which is vented on the top. In fact the casework design is such that the only clue to give away the fact that this is a valve amplifier is a sedate glow which issues from the top of the case when the unit is in use.



The front panel has just three large rotary controls; the aforementioned volume control, the on/off switch and the CD direct/preamp selector. I used the unit with a variety of speakers, but mainly the Celestion 100s, Snell Type Ks and Sonoliths, while the main source was a Meridian 200/203 combination.

Opening a valve

In a nut shell, the Copland 501 provides the sort of power and control in the bass normally associated with a good tranny amp with the freedom and naturalness in the mid-range that is the hallmark of decent tube designs.

Funnily enough, modern electronic music comes across a treat on the Copland. The KLF's *White Room* album is rapidly becoming the *Hi-Fi Choice* standard test disc and the bass levels you can get from this CD are quite alarming.

It's the sort of bass that normally has valve units running for cover, but the 501 was more than capable of clearing the cobwebs from the ceiling and controlled the bass drivers far better than I had expected. It also has a lot more guts than you would expect of a mere 30watter. Indeed, during the three months or so I spent with the unit, the only time I was left wishing for a little more power was when I hooked up the *Sonoliths*, but then they are one of the most inefficient designs I have ever come across.

In terms of mid-band transparency the Copland is simply superb, female vocals come across particularly well and Sinead O'Connor's cover of Elton John's *Sacrifice*

from the *Two Rooms* album quite literally had the hairs standing up on the back of my neck. Kate Bush's marvellous *Rocket Man* from the same album was, if anything, even better, with superb imaging, particularly depth, and that sense of communicated emotion that makes listening to hi-fi such a pleasure.

The term 'high-end' is a much maligned one, but it is an epithet that I feel justified in applying to the 501. Quite simply, it's the sort of product that can really produce an emotional response from the listener, the sort of product which makes 'listening to music' an involving experience rather than something you do at the same time as reading a book or whatever. The Copland lets the music grab your attention and refuses to let go until the disc has stopped spinning, and let's be honest, there aren't a lot of products at this price point that are capable of doing that.

I don't often say that a product is cheap, but at £1,500, the Copland is one hell of a bargain, opening up a world of enjoyment which is on an entirely different level from that produced by even the best 'budget' equipment. The option of using it as a combined prepower with a CD source makes it a very cost efficient way of starting a really first class system, safe in the knowledge that you can add more sources as funds allow. Do yourself a favour and give it an audition. But be warned, this sort of sound quality can be extremely addictive.

Andy Benham

First published in Hi-Fi Choice June 1992

Dali Skyline 2000

CSE, Suite 4, 1-3 Haywra Crescent, Harrogate HG1 5BG.

Tel: (0423) 528 537

When not masterminding the development of the Danish hi-fi industry, Dali Svengali Peter Lyngdorf loves flying aeroplanes. Which maybe explains why this exceedingly striking and ambitious loudspeaker is shaped like the wings of a little acrobatic monoplane and known as a *Skyline*. Whether or not you like styling — which is a bit Seventies hi-tech for my taste and surroundings — there's no denying the fascinating possibilities created by a dramatically original approach to loudspeaker design, nor the exceptional engineering value for money.

Assessing a hundred or so pair of speakers a year for *Choice* is excellent training for guesstimating the price of any given pair. Apart from the occasional overpriced rip-off, I don't usually get it far wrong, but considering the near 50kg mass, the size and the engineering involved I was surprised to discover that *Skylines* sell for only £2,000 per pair.

No speaker more than five foot tall, resolutely — even relentlessly — finished in a combination of matt black and brushed aluminium, and needing to be kept well clear of room boundaries is ever going to slip neatly and discretely into the domestic environment. The *Skyline* will always look big and obtrusive, so it's as well that it's also very elegantly shaped. The tapering in several planes from the massive base up to the delicate top is particularly effective, both visually and mechanically.

Any dipole bass — driven here by a single massive 15inch driver — certainly requires a fairly substantial width down at the base. But the reason for the *Skyline's* great height is a different but equally classy selling point, namely a great ribbon tweeter some 40 inches long, slightly horn-loaded by baffle and trim chamfering, providing line-source treble of the sort of quality that causes audiophile toes to curl up in gleeful anticipation. Between

the bass and the ribbon, a pair of small paper cone units handle the midrange and serve up something of a halfway house between the point and the line source distributionwise.

The starting point for this design clearly involved throwing away most of the rule-books. Attempting to integrate three such different types and shapes of drivers is the sort of task an experienced speaker designer wouldn't contemplate. But *The Skyline 2000* goes even further than this, as there's a fundamental operational difference between this and 99 per cent of the other loudspeakers on the market. The *Skyline* is a full range dipole, a modus operandum it shares with just a handful of other mostly rather more expensive models, and which creates an altogether distinctive sonic experience, however it is executed.

What is a dipole, or for that matter a doublet (which means much the same thing). In practice it's another word for a panel speaker, which is a breed of animal quite distinct from the ubiquitous box loudspeaker that is sometimes, though very rarely, referred to as a monopole.

The problem endemic to all loudspeaker drive units is that as much energy comes off the back as the front of the diaphragm, and it's exactly out of phase. If you don't find some way of preventing the two from meeting, they'll simply cancel out and you won't get any sound out of the thing, at low frequencies anyway.

In fact if you take any bass/mid driver, hold it in your hand and play music through it, you'll hear the mid and high frequencies because these have wavelengths too short to wrap around the frame and cancel out, but the bass rolls off quite rapidly below the frequency at which the wavelength of sound matches the frame diameter. To get more bass out of such a driver, you mount it onto a panel or baffle and keep it well away from rearwards reflective surfaces, which increases the

wavelength and so lowers the frequency at which phase cancellation takes place. Take such a baffle and fold it up into a box and all front/rear phase cancellation will be avoided, but a whole bundle of other problems like standing waves and pressure build up come into play instead.

Banishing boxes

Only by experiencing a large full range dipole system can one appreciate the wonderful feeling of release that accompanies the replacement of the boxy qualities — that invariably afflict even the best enclosure loudspeakers — by a lovely transparent open quality. The whole business of sound reproduction seems somehow less forced and strained. The speakers themselves seem almost inaudible, just spreading out superbly convincing stereo images between, behind and in front of where they happen to be standing, without any need for forceful projection.

This lack of forcefulness is, however, a weakness as well as a strength. The transparency of the whole affair seems somehow associated with a certain lack of substance. There's plenty of bass output in the listening room to be sure — arguably a little too much in fact — but go out into the hall and all you can hear is midrange and treble, which is a little odd. The bottom line for dipole bass — and ribbon tweeters for that matter — is that although both work rather well in their own particular way, both also place some restrictions on where you must be to enjoy the sound. For the most part the ribbon supplies nice, airy, detailed and delicate treble transparency, but your ears must always be somewhere between 21 and 59 inches off the ground (which mine often aren't, as it happens). Even within the height window there's some variation in treble intensity, though less so in the far field.

Likewise the precise placement of the speakers will always be a matter for ex-



periment and some indecision, and the interaction with the room a somewhat unpredictable factor. By eschewing an enclosure as such, the room itself takes on something of the role of enclosure for a dipole, and the reflectivity of the walls are bound to play a part. Certainly I couldn't help feeling that some of the image depth was an artefact of my quite reflective rearwards wall.

Major crossover surgery has apparently improved integration and image consistency, although the current samples handle with some aplomb what was always bound to be a particularly difficult task. A system with such a disparate driver array as this can never be perfect, but by and large the Dali engineers have done a pretty convincing job.

The balance is pretty good overall, al-

beit following a gently falling trend from bass to treble that gives a rather rich and laid back total effect. The mid and treble sound beautifully clear, open and transparent, though the presence band is somewhat muted and the ribbon is a little hot and focused around the mid treble (6-10kHz), giving a slightly wispy, lispy character.

The bass is a little difficult to pin down. Its freedom from boxiness is a blessed relief, but it does have its own rather resonant and undamped character. In-room extension is good down to around 30Hz, but this is partly because there's significant excess in the lower midbass, 50-90Hz. In my test/listening room the bass integrated best when the speaker was about 3ft from the rear wall, but the above mentioned excess was always an

unwelcome intrusion. Move the speaker out an extra foot and the overall subjective effect seemed much improved, though measurement indicated that an additional suckout had been created around 110-150Hz. The net effect of the change is to reduce the total bass energy somewhat, which improves the overall balance of the system, at some expense in terms of integration.

I've saved the best bit to last. Dipoles and panels as a breed are full of delicacy, subtlety and cerebral stimuli, but they're strictly Oxford English Dictionary types that don't know the meaning of terms like boogie or injunctions to get on down. The *Skyline* does a pretty effective job of tickling the cerebellum too, but it also moves air. Sensitivity is a solid 90dB (albeit 4ohm rated), which is about 6dB up on the more purist panel speakers I've encountered, and power handling is quoted at a substantial 220-250W. I didn't test the latter, but even with more modest power, and especially when bi-amped, they certainly went loud and shook the floor in a pretty convincing fashion, and with an impressive freedom from the 'clogging' effects that lesser loudspeakers suffer when pushed a bit too far.

There's still a certain lack of speed and get-up-and-go about the whole proceedings, but that's perhaps a fair price to pay for an experience that's essentially relaxing and undemanding. The better box loudspeakers may do a more effective job of grabbing your attention and delivering the musical message, but they always seem to do so in a comparatively assertive and even acerbic way. The Dali dipoles wait for you to settle in your favourite chair, and then just bathe you in their free, easy and open soundfield.

At the end of the day, the *Skyline* must be judged a success. That dipole transparency is always tantalisingly inviting, despite being a little warm and rich. Maybe not quite consistently purist enough to qualify as a genuine audiophile speaker, it nevertheless delivers the dipole/ribbon experience in a supremely practical package from the point of view of design and performance, and there can be no quibbling over the good engineering value for money, even at £2,000.

Paul Messenger

EAR Yoshino A&B

Esoteric Audio Research, Unit 11, Stukeley Meadow Ind Estate, Huntingdon, Cambridge PE18 6ED. Tel: (0480) 453 791

If anyone in the UK can respond to the wave of extremely rare, outrageous, exotic tube amps from Japan, it has to be Tim de Paravicini. Leading light behind EAR and designer of the electronics from Musical Fidelity, Tim is eminently qualified because he's a tube fanatic *and* he lived in Japan. His understanding of the language and the high-end scene have come into play in the design of the *Yoshino*.

The amp is named in honour of Tim's Japanese wife and styled in its various details to appeal to Japanese audiophiles. Tim believes, quite rightly, that Japan is one of the few markets still healthy enough to absorb high-priced oddities; the Japanese series name won't hurt at all.

Friends, Romans . . .

And *Yoshino* is a series, at present a tube monoblock and a solid-state monoblock. (Expect a matching pre-amp later this year.) Tim is offering the choice of the *Yoshino* XXXA and XXXB, the former a transistor item and the latter all-tube, because he knows that the tube versus tranny schism means that supporters of both camps have to be served. The trick is to make the two amps indistinguishable from each other.

The XXXA uses a negligible amount of local feedback while the XXXB is feedback-free. Other than that, the recipes are nearly identical. Both are rated conservatively at 30W, have damping factors of 4, can drive 1ohm loads and are pure Class-A, the circuits designed to preclude running them in Class AB or B.

The XXXA employs only two transistors, one driver and one output, situated on the open-architecture chassis. The driver transistor is flush-mounted on the solid aluminium slab which forms the chassis and the output transistor is fitted to the top of a gold-plated cylinder. The identification codes on the transistors have been removed. Large cubist 'cans' containing the power supplies and other stages have been filled with a special resin

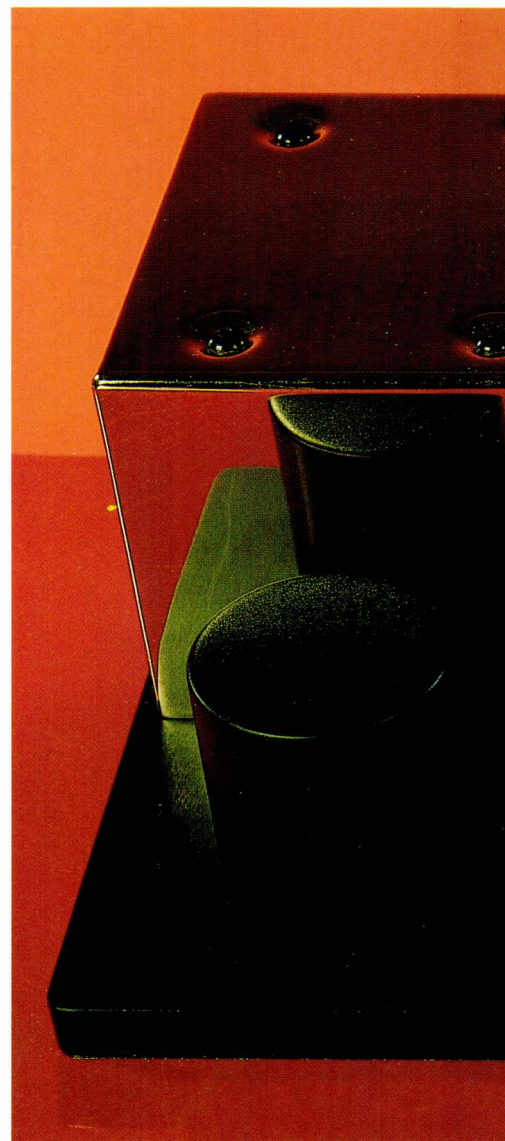
to eliminate vibration. Removal is virtually impossible, so this form of protection plus the anonymous transistors should confound any plagiarists.

The aluminium baseplate is fitted to a subchassis made of MDF, bonded and then fixed with four screws passing through the rubber feet. The transformers are proprietary, custom-wound E-cores, including a special type that only Tim can wind. All of the socketry is grouped together at the back, with multi-way speaker terminals in a recess that also contains the mains fuse and volume control. The latter will allow purists to feed a line level source straight in for maximum sonic purity.

On the side opposite the socketry are the two transistors and an on-off toggle that's hand-made from seven separate parts. Below is an on/off indicator lamp. All of the passive components are mounted in the various containers, finished in black and brass. The XXXA measures 17x6x10in (wxhxd) and weighs 70lbs. Compact it may be, but allow plenty of floor or shelf space. Maybe it was unintentional, but the XXXA runs as hot as its tubed brother. And that's very hot.

However closely the tubed XXXB may be to the solid-state XXXA in concept, it looks nothing like it. The chassis is triangular, with the points removed. A 15x15in footprint is created by its maximum dimensions; height is 10inches. Like the XXXA, the XXXB features top quality connectors and switches with a volume control for direct driving by line sources.

Simply mentioning the odd valve complement is enough to have Japanese tubeophiles drooling in the windows of Akihabara shops: a pair of 5Y3s act as rectifiers, the drivers are pre-war 6SN7 and 6BL7 valves (with a 10,000 hour lifespan). In the middle of the chassis is an 845G running in pure triode mode and good for 2,000-3,000 hours. The XXXB is entirely hard-wired, and it uses only polypropylene capacitors. Each chassis weighs a hefty, deceptive 84lb.



Countrymen . . .

Two conflicting impressions are delivered upon switching on either set of *Yoshinos*. At first, you're staggered to hear just how much slam and power can be delivered from amplifiers rated at 30W, when attached not to horns (typically 96dB/1W) but 'real world' speakers. On the other hand, you can't ignore the 'Japaneseness' of the *Yoshino*: the amplifiers are very much of the great-sound-low-power school. While they will drive certain high-end speakers to satisfactory levels in typical domestic listening rooms, they will not deliver the grunt of a large Krell, Mark Levinson or Audio Research piledriver. If you place the *Yoshinos* in the context of the Japanese high-end marketplace, you realise that Tim was right to follow this path, because the Japanese do love their high-sensitivity designs and don't relish power the way American and German audiophiles seem to do.

Dealing first with the *A* versus *B* issue, Tim is correct when he states that the differences are so tiny that most listeners will find it impossible to distinguish between the two. Close, extended listening reveals that the midbands are absolutely identical; as this region covers most of the



important information in a musical event, it would prove almost impossible to differentiate between *A* and *B* if auditioned through a small speaker. The bottom octave, however, does betray the tube or transistor origins of each unit. The XXXA had slightly more control and slam in the bottom, for tighter bass transients and faster recovery. The XXXA was better able to handle multilayered bass passages, with clearer separation of individual notes. This does not mean that the XXXB was soggy or unsatisfactory, because the extension was the same.

A similar situation was found in the upper frequencies, the XXXA ultra-sharp and quick, while the XXXB was sweeter and less edgy. Differences in spatial performance and transparency were non-existent, but the XXXA is a marginally quieter device. The very slight tubey grain in the XXXB's background is barely noticeable, probably below the noise floor in most homes, but a quick listen through Stax *Lambda Pro* headphones confirmed the existence of some 'tube whoosh'.

Whatever Yoshino you choose, the greatest aspect of the performance is world-class three-dimensionality. The soundstage is vast and solidly portrayed,

you can walk around the instruments and inbetween the sounds. Any impression that the sound may be 'small' because of power limitations is quickly dispelled. Either Yoshino will make a speaker disappear, a boon for those in love with high-quality minis. Indeed, the *Yoshinos* are ideal for Sonus Fabers, while the XXXB coupled to bi-wired LS3/5As is a match made in, well, Cambridge.

Considering the cost of the *Yoshinos*, we can assume that potential owners will be filthy rich; these are some of the most expensive amps ever made. Which leads to the perfect application for *Yoshinos*, one which addresses the difference between *A* and *B*, as well as the issue of power.

The best way to use *Yoshinos* is with the XXXA as a bass amp and the XXXB as a mid/treble amp in a bi-amplified system. Because the phase and power characteristics are the same, it's like using identical amps on top and bottom. But with differing sonics. Using pre-amps with double outputs, it was possible to drive Apogee *Stages* and Sonus Faber *Extremas* with two pairs of *Yoshinos*, tranny below and tube above. We confirmed our findings about the slight differences between the two every time we swapped amplifiers.

This, of course, may be a truism. It could prove repeatable with combinations of amplifiers from other makes (eg Audio Research, Counterpoint) which offer both solid state and valve models. That's because the designs have to satisfy the same designers' ears, so it's likely that a tube amp and a transistor amp from the same source will sound like siblings. And it's also likely the such experiments will also confirm the near-dogmatic belief that tubes are softer sounding and trannies have the slam.

Lend me your EARs

With Yoshino, though, such matters are insignificant. Either amplifier will deliver coherent, detailed, delicate and authoritative sound with the kind of finesses demanded by critical listeners. The impressive spatial characteristics are enough to place the *Yoshinos* among the greatest amplifiers available today. So what keeps them from being universal, besides the tweakiness and the power limitations? Sadly, the cost is £21,000 for a pair of XXXAs and £25,000 for two XXXBs. As you can see, bi-amping with *Yoshinos* will be restricted to the very lucky few . . .

The Hi-Fi Choice panel

Genesis IM 8300

MPI Electronic UK Ltd, Wood Lane, Manchester M31 4BP. Tel: (061) 777 8522

Ex-Infinity supremo Arnie Nudell and Paul McGowan, the founder of PS Audio, have brought much experience to Genesis Technologies Inc of Colorado, USA. The results are three full-range, relatively compact loudspeakers called the IM series, the initials standing for 'Imaging Module.' The intention is for these speakers to stand alone in their respective size and price categories but, from the outset, they have also been tailored to match two servo-controlled mono sub woofers, the *Servo 10* and the *Servo 12*. These have either a 10inch or a 12inch diameter actively filtered driver with on-board power amplifiers, and active, servo-controlled low-distortion cone motion.

The largest *IM 8300* 'satellite' was chosen for *Hi-Fi Choice* review, and is a sealed box three-way design selling for £1,449 plus £269 for the essential matching pedestal stands, making a total of £1,718. While the smaller woofer costs £699, the flagship Genesis system is created by adding two *Servo 12* sub woofers to the *8300*, resulting in a serious investment of circa £4,000.

Dome alone

The *8300* bass unit is a 210mm long throw driver fitted with a high tech injection moulded cone with Kevlar fibre used for reinforcement. Midrange is handled by an unusual 75mm diameter dome of titanium reinforced by a silicon carbide coating and driven by a 75mm high power vice coil. The tweeter is a derivative of the miniature planar magnetic, an ultra-light, flat membrane backed by a magnetic field with its conductor distributed on the membrane surface.

The technology story cannot be left without mention of the rigid, essentially circular laminated enclosure. An inner core damps the structure, while the main component is stressed MDF tensioned by a very tough outer laminate similar to Formica.

Rated at 4ohms loading, the speaker has an average sensitivity of 87dBW with a claimed +/-2dB test response over a 44Hz to 34kHz range. In expectation of hard driving, the maximum power rating is 400w, as is the quoted minimum programme input per speaker.

Lab checks confirmed the loading dip to 2.6ohms while removing the bass fuse



provided a 4ohm overall rating together with a loss of 15 or 30Hz of bass extension, not as serious as it sounds.

Aside from its unusual looks, which were far from neutral in the room location, the '*8300* sounds pretty accurate. This is a good start since it implies a consistency of performance over a range of programmes and sources which makes assessment easier. Given its unusual engineering design the fundamental sonic accuracy was a welcome surprise.

Stereo images were very well focused, and perhaps in consequence the listener position was more critical than usual. The soundstage was felt to defocus more rapidly for a non-central position. Stereo depth was quite good, improved by bi-wiring but not equalling the transparency of systems such as the *MA Studio 10* or *20*. There was a certain dryness in the sound which was associated with a mild opacity, a lack of reach into the furthest extremities of the image illusion, and ambience information was not read as clearly as with some other examples in this class.

On the other hand, this Genesis knew all about rhythm. Yes, it was dry, but it

could also reproduce very quick, coherent and integrated transients. Bass, mid and treble worked well together delivering a strong punch, a clear rhythmic message. Jazz and rock were reproduced well with confidence and authority, such programmes lying within the solid 40Hz bass extension compass of this loudspeaker.

Down to this limit the bass was clean and quick. It was entirely free from boom or overhang and indeed the whole frequency range was delivered with grace, smoothness and balance. Compared with nearly all speakers, except the best panel designs, one word could be used to describe the mid and treble and that is 'sweetness'. CD sources blended well while the system returned good dynamic expression. Enclosure coloration seemed very low, and aside from a hint of chestiness on male speech in the upper bass/lower mid, this would have to be characterised as a pretty clean sounding example.

It took power well up to the 300w peak programme per channel test limit and the mid and treble controls provide some flexibility for different system taste and room acoustics.

For the bulk of the tests the mid control was left at 'normal' with just a touch of treble lift. The treble was pleasant, memorable for its sweetness, and free from acidity and only showed a mild, soft grain. Removing the rear fuse is a designer option which offers easier amplifier loading at the cost of some bass quantity and extension. It does work and could be useful with some amplifiers and/or room combinations, or for extra bass control boomy rooms.

The style file

The *8300* is a strongly styled system in its piano black gloss finish and tilted cylindrical form. If the looks appeal then you could consider its strong combination of power handling and high quality stereo imaging with the very real potential of flagship performance presented by the optional stages of sub woofer upgrade.

It is also a successful free-standing example of the three-way art, neutral and sweet, yet dynamic and rhythmically expressive — an unusual combination. Amplifiers with weak hearts are, however, best avoided.

Martin Colloms

John Shearne Phase 1

John Shearne, PO Box 22, Stevenage, Hertfordshire SG2 8HF. Tel: (0438) 740 953

John Shearne may not be a name that's familiar to many of you, but he has been involved in serious audio for quite a while now, acting as the agent for Tim de Paravicini's EAR amplification company. So he has an ear for quality when it comes to sound and it would seem that he has got an eye for quality when it comes to appearance. The Shearne *Phase 1* amps have a striking blue, marble effect finish and tasty chrome knobs; they are very subtle and desirable looking beasts. Depending on the lighting conditions the effect of this finish can be almost unnoticeable or striking.

But they're not just pretty facias. They weigh in at a serious £1,099 for the preamp and £1,199 for the 80watt power amp and are suitably equipped. The preamp has five line inputs alongside both moving coil and moving magnet inputs, with outputs consisting of two tape and one pair of chunky main output sockets. The power amp is pretty straightforward, the usual multi-way output sockets, IEC power input and, not quite so run of the mill, two on/off switches.

John wouldn't say a great deal about the design, but he went as far as to mention that he wanted to create an amplifier that incorporated the best qualities of valve designs but used transistors for their longevity and durability. Consequently, the preamp's circuit design is more like that found on a valve amp.

So much for the hype, what do these beauties do when placed in a system consisting of a Voyd/Audio Note arm/Audio Note *IO* record player, Meridian *206B* and Rotel *RCD 965BX* CD players and Audio Note *AN-E* loudspeakers, a system that usually revolves around valve amplification of the finest variety? The answer is that they do very well as a line amp and marginally less successfully with the *IO*. This cartridge's anemic output and fondness for non-existent input impedances meaning that the preamp had difficulty in extracting enough volts without introducing low level hum. I tried using a step up with the MM input but this introduced a degree of de-focusing, an increase in bloom and consequently scale that, although not unappealing, wasn't that desirable. As it was, results, with the MC input were a bit drier and more bold than I'm used to, with good



resolution of detail. While not exactly laid back by tube standards, the Shearne combo was capable of relaxed performances when they were called for. And of course it could boogie when the Pearl Jam hit the platter, going loud without losing it and driving the band's *Ten* right to the spot. Noting, however, the amount of hum being produced when the needle left the groove, I decided to check out the amp's line performance the painless way (ie, non digitally) with a Michell *Iso* phono stage. This had just returned from a 'setting up for the *IO*' session with the designer, Tom Evans, and so was well suited to the task. It restored some of the harmonic detail I had been missing and allowed the amps to put in a very convincing performance.

Compare and contrast

For the sake of having a point of reference that wasn't heretically expensive and bedecked with vacuum tubes, I compared the Shearnes with a Pioneer *A-400*. Under the circumstances the *A-400* put in a creditable performance but was no match for the *Phase 1*'s textural and dynamic resolution. I also took the Shearne power amp out of the loop and rigged up a scenario with the Audio Note *Kegon* power amplifier (which has its own volume pots) and aforementioned *Iso*, whereby I could compare the signal going via the preamp and one extra interconnect with the signal going directly to the *Kegon*. Its character turned out to be pretty subtle, just a slight

veiling and softening. Removing it from the chain increased clarity and dynamics but not dramatically.

With the two digital sources, results were much the same, what little character the Shearne's have been unable to compete with the character of the source components. The Rotel, which had been cooking for a good two weeks, produced the more relaxed and enjoyable sound, whereas the cooler Meridian was more, solid and powerful, but a bit wearing as well. Swapping speakers from Audio Notes to Vandersteens warmed up the tonal balance and reduced transparency, making the Meridian the more appropriately balanced source. This latter pairing performed quite nicely, delivering welly and offering good depth and substance.

At the end of the day I found the Shearne amps to be an interesting alternative to the usual tube selection. They are powerful and capable of great subtlety when the source has it on offer. Phono performance would undoubtedly have been more impressive with a more powerful (output wise) cartridge and the combo's transparency is capable of making a fine job of the best line sources. Has John Shearne succeeded in making a transistorised design sound as open and dynamic as tube amp? It depends on what sort of tube amp, but I'm sure some of the more powerful pentode designs on the market have a very similar character.

Jason Kennedy

First published in Hi-Fi Choice July 1992

Why do we win these awards?

F.B.A. PUBLIC ACCLAIM
DEALER OF THE YEAR 1985

SONY HI-FI NEWS RECORDS & REVIEW DEALER AWARDS
1986 WINNER
GREATER LONDON

SONY HI-FI NEWS RECORDS & REVIEW DEALER AWARDS
1989 WINNER
GREATER LONDON

SONY HI-FI NEWS RECORDS & REVIEW DEALER AWARDS
1990 WINNER
GREATER LONDON

SONY HI-FI NEWS RECORDS & REVIEW DEALER AWARDS
1990 NATIONAL DEALER OF THE YEAR

“One of the 5 best Hi-Fi shops in the world.”
High Fidelity mag. May 1990

Because they are voted by the public! Satisfied customers are so impressed by the service, advice and ultimate quality of the hi-fi we supply, that not only do they recommend their friends but also take the trouble to nominate Grahams for these honours. Five air-conditioned dem rooms, probably the

finest hi-fi facilities in Europe (most people are amazed when they visit us for the first time), lots of FREE parking, helpful, trained staff, 60 years trading, systems from £400 upwards. Ring for a chat, an appointment and a map!



Canonbury Yard
190A New North Road
London N1 7BS ☎ 071-226 5500



hear **Come and see why!**

DOUG BRADY HI-FI



The SME Model 30 set new standards in turntable sound and build quality. The installation of new machine tools and a slightly revised design has enabled SME to introduce the Model 20 – offering stunning sound and build quality at only £2500 – or £3500 including a special “Gold” SME Model V arm. We are proud to demonstrate this analogue statement.

OUR ‘COLLECTION’...

Includes many of the items to be found in Hi Fi Choice. Space precludes us from listing them all, but we select the very best CD players, decks, amps, speakers, tuners and tapes in each price range.

**REMEMBER IT'S YOUR REVIEW THAT COUNTS
LET US HELP YOUR CHOICE.**

MAKE FRIENDS AT DOUG BRADY HI-FI

Kingsway Studios
Kingsway North,
Warrington,
Cheshire
(0925) 828009
Open six days.
Fax: (0925) 825773

401 Smithdown Road,
Liverpool L15 3JJ
Merseyside.
(051) 733 6859
Closed on
Wednesday.

14/18 Monmouth Street,
Covent Garden,
London WC2H 9HB
(071) 379 4010
(071) 497 1346
Closed Sunday
and Monday
Fax: (071) 497 9205

The Forge Cottage,
19 Crossgate,
Otley, Leeds, West Yorks
LS21 1AA
(0943) 467689
Closed Sunday
& Monday.



KEF 107.2

KEF Electronics Ltd, Eccleston Road, Tovil, Maidstone, Kent ME15 6QP. Tel: (0622) 672 261

When it first appeared, the Kef Reference Model 107 was a true flagship product. It broke new ground by incorporating an adjustable active bass equaliser, the *Kube*, to ensure genuine full range performance. Unfortunately, while critics and public alike marvelled at the bass depth and dynamic range, other areas of the speaker's performance were not of the same standard. The tweeter sounded exposed and coarse, while the bass, though excellent in itself, was detached and lagged behind the music. The *Kube* equalisation unit was treated with the utmost suspicion. In many cases it was disregarded and so, consequently, was half the crossover.

Many of the ideas pioneered in the Kef 107 and earlier 104.2 were to reach fruition in the 105.3 and the success of that model dictated a hasty and thorough revision of its senior partner. The 107 has now officially reached *MkII* status, and while outwardly there is little change, the differences are in fact profound.

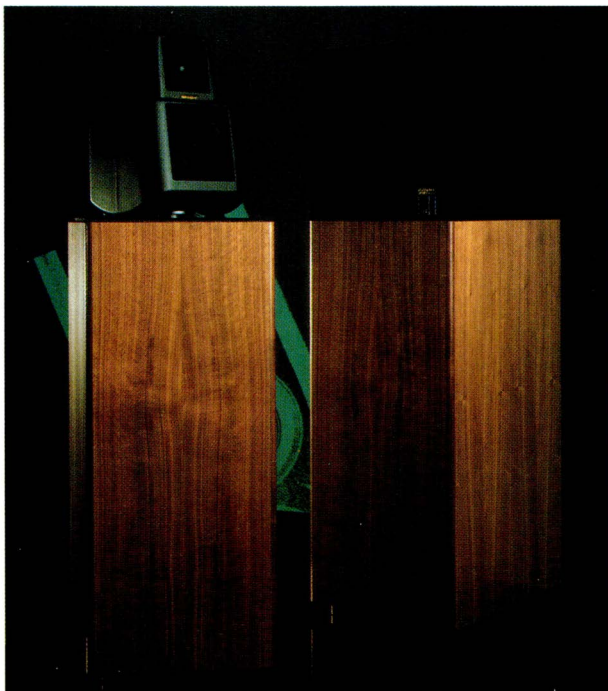
For a start, that tweeter has a superior driver, which is more refined and better integrated. The improvement in its manners means it no longer draws attention to itself in polite company. The speaker is also now bi-wirable and perhaps more importantly, bi-ampable, which brings us to the new *Kube*.

In the live room

The *Kube* supplied with the 107.2 is less versatile than the original, but it is also more useful. In place of the variable Q and low frequency extension, you now get a single bass contour which mimics the effect of boundary placement. In addition you get a treble contour to compensate for overly 'live' rooms, ie, those with a surfeit of reflective surfaces.

One thing that hasn't changed, of course, is the 107's imposing bulk. This is a large speaker, especially if you use the hoods provided to cover the mid-treble 'dalek'. However, given the bass capabilities on offer, you'd be hard pressed to find anything comparable which is much smaller.

Aside from the danger of hernia, set-up is fairly straightforward. My one gripe concerns the spikes provided for the bass cabinet which have an integral 'nut' that can't be adjusted. As it is, I think decent



adjustable spikes are the least you could expect on a product at this price.

Out of reach

Aside from this, you simply place the bass units, drop the 'heads' into place and adjust them for toe in. Again, it would be nice if they locked! The final thing to do is remove the mesh grilles which cover the mid and treble drivers. Not only do these detract from the sound, they're also quite unnecessary. By the time a child is tall enough to reach the drivers, it should know better than to poke holes in them. If not, I blame the parents . . .

In my 'live' room (no real damping above the three foot level) I had to back the treble off just a tad; bass I left flat. The 107s always went loud and the new model is no exception. My JA30s could drive them to worrying levels with absolutely no sense of strain from amp or speaker and I soon discovered that with this quantity of bass, entire turntables tended to dance along to the beat. The 107s finally forced me to get under the floorboards and sort them out, a job I've been putting off for far too long. Once I'd completed the structural alterations to the house (the turntables and electronics now enjoy their own separate floor and foundation), I settled down to enjoy the 107.2s. And enjoy

them I certainly did.

In their latest guise, the 107s are far more serious contenders. Gone is the lack of integration, that detached chuggy bass which characterised the originals. Bi-wiring is a must. Once you do it, the sound of the speakers locks together. Bass becomes deep and powerful and the treble open and detailed. However, it is in the area of imaging where the new 107 really excels, and where it differs from the 105.

The cheaper speaker is certainly exceptional when it comes to the coherent presentation of information, and in this important respect it actually surpasses the 107. But

the 107 is a definite winner in its ability to present a believable acoustic, with clearly defined side and rear walls. It's also a very rich and forgiving speaker, whereas the 105 can be almost brutally revealing. This excellent combination of a mellower temper and a complete sense of performance makes the 107 very musically satisfying.

The 105s will undoubtedly tell you more about the music, the players and how the recording was made, but the 107s dwell more on the sense of occasion, unrolling the performance with a feeling of sumptuous ease. The 105s make you sit up whereas the 107s let you sit back, and the two models will appeal to different people for different reasons.

The £3,195 107.2s go loud without falling apart and they're essentially neutral. If they do stray it's to the warmer side and they're exceptional when it comes to the portrayal of scale. They're more about easy charm than brute force and as a result they can handle smaller works and solo instruments with equal confidence. It's nice to be able to welcome the 107.2 into the role for which it was originally designed. As a flagship product, it has finally come of age.

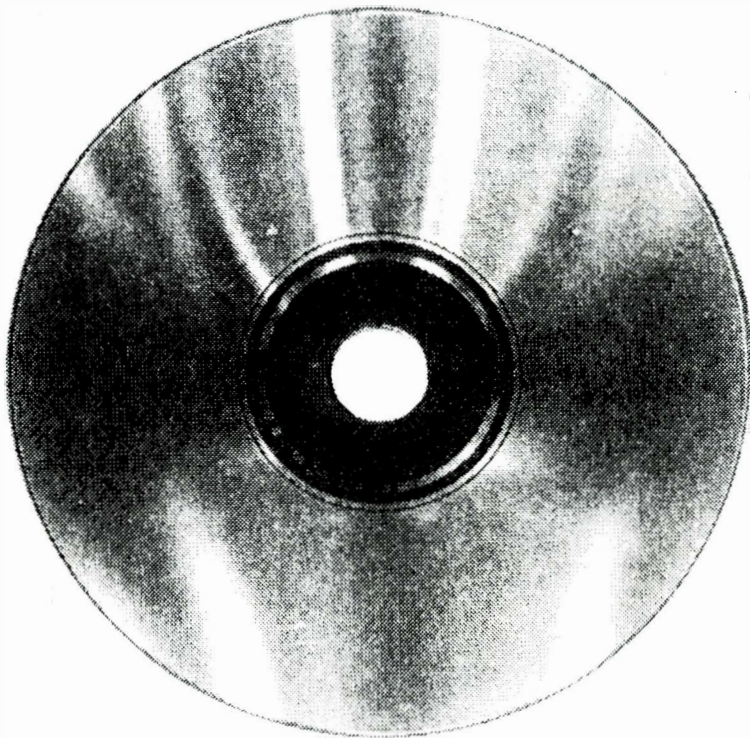
Roy Gregory

First published in Hi-Fi Choice Oct 1991

Sound Advice

Come and
listen to the
wonderful
Roksan CD player at
The Cornflake Shop,
London's Roksan
specialist.

We also sell excellent CD
machines from Arcam,
Audio Alchemy, Meridian,
Naim, Nakamichi, Proceed,
Rotel, Teac; *Please call*
Chris, Robert, or Keith
to arrange a demonstration
or home loan.



The Cornflake Shop

37 Windmill Street, London W1P 1HH
071 631 0472 Fax 071 436 7165

Luxman D-500 X

Path Premiere, Unit 2, Desborough Park Ind Estate, Desborough Park Road, High Wycombe, Bucks HP12 3BG. Tel: (0494) 441 736

The Luxman brand has not been available in the UK for some years now, but arrangements are in hand to appoint a new distributor. The Alpine-owned company produces a wide range of audio equipment and has always taken a pride in its high-end components. One such example which deserves wider notice is the £349 *D-500X* 'Ultimate' CD player, in some respects the Japanese equivalent of the Naim *CDS*. This large desk styled machine is a one-piece design, a top-loader vaguely reminiscent of the original Philips *100* unit which launched the CD medium.

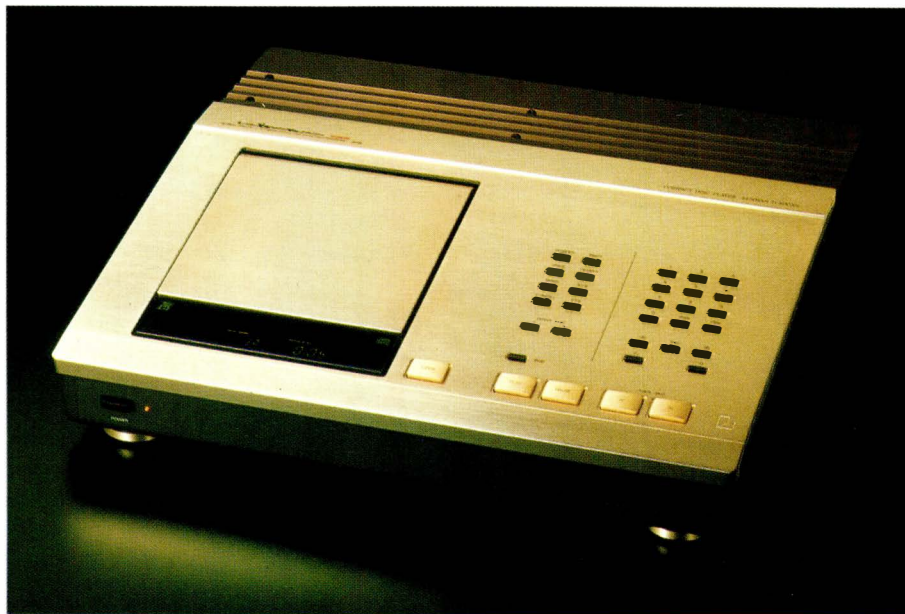
At 38.5cm deep and weighing 14.5 kg this luxury player deserves its own turntable platform support and there was no doubt that the sound quality benefited from this. I used a Mana two-tier support and won an extra eight to ten per cent gain in performance.

This creation represents the Luxman approach to the 'ultimate' purist audiophile player, and very few concessions to fashion have been made in its design. On the other hand — adhering to the principle that form follows function — the sloped, near-horizontal control panel is perfectly set for easy operation and readability of the control legends.

Past and present

A fascinating contradiction is seen in the giving of the Japanese 'Technology of the Year' award to this player, as two vital details of its design date back several years, deriving from the Philips CD component inventory. The transport is a CDM3, a swing arm, close-tolerance unit with a cast metal chassis designed for professional data recovery systems. Digital to analogue conversion is classic multi-bit, four times oversampled and unashamedly 16-bit.

Main facilities are intelligently located near the front, the clear display showing tracks and times, lid 'open', 'play', pause and track skip. The power standby switch is below while on the right a small tinted window reveals the setting of the motorised volume control. Fixed and variable outputs are available in the normal phono socket form. Digital data is via an optical terminal and no headphone socket is present. This player incorporates the Philips 'FTS' system which allows stor-



age of favourite track selections from up to 137 discs. Ten key track entry is possible using the remote headset as well as via the fascia. Specialised operating modes include point A to point B phrase repeat, normal repeat and random and programmed play. All the usual time displays are available and everything worked reliably, smoothly, quickly and quietly.

Certain preliminaries had to be disposed of before serious listening could commence. One was the use of the mains polarity detector built into the rear panel. With the 'quiet' mains connection determined for this fully-insulated two-core cable, the player was allowed to warm up before serious trials commenced. Improvement was noticed over several days, though once installed, an hour or so suffices. The listening chain comprised a Mark Levinson *No 23* poweramp fed by a *No 26* preamp, supplemented by Meridian *605* monoblocks. Direct feed to the *605* was possible using the remotely controlled variable output of the Lux to these sensitive amps. Speakers were Wilson *Watt 3-Puppy 2* with Siltech ribbon cables.

First impressions were of a rewarding upbeat sound, much better than the average attainment from this class of imported player. Good dynamics were present — still comparatively rare for CD — while this player also sounded unusually coherent, managing to tie together complex rhythms at low, mid and high frequen-

cies. Some players do manage good mid and treble timing but few can extend this idea down into the bass. This isn't to say that many expensive CD players don't produce good bass; they do, and yet most fail to make good sense of musical timing when referenced to a clean percussion line reproduced in the mid region. Thus, surprisingly, the Lux's strengths were best expressed with rock and jazz material. In other respects the *500* was obviously an audiophile-grade product and high definition was present throughout, together with very good focus, generous sound stage width and fine stereo depth.

The references show that it is possible to obtain still greater transparency and depth plus greater sweetness and purity in the treble but the fact remains that the overall musical entertainment quality of the Luxman *D-500X* was very high. The bass was powerful and deep, the mid crisp and well balanced, the treble smooth, and sparkling.

When spending at this price level, longevity, finish, build quality and style all matter and the Luxman has these and more. The technical and sonic performance were well up to the required standard, especially in reference to its dynamic and rhythmic superiority. This separated the Lux from the usual near-perfect yet often bland characteristics of much of the high-end digital competition.

Martin Colloms

Lyra Clavis

Path Premiere, Desborough Park Industrial Estate, Desborough Park Road, High Wycombe, Bucks HP12 3BG. Tel: (0494) 441 736

Treading gingerly through philosophical quicksand one might divide high-end cartridges roughly into two categories, those of an analytical nature, appealing strongly to the intellect, and the more romantic which appeal particularly to the heart. A third category exists for those rarities with equal appeal in both respects, but it's hardly overflowing with entries. The £980 Lyra *Clavis* moving coil definitely deserves top billing in category number two and, in my estimation, qualifies for inclusion in the third.

The *Clavis* is a rare and beautiful animal. In terms of hi-fi criteria it isn't beyond criticism, but when one has experienced its magical propensity for getting right to the living soul of a piece of music such considerations fly out of the window. Who'll give a moment's thought to another cartridge which can convey the stopping and starting of bass guitar notes with greater incisiveness when the *Clavis* can virtually take you inside the player's mind, allowing you to understand the expression and emotion he's attempting to wring out of the instrument? And what does it matter if another transducer can put more air and space around a cymbal figure if that motif means nothing to the music as a whole?

It's all a question of what you listen for when you sit down in front of your hi-fi for an evening's entertainment. If you want to explore the mechanics of a recording, revelling in layers of detail being ruthlessly revealed then you're probably better off with something else, the highly analytical Ortofon *MC5000*, for example. If, however, you gain more satisfaction from having your emotions stirred, the hairs on your arms stand to attention, and a lump rise in your throat, the £980 *Clavis* is sure to hammer your musical nail.

Its manufacturer, Scantec, hails from Japan and the company's literature tells you exactly where the *Clavis* is 'coming from': The first paragraph describing the cartridge, or Proprietary Decoding Algo-



rithm as Lyra choose to refer to it, reads 'No matter what the sampling rate, or the number of bits, the most advanced CD technology today is basically speculation. Estimating what was lost during the recording process and trying to reconstruct it. Yes, the best DSP based designs are gradually becoming more listenable, but they are still at best approximations.' It continues, 'If you're looking for music, not just sound, Lyra CPI has the answer'. Digiphobes will be nodding in agreement with the sentiment.

Strip show

The *Clavis* is the sort of cartridge vinyl devotees dream of. However, it requires a modicum of tweaking to exploit its true potential. This paradigm of analogue virtue, designed by Jonathan Carr and individually hand-crafted by Yoshinori Mishima, needs to be stripped ready for action before being bolted into a tonearm. The manufacturer warns against such a move by abdicating responsibility for the consequences, but in all honesty, if its perforated alloy body remains in place you'll not hear the true capabilities of this cartridge. With extreme caution, you can tease the body off and remembering that you're handling an inordinately delicate piece of equipment, bolt the *Clavis* into the headshell, this is made slightly easier than usual because its top plate is ready tapped to accept standard mounting hardware. After the usual alignment procedures have been carried out, you are ready

to lower what's claimed to be the world's smallest line contact stylus into its first groove. If you've got everything spot-on be prepared for a taste of ecstasy.

I used the *Clavis* in my Pink Triangle modified Linn *Sondek LP12* which is fitted with a Naim *ARO* unipivot tonearm, all supported by a Mana turntable stand.

The *Clavis* is magical. Linn's *Troika* is magnificent, Audio Technica's *ART-1* is stunning, Ortofon's *MC5000* is revelatory, Kiseki's *PHS* is dramatic, but the Lyra cartridge exhibited a level of communication and an overall balance of virtues which none of these respected devices can fully match.

Quite how the *Clavis* managed to weave its spell is hard to say. It seemed to highlight with more conviction than other cartridges the human and physical elements of music making. For example, even the finest musicians don't play with quartz-locked precision, instruments with tempered tuning like guitars are never note-perfect over their entire range, no two drumbeats are ever 100 per cent alike. The *Clavis* respected and reflected these facets, and painted a rewardingly realistic picture of music, one which didn't appear artificial or processed.

Not that the *Clavis* ignored hi-fi's fundamentals. The range of dynamic shading it could portray was wide and exquisite, and its exposition of instrumental timbre excellent. And, naturally, it allowed you 'tae follo' the toons! However, if you subscribe to the notion that being able to 'sing along' means that a component's fi is hi enough, then stick contentedly with Simple Minds and The Proclaimers but steer clear of seriously adventurous composers and musicians. The profundity, colour and value of more taxing music which is lost on lesser cartridges becomes immediately apparent with the *Clavis*.

When I said earlier that the *Clavis* was a rarity, I was, unfortunately, speaking quite literally. Each sample is hand-built by one man, and he doesn't churn them out by the crate-full. Exclusivity might be valued by some enthusiasts but I would be much happier if these superb cartridges were more widely available.

Malcolm Steward

Lyra Parnassus

Path Premiere, Desborough Park Industrial Estate, Desborough Park Road, High Wycombe, Bucks HP12 3BG. Tel: (0494) 441 736

Of all the battles raging, who'd believe that there's still competition in the high-end cartridge sector? With one unnamed ultra-pro-analogue dealer in the UK stating categorically that 1992 is probably the last year that LP-spinners will 'matter', with the crankiest of anti-CD manufacturers and reviewers embracing digital, with vinyl disappearing from the shops at a daily rate — is there really a market for cartridges costing over £500, let alone a grand?

Lyra, more than any other brand, has been 'fighting the good fight', with not one but three or more models. It's as if they want to deny Koetsu, van den Hul, Clearaudio and the other cartridge makers who ruled the high-end throughout the Eighties the glory of being the make which carries the LP to its final resting place. And Lyra must be doing something right, rumour has it that Linn hired it to make its new flagship cartridge.

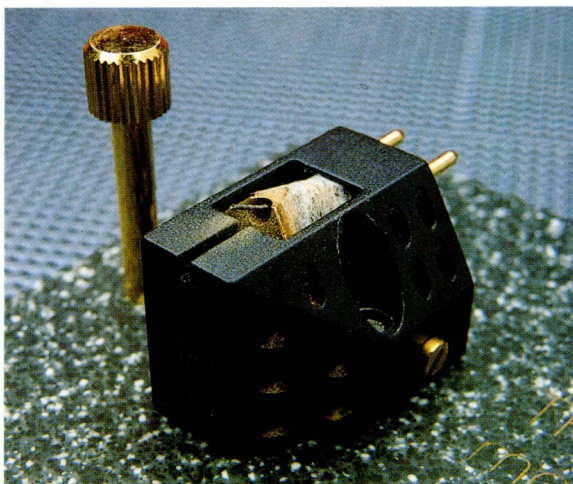
Top of the range

The current peak of Lyra design is the *Parnassus*, a £1,695 item said to be selling like CD never happened. The shell is the same as used for the *Clavis*, with the holes picked out in gold. This bodywork is flat-topped and flat-sided for easy installation, and the shell is easily removed by users brave enough to expose the delicate internals to the elements in the interests of slightly better performance. The screws are accessible even when the cartridge has been mounted, so it's possible to do comparisons without having to change anything other than the tracking force. Although Lyra would rather you *didn't* remove the body.

The gains are minimal, Lyra claiming *Clavis* that its pattern of drilled holes will reduce the effects of eddy currents around the magnets, thus making it beneficial to leave the shell in place.

The shell is precision-machined from a solid block of non-resonant aluminium alloy, so the need for its removal has been well and truly minimised.

Parnassus differs primarily from *Clavis* through the use of platinum/iron composite magnets. Its core and pole pieces are made from 5N high-purity copper



while the magnet itself is a platinum-iron mix in a 70/30 per cent ratio. The new magnet design is stronger and more precise in its behaviour, one audible gain over the *Clavis* being slightly improved dynamics. Other details include an Ogura PA line-contact, ultra-low mass diamond fitted to a Ceralloy (ceramic and aluminium alloy) cantilever for improved tracking and a higher resonant frequency. The coils are made of 6N high-purity, stress-free copper wire.

The *Parnassus* follows traditional moving-coil practice by working best at 1.8-2g and it produces sufficient output for mating well with a 47kohm input. The only detail which might lead to mismatches is the weight (12.5g, or 9.5g minus the shell). For the review, an SME V was used, the cartridge weight well within the arm's capabilities. The *Parnassus* was also demagnetised, in keeping with the company's recommendation.

Unmistakably a Lyra, the *Parnassus* resembles the *Lydian* and *Clavis* while sounding like a more refined, mature version of either. As the changes in topology would suggest, this flagship Lyra offers greater speed, improved transparency and detail, and slightly greater bass extension. Probably because of the superior materials and finer tolerances, the *Parnassus* also seems to show greater mechanical composure and it is less likely to require that the user re-orient cables.

As with a number of cartridges designed in the digital era, the latest Lyra

accommodates ears weaned on or accustomed to CD. It is, like many digital products, clean-sounding and well-damped, its control over the music reminiscent of juggernaut solid-state electronics. Where it differs from CD is its lack of harshness or edginess. And it does what few CD systems can, by creating an open, airy, space of convincing depth and scale.

Older readers, who recall a time when leech-like moving-magnets tracking like a bloodhound at weights below 1g were the order of

the day, will be pleased to learn that the *Parnassus'* tracking behaviour is good enough to allow it to survive all manner of torture tests. While it's no Shure V15 V in this respect, it will not make a hash of inner-groove information, however tough the recording. The cartridge is also free of 'chatter', so smearing is virtually non-existent. Any traces you do hear will probably be related to the arm-damping; the SME allows for minute adjustment which enables you to dial out the worst.

Detail management

If set up properly, allowing for both weight and damping considerations, the *Parnassus* stands out for one trait which many listeners place high above all others, transparency. This is a perfect example of the kind of performance where you listen into the music, where it seems like the listener can walk around the players, almost measuring the space between them. Details, however small, are clearly on display and the sense of proportion is as lifelike as it gets.

It's churlish to even attempt to find a downside. In this case, the only 'negative' is that the *Parnassus*, like other Lyras, is a mite cool-sounding. In practice, this means that Koetsu addicts will probably stick with Koetsus. For those wanting a near-perfect middle ground between analogue vinyl replay and CD, the *Parnassus* just may be the most diplomatic cartridge available today.

The Hi-Fi Choice Panel



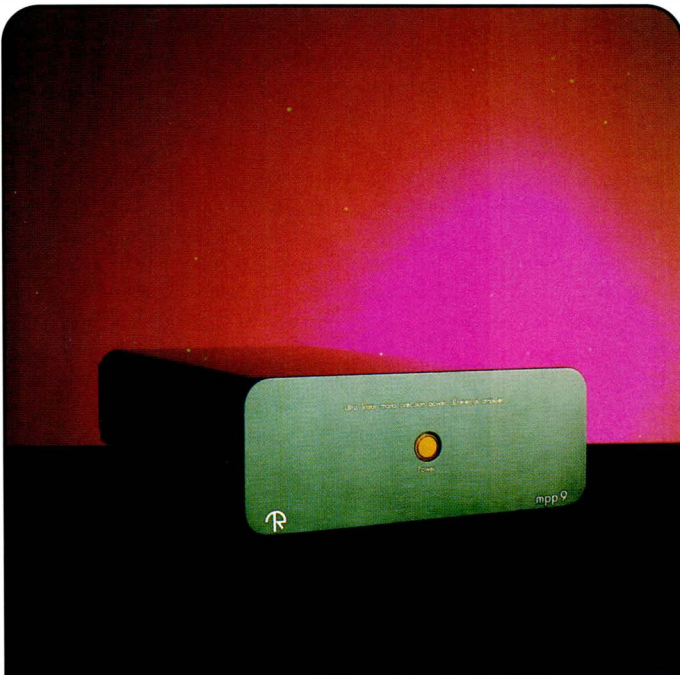
**LOOKS LIKE
NO OTHER...
SOUNDS LIKE
NO OTHER...
SOUNDS LIKE
NOTHING
AT ALL.
THE BEST IN
THE WORLD.**

**XLOTM
ELECTRIC**

**Interconnects and
Speaker Cables.
Made in USA**

**Available exclusively
from Wollaton Audio and
selected dealers.**

**WOLLATON
A·U·D·I·O**
tel/fax: 0602 284147
Dealer enquiries welcome.



THE ADVANCED PRECISION SERIES
Amplification at its finest

"The T&Rs are nothing if not revealing of what and how a signal is fed through them..."

"...superb resolution of information which, combined with excellent separation creates very deep and tactile images."

"...providing a smooth controlled and powerful soundstage with precisely located images that stay put and often sit way back from the speakers." HIFI Choice, June 1990.



T & R Precision Audio Products 55 Frankton Ave, Coventry, CV3 5BA.
Tel: 0203 419605



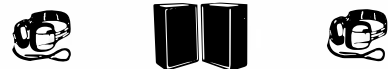
352-354 Lower Addiscombe Road
Croydon, Surrey CR0 7AF
Telephone: 081 654 1231/2040
Fax: 081 655 3922

High Fidelity/Loudspeaker
and Video Specialists



SPALDINGS HI-FI ANNOUNCEMENT

**ALTERATIONS AND
IMPROVEMENTS
HAVE BEEN COMPLETED
TO INCLUDE A
WONDERFUL NEW
LISTENING ROOM
AND RECEPTION AREA**



**However during this
period we will have
available for a limited
time only some new
shop soiled Hi-Fi, to
augment our usual used
range of equipment.**



**Please phone or call for
details of prices or just
call and see
the alterations ??**

Magneplanar MG3.3R

**Absolute Sounds Ltd, 58 Durham Road, London SW20
ODE. Tel: (081) 947 5047**

Few speakers are as charismatic as a Magneplanar and fewer still as bewitching as the latest MG3.3R. On the whole, loudspeakers will always exert more 'character' than the average amp or CD player, but when that character is so very potent, so very dominant, it's easy to see how opinions are quickly polarised. So it is with this huge slab of a speaker, a massive multi-way panel concealed behind a light oatmeal cloth and supported by an elegant wooden frame. At least for the Nineties, Magneplanar is attempting to style these door-sized speakers in as elegant a fashion as possible.

Nevertheless, just as the MG3.3R will never blend unobtrusively into every environment, neither will its sound behave like aural wallpaper. For a start the sheer height of these panels is immediately reflected in its sound — tall, imposing and possessed of a thundering momentum. If you're used to the sound and presentation provided by a conventional 'box' loudspeaker then these panels will, at your first sitting, appear overwhelming.

Moreover, they might also seem to lack the responsiveness, the crispness and delicate sparkle of your favourite mini-monitor. So the MG3.3Rs will never turn on a sixpence but neither are they dull or sluggish. It all boils down to a matter of style. Quite simply the 3.3R does everything on a grand scale. The image of every performer, every instrument and the acoustic that surrounds them is uniformly magnified, it's rather like comparing your TV set with a wide-screen cinema: same picture only all the events are that much more awesome and compelling.

Clearly the MG3.3R's pungent flavour is not for everyone. They're certainly pretty useless when it comes to providing an even and predictable sound for a scattered panel of listeners in our blind CD and amplifier sessions. But for the dedicated enthusiast who is prepared to pull these beauties well away from the rear of the room, rearrange his or her furniture and spend time hunting for that elusive 'sweet-spot', the MG3.3Rs will reward perseverance with a sound that exudes a rare magic.

It's magic that'll send a shimmer through the air as the baroque strings from Mozart's *Concert No13* respond to the vibrant shudder of the fortissimo, the



rich tonal variations of violin, viola and cello clearly revealed as each performer is disentangled with surprising agility. Surprising, for though the speaker is not overtly 'quick', neither is there any lack of resolution or subtlety to obscure the wide-screen picture. Yet it's only when the MG3.3R is called upon to recreate the power, the depth and authority of an orchestra with a full head of steam that the Kraken truly wakes.

Gluck's *Dance of the Furies* provides a perfect example, the initial thrill of the strings joined by deep and full retorts of horns, the entire passage sweeping from the speakers with an unmistakable sense of urgency; every instrument in a desperate hurry yet no one performer sounding either strained or coerced.

The music stampedes at a frightening pace yet, paradoxically, is neither reckless or confused. It will simply set your heart racing with qualities of scale, of drama and of colour that are lost to your 'ordinary' box speaker.

The secret of the 'Magneplanar sound' lies just beneath the oatmeal cloth. For a start there are two distinct planar drivers arranged within the single frame, both perfectly free to radiate as much energy to the rear as they are the front. It's this so-called dipole radiation pattern that forces the MG3.3Rs to be deployed away from rear if not all side boundaries. Magneplanar

is especially proud of the ribbon tweeter, a long strip of aluminium just 2.5 microns thick and pleated to enhance its flexibility. Neither does it require a matching transformer to couple with your choice of amplifier, simply a high-pass crossover set to 1.7kHz and built into the frame of the speaker itself.

A further crossover network, comprising somewhat larger capacitors and inductors, is housed in an external unit which sub-divides the lower octaves either side of 250Hz. This connects to Magneplanar's principal panel which, in common with previous models, is fashioned from a strip of mylar even though the conducting elements are now drawn from aluminium. The framework of permanent magnets — perforated in an attempt to make them as transparent as possible — lies to the front of the main panel and accounts for the bulk of their substantial 143lbs. As you might imagine, a remarkably simple concept that's frustratingly difficult to realise in practice! One reason, perhaps, why the MG3.3Rs cost a heady £3,399.

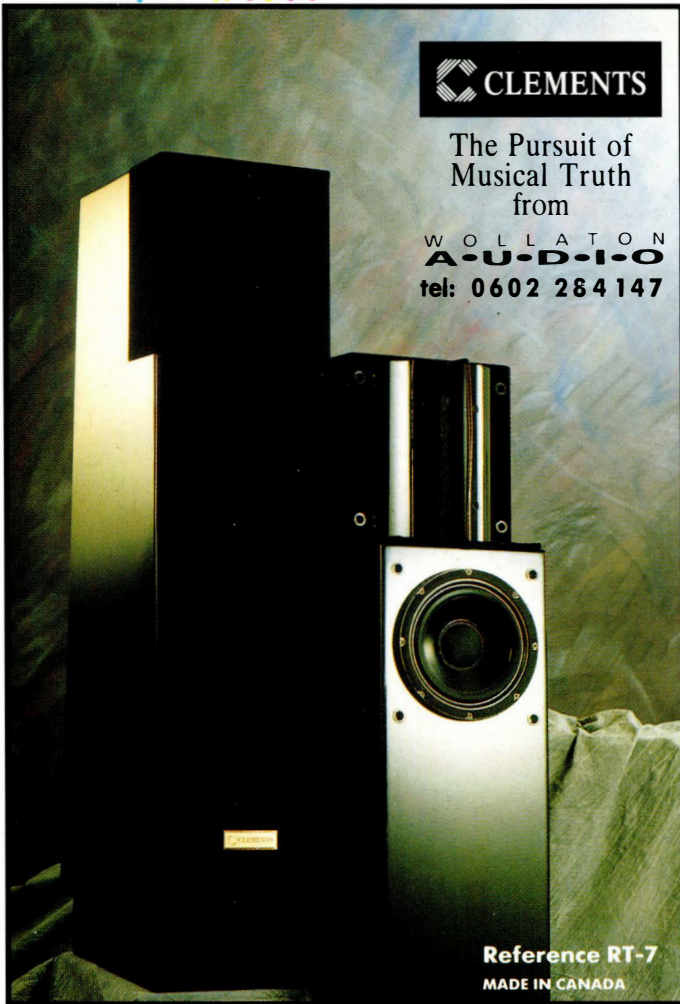
Yet, as the statement or the bold orator of your music system, they belong to that class populated by electrostatics and full-range ribbons. Speakers that dare to buck convention for people browned-off by the sound of wooden boxes.

Paul Miller

 CLEMENTS

The Pursuit of
Musical Truth
from

W O L L A T O N
A-U-D-I-O
tel: 0602 284147



Reference RT-7
MADE IN CANADA

Music... the art of expressing or stirring emotion by melodious & harmonious combination of sounds.

High Fidelity equipment deserves high fidelity interconnects, minimal signal loss, minimum colouration, maximum music.

The Chord Company Connection... High quality components, gold and silver, nickel and copper. Din plugs, cannons, jack

plugs, mini jacks, and sockets, scart plugs. gold plated scart to scart available. Gold plated mains plugs, wall sockets,



probably the best connection system, the best connection available. Gold plated mains hard wired four way blocks. Craftsmanship, rigorous testing, and attention to detail.

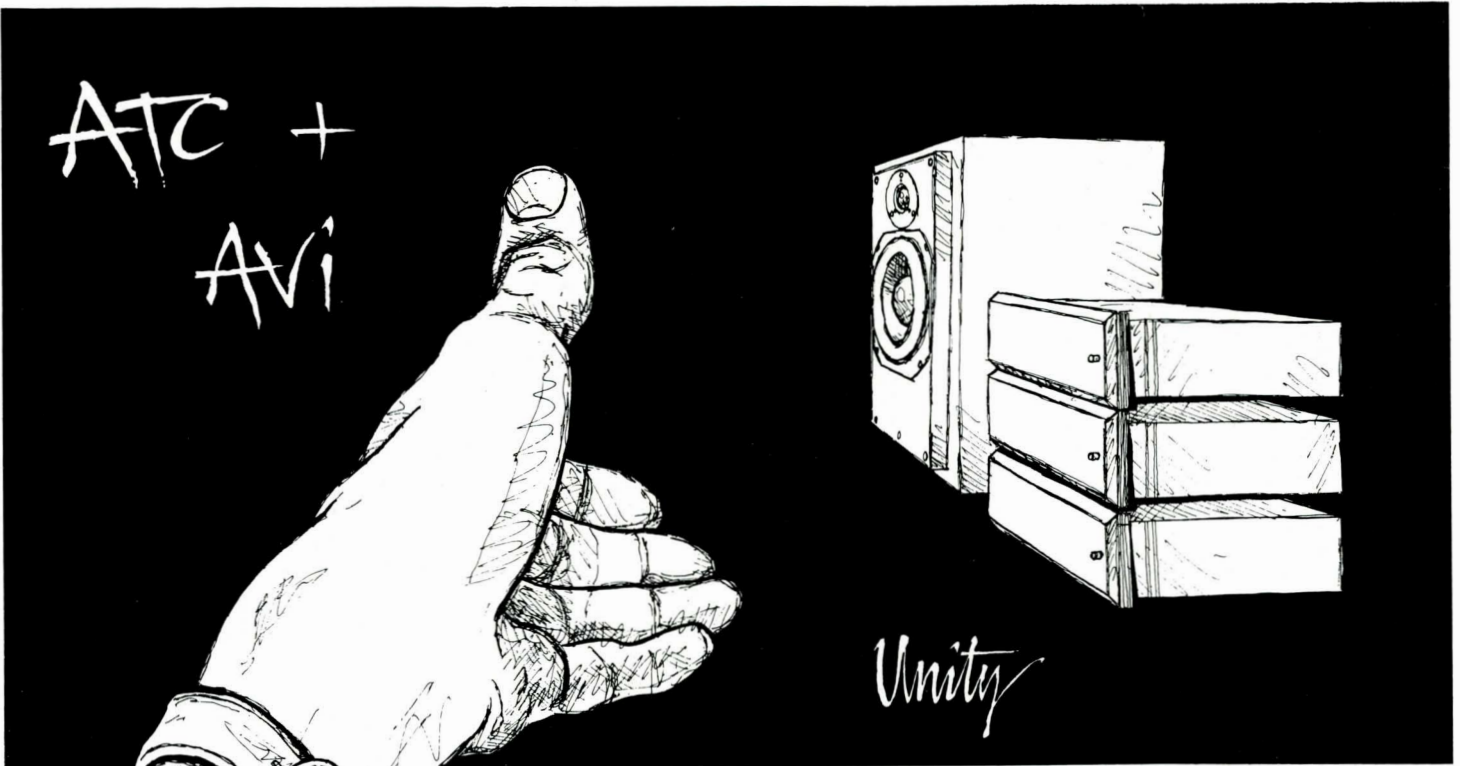
**Chord Company Interconnects and Accessories
Built by Music Lovers For Music Lovers**

Make The Connection Today

For more Information, call write or fax:

The Chord Company,

54 The Stables, Windsor Road, Salisbury, Wilts SP2 7DX
Tel: 0722 331674 Fax: 0722 411388



University Audio

UNIVERSITY AUDIO

1&2 PEAS HILL

CAMBRIDGE

TELEPHONE 0223 354237

FAX 0223 322079

Marantz SC/PH/MA22

**Marantz Hi-Fi UK Ltd, Kingsbridge House, Padbury Oaks, 575-583
Bath Road, Longford, Middlesex UB7 0EH. Tel: (0753) 680 868**

Not content with cornering the market in affordable, and indeed not so affordable CD players, Marantz has quietly been nibbling at the more expensive end of the amplifier market. It's been doing this with an appealing selection of gold coloured blocks which fall in the company's *Music Link* range of audiophile oriented products.

All the units in the *Music Link* amplifier line up are the same rather unusual size (250x85x215mm), they are considerably narrower than most components but not narrow enough for two of them to sit side by side on a standard 19inch wide equipment rack. However, they are extremely good looking and sturdily built little units with cast side panels and thick aluminium facias. They're not averse to being stacked up either which goes some way to improving their compatibility with regular width gear.

Twenty two by four

The system reviewed consists of the *PH-22* phono equaliser (£900), *SC-22* line preamp (£800) and two pairs of *MA-22* monoblok power amps (£1,400 a pair). This makes for a complete gramophone ready system price of over three grand — heavy stuff — but it really is gramophone record ready. The *PH-22* offers three other types of equalisation apart from the standard RIAA, one of them specifically for 78s and the other two designed to tailor records cut with European SP1 and SP2 equalisation. Moving coil and magnet cartridges are catered for with two sensitivity/loading options a piece, MCs having their outputs stepped up passively with onboard transformers that are wound with OFC copper. The latter is an unusual approach by European standards, but one that is well established in Japanese high-end circles. This is partly as a result of their fascination with tube electronics but mainly because step-up transformers work remarkably well. The *PH-22* even comes with a one metre, or thereabouts, long interconnect of reasonable substance, to hook it up to the control amp.

The *SC-22* control preamplifier, as Marantz calls it, is an overly straightforward looking machine, the four inputs — this isn't an A-V control centre by any means — are labelled line 1, line 2 etc so you have to remember what's plugged in where.

Apart from that there's a tape monitor switch and a chunky volume knob but that's about it, no balance control or other such luxuries. However, under the skin there's a bit more to it, a low pass filter is used in the output to cut out the sort of RF nasties that digital sources tend to put out. This 6dB per octave device operates above 20kHz and is said to gently attenuate the noise that makes many CD players, especially multi-bit ones, sound aggressive at high frequencies. Apart from output via a transformer, which will do



the same thing as the filter but to a lesser degree, the only other novel feature is a pair of phase inverted main outputs for running an extra pair of *MA-22* monobloks in bridged mode.

The *MA-22* power amps are pretty straightforward 50W affairs, their only novel feature being a semi floating, toroidal mains transformer. The idea is that less transformer vibration gets into the chassis so the circuitry has a better chance to perform optimally. An effort that must be wasted if you put the amp on a wooden floor next to the loudspeaker — but we wouldn't do that, would we?

Otherwise the *Music Link* products are outwardly chunky, heavier than you might expect, especially the phono stage, and equipped with captive twin core mains leads in the standard American

colours (or should that be colors?) of black and white.

In the context of what are now known as Audio Note *J* (once Audio Innovations) loudspeakers and a Voyd/SME *IV* turntable and arm combo with alternately *AT-OC5* and Ortofon *MC2000 MkII* cartridges, the *Music Link* amps made very pleasant sounds. Apart from a slightly sweet top end they proved remarkably true to the signal being fed to them.

The most impressive aspect of the set-up was its bass performance which was significantly more powerful than I am used to with the *Second Audios*. It seems that even with quite sensitive speakers like the *Js* a respectable wattage is required to really plumb the depths. Bridging in another pair of *MA-22s* reinforced this and revealed more dynamic and extended grumbly bits on my favourite records, so appealing was this combination that it managed to bring out the marvellousness of Frank Zappa's *One Size Fits All*, a record which can sound muddled and frankly (arf!) hard work, when played on lesser equipment. The latter trick could only be turned with the assistance of the Ortofon cartridge, these amps don't make things sound good unless they start off sounding good in the first place.

Going over to CD, courtesy of an Arcam *Alpha*, the advantages of the noise filtering system were subtly apparent. The HF graininess on many Compact Discs was tamed to the extent that some of the normally unendurable ones became listenable and the reasonably good ones sounded really quite impressive.

Next to triode amplification, of slightly higher price, the *Music Link* gear was found lacking in dynamic and tonal subtlety, but this was nearly outweighed by the Marantz' low end grunt and general finesse. The full blown, bridged *Music Link* system proved itself to be very competent and highly enjoyable when fed with a high quality signal, it is also very attractive and well made, which means 'well worth checking out' in my book.

Jason Kennedy

First published in Hi-Fi Choice Aug 1991

Mark Levinson No 26S, No 25S, No 23.5

Path Premiere, Desborough Park Industrial Estate, Desborough Park Road, High Wycombe, Bucks HP12 3BG. Tel: (0494) 441 736

It may come as some surprise to learn that audio electronics designer Mark Levinson doesn't work for the company whose products now bear his name. The brand is owned by Madrigal Audio Labs which took over the name in 1985. Mark Levinson always has been and is still very much a high-end only American brand, the way its products are built and finished is nothing short of fanatical, everything that might have the slightest effect on the components' performance appears to have been considered. The most extreme example is the *No 30* DAC which is constructed as a box within a box to reduce external interference to an absolute minimum. This fanaticism is not only reflected in a solid reputation but also in higher than average prices, although no higher than that of its most obvious competitor, Krell. The system under consideration here, which comprises the *No 26S* preamp, *No 25S* phono stage and *No 23.5* stereo power amp weighs in close to £15k, which by high-end terms is above average but not excessive.

The *No 26S* sits at the top of Mark Levinson's range of three basic preamps, I say basic as each model is available in a number of configurations, ie with or without phono stages or balanced inputs. The £6,795 *No 26S* line preamp under scrutiny is equipped with a single balanced input board, separate power supply (which also feeds the phono stage) and uses Teflon (PTFE) circuit boards. The latter, indicated by the *S* suffix, adds over £1,500 to the price of the unit and is utilised because of its extremely low dielectric absorption, this results in a cleaner, quieter sounding PCB. On the input front it has five sets of Camac sockets and a single balanced input for the more serious variety of DAC, it is alternatively available

with all Camac inputs. What, I hear you ask are Camacs? They are an alternative to RCA phonos that are self locking, airtight and come in the form of long complicated pins that fit into flush mounted sockets. Given that only Madrigal makes leads equipped with Camac connectors Path Premiere supplies adaptors for phono plugs (£25 a shot).

I've got your number

The *No 26* has two tape outputs and both balanced (XLR) and unbalanced (Camac) main output sockets, all Mark Levinson power amps have balanced inputs. The preamp has a number of unusual controls to go with its unusual sockets, these include absolute phase inversion, a defeat option for the tape outputs and two balance controls, the latter can be used to adjust the level of each channel individually giving the option of increasing or decreasing the overall gain of the preamp. A more desirable way of doing this, however, is with the internal switching which offers three levels of gain for the preamp.

You can also adjust the gain on the balanced input making it possible to use a similar volume control range for high and low level inputs. In use the *No 26S* proved to be very flexible, the Camac/RCA adaptors made reading socket pairs (arranged horizontally) and channels tricky but otherwise it was very user friendly.

The £2,295 *No 25S* phono stage is another Teflon boarded device of no small complexity, it's another dual mono affair that can be run off the same external power supply as the preamp or, for power quality freaks, with its own £1000 outboard unit. It has internal switching for different levels of gain and input impedance and proved itself an able match for the difficult Audio Note *IO* cartridge.

In use the only problem was its susceptibility to hum, despite the chunky aluminium case it wasn't possible to use it too close to either my turntable power supply or the supply that it shared with the *No 26S* preamp. However, as this is the case with most high gain phono stages this isn't really a criticism. What would have been nice, but according to Madrigal is not feasible, is a balanced output. And it has to be said that despite various prototypes which have popped up from time to time no one, to my knowledge, has manufactured a balanced output phono stage despite the inherently balanced nature of a cartridge's output.

The £5,695 *No 23.5* power amplifier is a real brute of a black box with a rated output of 200W into 8ohms and twice that into four. Weighing in at over 46kg it is the meatiest of Levinson's stereo power amps and costs nearly as much as one *No 20.6* class A monoblok. Beyond that there's not much you can say about it, it has both XLR and Camac input sockets but only pretty basic three way output terminals which aren't really designed for bi-wiring, at least if your speaker cables are terminated in banana plugs. They would accommodate a spade and a plug or two spades but given the price I expected something more capable.

The *No 23.5* is basically two mono amps in one case so there are two central mains toroidals feeding two separate sets of power supply caps, output devices etc. ML describes the 212x483x457mm *No 23.5* as compact, which seems a bit of a joke until you look at other high-end 200W power amps, Krell's equivalent, for instance, is nearly 30 per cent longer, but either way you're not going to hide one of these easily in an average British living room.



I used this amplification set-up in the context of a Voyd/Audio Note arm/*IO* analogue source and a Marantz *CD12* transport and DAC, the latter being equipped with balanced outputs. The speakers were silver wired Audio Note *AN-Es* along with Acoustic Energy *AE1s*. Cables were a mixture of Madrigal *HPC Ribbon* and Audio Note silver.

The Levinson kit replaced the Audio Note amps reviewed in this issue and made quite a dramatic contrast with that all tube combo. The 183W increase in output inevitably made its mark with a dramatic increase in low frequency control, the bass taking on that awesome quality that seems to be the exclusive domain of high wattage amps. It would seem that even highly efficient speakers like the *Es* need an amp with a high damping factor to give of their best in the lower registers.

Further up the band the amps sounded a shade aggressive with some material, it's possible that the *Es* are a tad exposed in the mid and high frequencies but I'm more inclined to judge the Levinson kit and the power amp in particular to be unsympathetic and a little inclined to exaggerate any hardness that's in the re-

coding.

The set-up's low level resolution was exemplary, the extraordinarily low background noise allowing the clear definition of fine detail that had previously been vague. With both analogue and digital sources I was surprised at the system's ability to clarify what was going on underneath the fundamental instrumentation, voices etc. As a result, with good recordings, ambient detail and positional information was reproduced in a very convincing manner. The set-up's low frequency capabilities undoubtedly give it an advantage when it comes to resolving the ambient information that give a good recording its depth and scale.

The system went louder than it is normally inclined to with these amps, but to be frank I couldn't take high levels for long. The high and mid frequencies often sounded too hard even with vinyl. I'm not inclined to blame the amps for this though, it's more likely to be the speakers combined with the room which is sparsely furnished and supports too many glazed picture frames for the sound's good.

To find out whether the balanced connection between the *CD12* DAC and the *No 26S* was a necessary expense I A/B'd

the two options using suitably terminated but otherwise identical lengths of Madrigal cable. The result was a unanimous thumbs up for the balanced option which sounded more relaxed, smoother and 'quieter' than the standard option.

However, what I didn't know at the time was that Marantz had engineered the balanced output on the *CD12* to be the superior option, so it had an advantage to start with. However, the advantage to be had from using the balanced inputs must almost equate to the extra £800 this option costs. OK, so this might seem like a lot but it's not a subtle difference and at these altitudes returns are apt to diminish very rapidly.

Conclusion

Mark Levinson amplifiers are confidence inspiring beasts, their design and build is first class and the attention to detail fanatical even by high-end standards. But this would be of little interest if they didn't make it sonically, happily they do and with aplomb at that. Even in a system that was not that well suited to them they made listening to music an 'experience' of severely distracting standards.

Jason Kennedy

Martin Logan Quest

**Absolute Sounds Ltd, 58 Durham Road, London
SW20 0DE. Tel: (081) 947 5047**

My first exposure to Martin-Logan loudspeakers goes back to the *CLS*, its original product, a full range electrostatic panel loudspeaker with a horizontally curved see-through diaphragm. In many ways this speaker, which was introduced to a market for US exotica then dominated by Apogee and Magneplanar, was a revelation. Being a panel, it had all the problems of other panel loudspeakers — the panel curvature made relatively little difference — including bloated stereo soundstaging, and bass which was compromised by ML's surely mistaken attempts to maintain an anechoically flat response below 200Hz or so which is where waveform cancellation starts to roll the response of the unaided panel away. In those days the hygroscopic plastic film diaphragm used to slacken off alarmingly in damp atmospheric conditions, and it wasn't unusual to see ML's being 'treated' with hot air dryers before an important gig — at a hi-fi show, say — though when I wrote about these problems the then extremely irascible distributor kicked up merry hell.

Despite these flaws, the *CLS* was by common consent a gem, with an exquisitely detailed and refined midband and treble of a quality then, and perhaps even now, unmatched by any of its rivals. The contrast to the muffled and overdressed Quad *ESL63*, then quite new, was a revelation, and this perhaps provided the clue to the Martin Logan's extraordinary abilities. The Quad, like most electrostatics, has its fragile diaphragm enclosed by dust sheets and covers for safety reasons and to prevent dust being attracted to the electrically charged guts of the speaker. The starting point for all Martin Logan *ELS* panels is a diaphragm with an extraordinarily high resistivity — 5mohm/

sq cm if memory serves — which all but prevents electric charges migrating around the diaphragm, and which effectively eliminates any risk of shock. As a result, the diaphragm can be sandwiched between the two finely perforated and individually insulated plates which conduct the drive signals with no extra covering of any kind being required. I once heard a Quad *ESL63* with its covers peeled back, and recall how much clearer and more tactile it sounded, and this is how Martin Logans are by design. In theory the ML diaphragm still acts as a magnet for dust and other electrically charged particles. If I was a smoker this might be a real problem, but in all the many months I have spent with this marque, there has been no noticeable dust build up at all.

A driving Quest?

My next exposure came about when Martin Logan's designer brought a pair of the *Monoliths* over to the UK to introduce it to the press. The *Monolith* is an example of a hybrid panel, in which a conventional boxed bass driver is coupled to what amounts to a downsize (excuse the Americanism, but this is an American loudspeaker) version of the *CLS* panel to cover the midband and treble. The dynamic bass allowed easy low frequency reach outside the compass of the *CLS*, and moreover bass of a more acceptable standard, with superior damping and control due to the lack of active gain in the extreme LF region. But the integration between the sealed bass unit with a roughly cardioid radiation pattern and the dipole panel with its figure of eight radiation pattern was not well handled. On a scale of one to five, the demonstration scored about -10. Nevertheless, the last laugh was to be ML's, which through a succes-

sion of updates and new models progressively refined the way the hybrids melded together to the point where with the best of the current range, the integration of bass and mid is no longer a defining weakness.

This, in brief, is the background to the most recent design, a kind of scaled up version of the *Sequel* (its starter model) called the *Quest*, which is also Martin Logan's second cheapest model. Let's not beat around the bush. I took to the *Quest* from the start, and my respect, pleasure and ultimately, infatuation (I put it no stronger) have only grown over the months that followed.

The *Quest* can be a bit overwhelming at first. One reason for this, apart from its elegant but undeniable bulk, is that its figure of eight radiation pattern gives the *Quest* an unusual 'reach.' It projects the sound over long distances with much greater ease than most box speakers, which cause sound to fan out over a wider angle and loose impact over shorter distances. Over the two meters or so listening distance that is customary with the majority of speakers, the *Quest* tends to throw the sound into your lap. At this kind of range, it's also extremely important to sit centrally on the dividing line between the speakers, reinforcing the feeling that the *Quest* can sound like a gigantic pair of headphones. With your head in the right position, the sound snaps sharply into focus. From anywhere else, the sound fails to resolve itself coherently.

The *Quests* also tend to be uncompromising about their own positioning. They simply won't work satisfactorily in a cramped environment. They need room to breathe. It's not just that they impose somewhat more distant listening perspectives than usual, they also demand a mini-

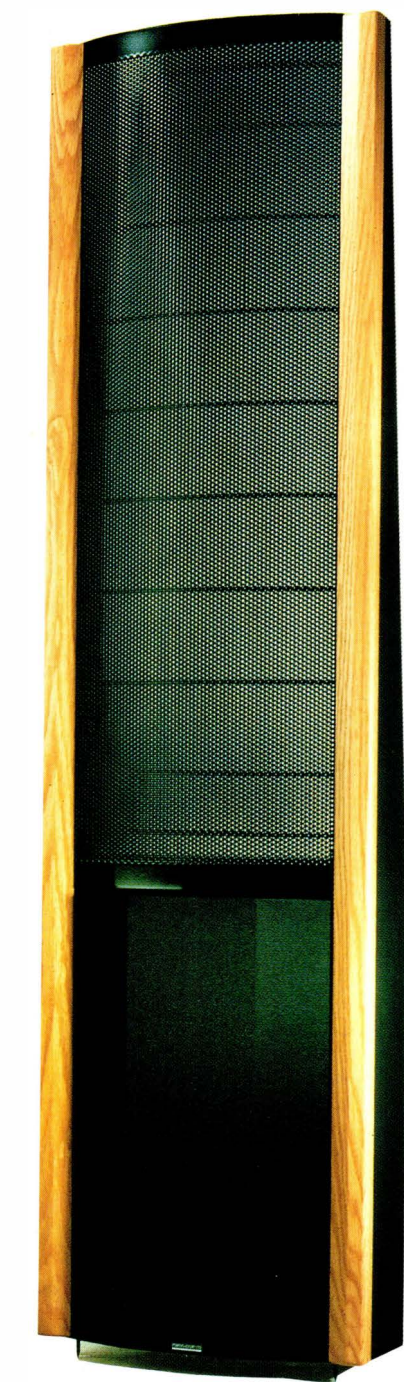
mum of a good couple of meters of free room behind the panels, and the higher the room the better. The very transparency as well as the large size of the radiating panel is to blame here of course; any sound reflecting off the back of the room is reflected straight back at and ultimately through the diaphragms, and the figure of eight radiation patterns means that as much information is radiated behind the speakers as to the front. Increasing the distance to the rear wall increases the phase lag of the reflections, and allows the ear to sort out the original from the reflections. On the plus side, there is scant interaction with side walls, and this allows a certain freedom of lateral positioning, which should be determined by the way it affects lateral image spread and central focus. Long narrow rooms work well with the *Quest*, as they do with almost any panel loudspeaker.

Quest match

By moving coil standards, the *Quests* are unusually clean and transparent. There is practically none of the resonance, coloration or that overriding compression that is an almost inevitable part of cone and dome based loudspeakers, or the variously frazzled, coloured or simply boxy-sounding quality of the enclosures they're bolted to. The midband in particular is of exquisite quality. It is immaculately (if not always entirely realistically) layered in the depth plane, and its ability to resolve fine matters of dynamics and expression, and of tonal colouring, are practically without peer.

You can tell not merely what instruments are playing in what numbers, but you can also hear the quality of the instruments involved with a clarity that defies all but the best of the competition. Vocals have an open mouth quality and are finely expressed with exquisite articulation and endless finesse where the material allows.

The bass has sufficient reach and power to round the picture off: the *Quest* is a genuinely full-range loudspeaker, though there are speakers I can name with a more subterranean reach and with greater



dynamic power.

Another feature of the *Quest* that can make life difficult is the nature of the load it presents to the accompanying amplifier. The *Quest* can sound spatially and dynamically flat with amplifiers that don't sit happily with their low and variable impedance curve, and this rules out a number of otherwise good designs. The *Quest* is also a prodigious sponge for power, and it generally works best with heavyweights, Krells, Audio Research, and the big Roksan combination being among the most successful of those I have used. For most of the time though I have used my valve driven Michaelson Audio *Chronos* monoblocks. I have found it is possible to drive even these powerful monsters beyond their limits, and the combination may not satisfy those who get their kicks by causing their windows to

rattle in their frames. But at normal levels, that is realistic levels for most types of music including large scale orchestral material, the combination could have been made in heaven.

Seeking Questness

During its stay, the *Quest* had many visitors, including designers of rival loudspeakers and other hi-fi products, and in almost every case those who heard it liked it as much as I did. More than one went to the lengths of arranging return visits to hear their products performing through the *Quests*. There were a few, however, who disliked them intently, describing them variously as muddled, inconsistent or in other equally incomprehensible terms. I accept that the *Quests'* way with stereo imagery is certainly not strictly accurate, though the sense of scale and authority is tremendous, and in the end the only credence I can give these views is that there is nothing sanitised about the way the *Quests* do their thing. If you want bland you should apply elsewhere.

True, there are loudspeakers you can buy that sound more 'whole,' more integrated. The join between the bass and the mid/top is almost inaudible, but this doesn't contradict the fact that the character of the bass is different to that of the mid and top, being more rounded and a little slower than ideal, though I liked its open, airy character and the guts it displayed in complex material that stressed the bottom end (eg, the celebrated Louis Fremaux/CBSO *Saint Saens Organ Symphony*). But a couple of those who took a contrary view are among those whose views I highly respect (even though one has the nickname 'He Who Doesn't Like Loudspeakers'), so I am content to place the caveats on record.

Speaking just for myself, however, I been looking in vain for the vitality and sheer dynamic truthfulness of the *Quests*, and that exquisitely vivid sense of tonal colouring, since they were carted away. When they went they left a hole which to date I have been unable to plug.

Alvin Gold

Meridian D6000

Meridian Audio Ltd, 13 Clifton Road, Huntingdon, Cambs PE18 7EJ. Tel: (0480) 434 334

Hi-fi isn't always exciting. Most advances are made by standing on the shoulders of others, and using the extra altitude to gaze a little further into the distance. Most products are refinements of what already exists, not that there's anything inherently wrong with that. The Meridian 6000, however, is original. *Seriously* original. Original to the point where even some of its most familiar components work in surprising, unfamiliar ways.

However, nothing in the *D6000* could be described as unprecedented. Most people are familiar with digital audio as a tool for storing musical data, as in CD. But the idea of using digits to completely reshape the architecture of a hi-fi system, or to reinvent such common everyday features as the balance control, is rather less common. The *D6000*'s significance is that it introduces a number of such ideas to the market for the very first time, albeit at what for most people will look like science fiction pricing (£7,650 per pair).

The 6000 is a fully active loudspeaker, with built-in electronic crossovers and power amplification. It also performs key functions expected of a preamplifier, and in addition it acts as the seat of the system's 'intelligence'. It is addressed directly by a system remote control which transfers commands back to the source components where called for, though the system can also work with 'dumb' source components, record players or non-Meridian CD players for example, which cannot understand commands from the remote control. When used with 'intelligent' components—a Meridian CD player or tuner, say—the messages fly in both directions, and information such as track numbers and FM station preset IDs are relayed to the display on the front of the two speakers. The display also gives a wide variety of rather tersely presented status information; input, volume level, absolute phase and so on.

All this is unusual enough, but what makes the 6000 unique are two factors.

The first is that no analogue inputs are provided whatsoever. The system is driven through one or more of its two optical and two electrical (coaxial) links from either a digital source, or an analogue source that has first been converted into the digital domain.

The second factor is that everything upstream of the power amplifiers, and this includes the electronic crossover and all preamplifier related functions, operate mainly in the digital domain.

Preamplifier functions include a very sophisticated, part digital, part analogue, stepped volume control with a 1dB action and an almost complete absence of step switching noises.

Acoustic design

The acoustic design of the 6000 is nothing less than fascinating. Most of the output—everything above about 200Hz in fact—is handled by the small, trapezoidal, self-contained, downwards spiked enclosure that sits on the main pillar, making a structure over 130cm tall. This enclosure, connected electrically with the pillar by an umbilical cable, consists of a 170mm synthetic cone bass/midrange unit and a SEAS a metal dome tweeter.

The main pillar contains the digital electronics, power amplification and bass section of the system. To handle the bass there are four similar 210mm units, two on each side, each pair operating in phase with the other so that there is no net rocking moment on the enclosure which is spike coupled directly to the floor.

Separating the two parts of the enclosure has a number of benefits. The mid/top enclosure can be designed for good dispersion and for strength, and is almost completely insulated from the high levels of low frequency ambient 'noise' in the bass enclosure.

No attempt has been made to produce

a flat acoustic output from the driver complement in the usual way, ie by adjusting the characteristics of the drive units so that they match. Instead, this task is handled by active digital equalisation.

This would have been almost inconceivable, and certainly musically ruinous, had it been attempted in the analogue domain, but the construction of complex multi-pole filters is one area where DSP excels. The bass, for example, is extended downwards to provide an in-room response curve flat to around 20Hz.

Active equalisation is not restricted to the bass. Similar curve flattening is performed in the mid/treble area, which presumably has allowed other aspects of the design to be optimised without needing to worry about response shaping. The crossover points are also handled digitally, and with slopes that would cause severe headaches were they carried out in the analogue domain: -36dB/octave at the 200Hz crossover point for example.

Even this isn't the extent of the *D6000*'s DSP capabilities. Digital equalisation is also employed to provide a 'tilt' facility, and a loudness contour which operates in near textbook fashion because SPLs for a given volume control setting are 'known,' the only important variable being room size. In addition, and this is unprecedented in any loudspeaker to the author's knowledge, the listening axis can be varied by controlling the crossover phase responses to account for different listening angles, while in-band responses are varied to counteract the usual polar response changes that occur off axis. Related to this, the balance control employs digital delay of the signal to the nearby speaker to keep the image correctly centred off axis as well as on. As a result it is possible to sit or even stand at the foot of the loudspeakers, or for that matter anywhere else in a room, and still achieve a level of performance from the speaker comparable to what would be expected from a

'normal' listening distance.

The power side of the *D6000* is taken care of by two 150watt amps for the bass and two 75 watters for the midband and treble, giving a total wattage which is simply too frightening to contemplate. The design of the amplifiers follows established Meridian practice, featuring DC coupling and servo control to eliminate DC offsets. There is some sharing of power supply components, and of course the amps are connected directly to their respective loads, eliminating the usual problematical loudspeaker wiring.



The front of the main pillar is black and covered in a glass sheet, which can take on the appearance of its surroundings, helping it integrate into at least some traditional surrounds almost as well as it works in a more modern setting. The mid/treble enclosure has a black gloss finish to match. Subtle feature lines link the two components. The effect is striking and, in my opinion, startlingly effective, but I've heard a diversity of views on this.

Using the D6000

Installing the *D6000s* is a procedure best handled by a trained dealer, and involves programming a whole series of defaults, extending from which speaker acts as 'master,' the number and nature of source components connected (eg Meridian or non-Meridian) through to the volume setting when the system is turned on.

During my spell with the *6000*, I had access to a Meridian tuner, the *204*, and an A/D convertor, the *607*, which was connected to the output of a conventional Meridian preamp and fed in turn by a record deck, the *Rock Reference*. This sounded absolutely marvellous. No other

record deck I tried was able to stand up as well as the *Rock* to the unblinking bass analysis provided by the Meridian. Combined with its other good qualities, records are far from being the poor relation in this system, despite having to be converted to digital form.

However, the *6000* does have some faults, and, as the rest of the system runs somewhere between amazing and miraculously good on a routine basis, this makes any residual shortcomings, however small, all the more objectionable. But the things that make the *D6000* good are hard

to do without, and in some cases just cannot be matched.

The most important of these is the system's amazingly wide dynamic compass. I routinely test big amplifiers and expensive, capable loudspeakers with power ratings measured in the hundreds of watts, but I can think of no system I have used in the last decade that can match the ability of the *D6000* to play wide ranging music at realistic sound pressure levels.

Although most loudspeakers can be coaxed into playing loud, they almost always change in sound radically as they do so. The bass usually becomes drier and more limited, and dynamics shrink as the music becomes louder. These paradoxical constraints don't apply here: as the *D6000* goes louder, the sound retains its original generosity and openness, and astonishingly the headroom available above even the loudest sounds seems to be practically limitless.

The bass output truly goes down to the point where it is almost possible to feel each wavecrest separately, but more astonishing still is the utter lack of 'ringing' of the kind that eliminates or changes

pitch relationships, and the complete lack of overhang. It has a truly vice like quality: it starts and stops quickly, and is both uncoloured and open.

This bass, which in my opinion sets new standards for domestic reproduction, is not a blunt instrument, but a subtle one wielded with utter precision. Radio speech, which often sounds chesty via hi-fi systems, was perfectly controlled with no hint of this problem.

The rest of the system turned out to be utterly consistent with what I've said about the bass. Again there is that wide open, airy quality, the utter control, the enormous dynamic range and the absence of most forms of coloration. Stereo soundstaging benefited immeasurably from the consistency and clarity of the design, and the result was the ability to support a massive soundstage with a great sense of physical presence, even when listened to from a considerable distance.

The down side

The shortcomings I alluded to earlier are confined to the upper midband (more correctly perhaps upper harmonics that affect the perception of the midband) and the treble itself, and take the form of a degree of intrusiveness or obviousness that at times inhibited the system from sounding completely transparent.

Rather breathy sounding vocals, an occasionally astringent string tone and a closeness with some material almost as though the performer is leaning over you while performing were the main shortcomings. Generally the effect was to sharpen up transients and increase the forcefulness of the sound, leaving some Sixties EMIs sounding like Deccas from the same period, and some of the latter sounding like late Eighties DGs; slightly confused and stringy in tone.

There is some suggestion from conversations I have had with Meridian since the *D6000s* were sent back, that the pair I had may not have been typical in their treble behaviour. Meridian is not claiming that they're faulty though, and this is one area that clearly needs working on as the product develops. If and when a new filter algorithm or a revised tweeter is eventually called for, existing owners will of course be able to have their *D6000s* upgraded.

None of this detracts from the main gist of my argument which is that the *D6000* sets standards in certain important areas, and that the shortcomings, such as they are, are minor. The DSP development work carried out by Meridian is soundly based and coupled to fine audio engineering in other areas to produce a remarkable system that for once benefits from innovation, and which therefore acts as a pointer to the future.

Alvin Gold

First published in Hi-Fi Choice August 1991

Metaxas Marquis/Solitaire

Reference Imports, Pineridge, Theobalds Green, Sandy Cross, Heathfield, East Sussex TN 21 8BS. Tel: (0435) 868 004

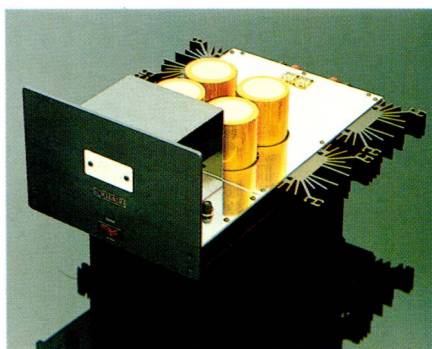
Australian hi-fi isn't exactly thick on the ground in the UK, at least not to the same degree as that country's unwatchable soap operas. And if country of origin is any indicator of quality, then by rights the Metaxas gear should be as unfit for human consumption as anything by Kylie Minogue. But the company's namesake is about as 'European' an Australian as you're likely to meet, a former high-end retailer and the publisher of the bible for Antipodean yuppies: *Vive La Vie*. Note is made of this only to warn you that not all Australians are beer-swilling, low-forehead types unaware of the finer things in life.

The *Marquis* pre-amp and the *Solitaire* power amp are quite blatantly of the high end persuasion, finished with a cost-no-object look imparted by lots of stainless steel on the chassis and black front panels reminiscent of Mark Levinson components. The *Marquis* is a two-box preamp, its power supplied housed in an all-stainless steel box: completely dual-mono, with high current, stacked 100W toroidals and 46,000 μ F of primary filtering. It connects to the preamp chassis via an umbilical cord with a five-pin plug, with 10,000 μ F of filtering before the regulating stages. This features a proprietary circuit built around matched transistors because the company does not approve of ICs. The circuitry ensures that the DC is stable and that the impedance of the regulator is consistent at eliminating any AC components on the line from DC to 5MHz. Further circuitry prevents the possibility of any DC surges which could affect the servo circuits from maintaining absolute zero level DC at the outputs. A dual FET trips a relay in series with the output, short circuiting the input to the power amp to prevent damage to the speakers.

The main preamp chassis consists of an anti-magnetic stainless steel case and a

black front panel, suitable for 19inch rack mounting. The fascia contains chrome plated hardware and etched legends a la aforementioned Mark Levinson and VTL. Unlike the opposition, the Metaxas pre-amp is a featherweight unit because the heavy bits are outboard in the external power supply case. Unfortunately, you have to anchor it because every time you flick a switch or twist a knob, the pre-amp slides across the surface on which it's placed.

The panel facilities include source and record select, a toggle to choose between line inputs and phono, a tape monitor switch, stereo/reverse selector, muting, balance and volume. The feel is enough to



tell you that no expense was spared in choosing the switches and knobs, all of which possess a secure and precise feel. At the back, connections are via a single row of gold-plated sockets which are soldered directly to the motherboard. The phono section uses proprietary push-pull differential input topology, with carefully selected and matched transistors. Internal microswitches offer a range of over 60 loadings from 10ohms up to 47kohms, with a single switch available to add 270pF of extra capacitance if necessary.

As the manufacturer and importer unashamedly admit, the Metaxas *Marquis* is ultra-sensitive as regards the choice

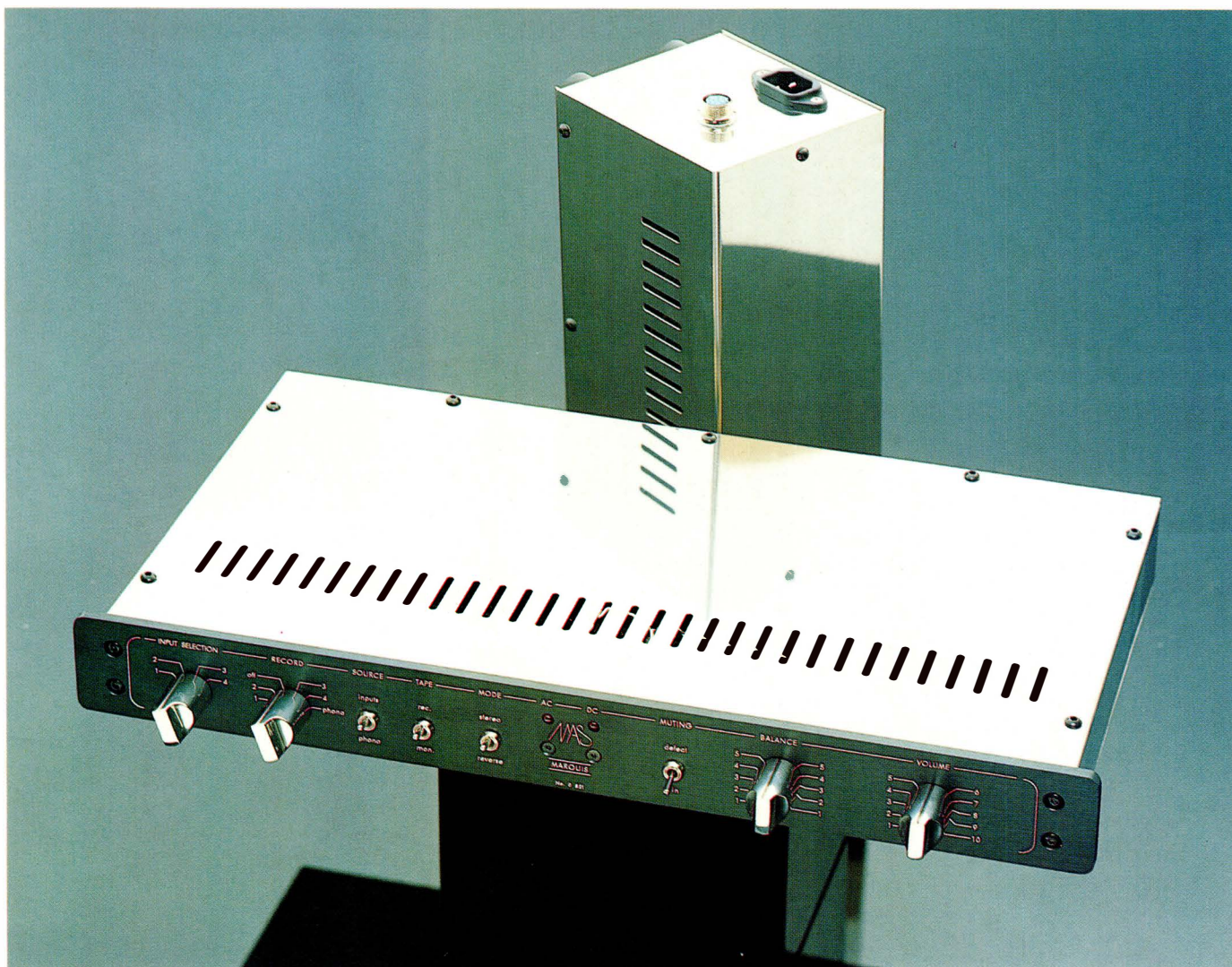
of cables, the manual pressing the need for properly shielded designs. Almost uniquely, the *Marquis* is also highly susceptible to cable orientation and the proximity of the two chassis to each other.

While most manufacturers of two-box devices (pre-amps, power-amps, CD players) advise positioning as far apart as is feasible, the *Marquis* should have its power supply as far as possible from the main chassis, to the maximum extent of the umbilical cord. It's also necessary to ensure no leads of any type (especially mains cables) are placed near the umbilical cord. Ignore this set-up detail and you can expect low level hum, graininess and RFI.

So, too, the behaviour of that fully-adjustable phono section. It's as if CD never happened, the *Marquis* reminding the installer what ease CD has imparted. The *Marquis* is hypercritical with its phono settings, and only the dedicated analogue lover will be prepared to spend the time needed to make the crucial matchings.

The *Solitaire* shares the cable set-up procedure of the *Marquis*, but, that aside, it's like most other solid-state amplifiers: make the necessary connections and flick the power switch. Experimenting with cable types is only part of the process; again, cable orientation needs attention, and you can hear slight changes in the sound if you move the cables closer to or away from the amplifier chassis.

The family resemblance is limited to the colour and finish of the anodized aluminium faceplate, which is not a primary structural member as with most power amps, but it is drilled for rack mounting. Mounting aside, it merely provides a place for the logo and the on/off switch; if removed, you'd have a basic, lab-look power amp. The chassis is low and flat and surrounded by complex heatsinks, with four huge capacitors and the power supply mounted on top of the vast stain-



less steel surface for all to see. Some might find so much exposed circuitry to be dangerous, but Metaxas assures us that the only power winding its way through the open circuitry is low voltage.

The *Solitaire* is dual-mono design, two high speed amps sharing one 1600W laminated transformer delivering 150W/channel from DC to 500kHz into any load. One large motherboard contains all of the components including the output transistors. The physical length of the signal path from input to output is only 150mm including the current path from the transformer to the output devices. No bypass capacitors have been fitted because the company regards these as having a detrimental effect on performance, especially as regards 'speed'. Protection is limited to fuses guarding the high current output stages, while a four pole relay in series with the speaker connections responds to any DC sensed at the amp's output. Like the *Marquis*, the *Solitaire* features DC-monitoring circuitry. 15-30 minutes warm-up time from switching on is advisable, with gains in performance dropping off after a full hour is reached.

The *Solitaire* is deceptive because its open design makes it seem small. The 150W/channel rating isn't exactly a bold claim. The specs and the look might lead

you to think, then, that it's a middle-ground performer. Forget it: the *Solitaire* will hammer anything to which it's attached, including such demanding speakers as Sonus Faber *Extremas* and *Apogees*. Hungry designs and ornery loads are not a challenge. What bothers it are extraneous considerations like the mains lead orientation, noisy switching from other components, mains thumps, stray fields from other components, etc.

The hash and grain caused by external influences can, if allowed, obscure some very real strengths, though the slam and power are evident whatever the conditions. It's the subtleties which can suffer: exceptional definition, image solidity, bass and midband clarity, transparency and — especially — marvellous three-dimensionality. A pampered *Solitaire* will produce a vast soundstage with easily discerned and clearly positioned borders, with the musical event placed solidly in its own, uncompromised space and, despite its steamhammer slam, the *Solitaire* is capable of separating the brutal from the delicate, preserving the relationship between notes at either end of the dynamic frame.

The dynamic balance and evenhandedness are matched by the frequency balance, which is wonderfully consistent

from the bottom octaves on up to the high frequencies. A slight touch of bass richness is present, noted mainly on full-range systems which won't act as high-pass filters. Anyone attaching the Metaxas to smaller speaker systems probably won't hear the effect.

The preamp is even more neutral than the occasionally aggressive power amplifier, especially when used as a line amp. The phono section, despite the settings available to the tweaker, while possessing all that the rest of the pairing offers in terms of dynamic grace and detail, lacks the absolute openness and transparency of the line stages. In this respect, the Metaxas combination will better suit the CD user, though it's possible that the review cartridges (Denon *103 Gold*, Decca *London*, Koetsu *Urushi* and Lyra *Parnasus*) simply weren't ideal partners.

To exploit the Metaxas combination, it's imperative that the user devote an inordinate amount of time and effort to the cable selection, the cable siting and, indeed, the siting of the components. It may seem that the Metaxas combination is slightly temperamental, but coping with such moodiness is a small price to pay for two components which cost £2,150 apiece but sound like double that.

The Hi-Fi Choice panel

Michaelson Audio da Vinci

**Musical Fidelity Ltd, 15/16 Olympic Trading Estate,
Fulton Road, Wembley HA9 0TF. Tel: (081) 900 2999**

He may be many things, but Musical Fidelity's leader, Anthony Michaelson, is not a balderdash merchant. So when he asserts, *inter alia*, that the high-end is gobbledegook, and that you don't need to spend an arm and a leg to achieve high-end results, you can be assured that he is not blowing bubbles, but that he can make a solid case to support the claims.

This in short is what the *da Vinci* pre and power amps are about. At £999 a piece, they cost about one-quarter as much as Musical Fidelity's flagship products, the *Chronos* pre and power amplifiers. They enjoy a similar advantage over much of the better known US exotica. Anthony Michaelson doesn't directly claim that these products are the equal of those ranges, but he does claim that the differences are often too small to justify the price differentials. 'They're damn close' is closer to what he says, but his expletives are more interesting and have more consonants than mine, and his tone of voice is more emphatic than is obvious on paper.

Getting physical

The physical description bit is as straightforward as it usually is with products that qualify for *The Collection*. The preamp is a line level design with a useful six inputs, all of identical sensitivity. Two of them are designated for tape, but there is no tape monitor facility, and if you want one a phono stepup will have to be added externally. I used an *Artaxerxes* on a Roksan *TMS* for this purpose: a small black box, it fits at the arm base, and delivers an equalised line level feed which matches the *da Vinci* correctly, and to good effect as the *TMS* made some of the best sounds produced during the test.

Other facilities are limited to volume and balance controls, the latter with a centre detent. A tricolour LED reads out the current operating status, and the amp protects the rest of the system by muting to avoid switch-on thumps. The main output is unbalanced and available on phono sockets in the time honoured fashion. Here endeth the preamplifier, if you know what I mean.

The power amp is even simpler. Socketry is limited to a single set of inputs and outputs, the latter 4mm binding posts of standard but adequate quality. A rear panel switch selects stereo or mono operation (echoed by LEDs on the front, flanking the main operating LED) which doubles power output from 50 to 100 watts/channel (8ohms). The circuit parallels the two channels rather than bridging, which is inappropriate with valve circuits due to their serious peak power limitations. Current drive capability is also enhanced in mono and there is no detrimental effect on the amp's ability to drive a low impedance load, though there are indications that the *da Vinci* is not really ideal for genuinely difficulty loads.

The technical design derives from the *Chronos* in each case, and is described as a rigorous application of classical valve amplifier techniques (including heavy biasing of the power amp into Class A) with a few unusual twists, mainly attributable to Tim de Paravacini, who did the basic spadework. Both products are impressively built and very well specified, with extensive use of internal remote control links in the preamplifier to keep signal paths short.

Styling is in the eye of the beholder of course, but I confess I really like this unusual art-Deco exterior, not least because it is characterful and different. I get fed up with identikit rectangular boxes, and the faceted styling of these products makes a refreshing change.

Sound quality

Noise levels from the combination (but mainly the preamp of course), are slightly above solid state standards, but never seriously intrude. At normal levels with most speakers neither hiss nor hum are audible, and microphony was much lower than usual for a valve amp, largely perhaps due to the lack of bent sheet metal-work to act as a conduit for vibrations.

My assessment of the *da Vinci* pre and power amps was based on several weeks use of the preamp, and a shorter period — around two weeks — with the power amps, the latter split into two shorter

periods about three months apart. It was only in the final few days that I had two power amps available, and was able to use them as monoblocks.

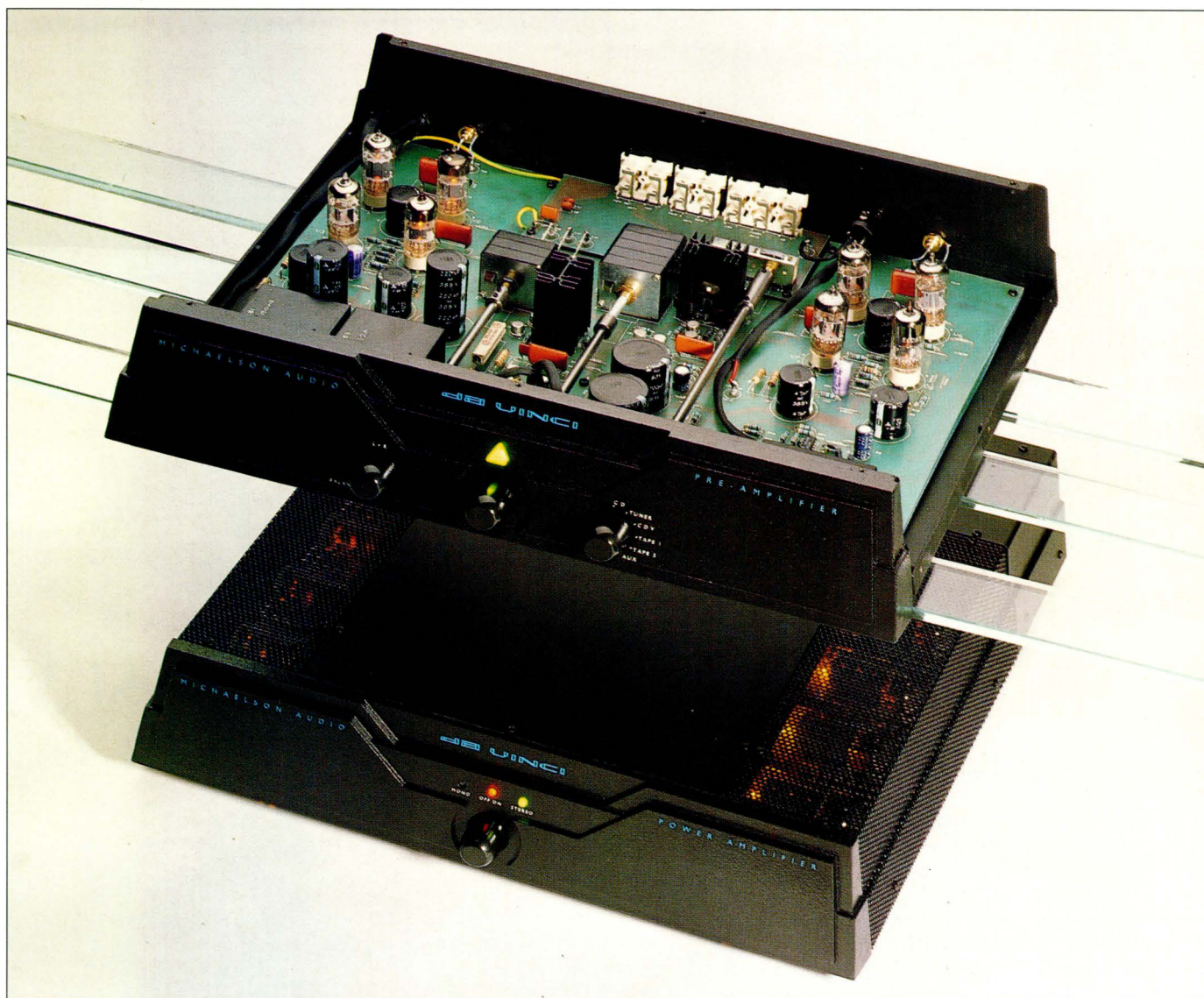
The range of equipment I used with the amps was extensive, and in the latter stages included Mission 753 and Martin-Logan *CLSIIz* loudspeakers, two designs with sufficient resolving power to really show what was going on.

The amplifiers were given time to warm up, but they achieved their optimum performance level within an hour or so. The power amplifiers sounded very acceptable within a few minutes, which was just as well: they run as hot as hell.

First step was to assess the difference between using one (stereo) and two (dual mono) power amplifiers, which with the Martin-Logans turned out to be more dramatic than I had anticipated. In twin mono form, and with the volume tap opened wide, the effect of overdriving the amplifier was ameliorated significantly. Even below the point at which full overload set in, there is a degree of dynamic compression that using two amplifiers delayed a theoretical 3dB. With less sensitive loudspeakers like the *CLSIIz*, this was well worth having.

There was a more important effect however. Even at more moderate volume levels, where the additional headroom should not have been an issue, the use of two power amps switched to mono gave a more stable and consistent sound, with a greater sense of front-back discrimination. Whether this additional capability is worth spending an extra £995 for is a quite different matter, and must depend on the rest of the system. In my judgement it was more than worthwhile in the case of the *CLS*, though I would probably go for a rather different and altogether more ambitious amplifier to exploit the unusual capabilities of these speakers. In the case of the 90dB/w Mission speakers, one is probably enough. The improvement attributable to the use of a second power monoblock was there, but was not a great factor.

The *da Vinci* pre and power amps are an excellent double act. I have used the



preamp extensively with 'foreign' power amplifiers to good effect, but the matching power amps really do work like a hand and glove. Contradicting the usual valve stereotypes, the two components are essentially neutral. On the whole the bass lacks the excessive warmth and bloom commonly ascribed to valve designs, and the treble is crisp, clean and open, with plenty of presence and detail. As a result, there is no real risk of 'over-egging' the pudding, which is the obvious danger.

Their strengths, however, are cumulative. Their solid soundstage presence, their wide and subtle sense of tonal colour and the consistency with which they treat musical dynamics gives the systems they are used in a certain integrity.

They are not, however, beyond reproach. It so happened that the test period overlapped with the loan for review of an Audio Research *LS2* preamp and *D400* power amp, about £8k's worth of the best solid state electronics money can buy. There was no reason why the Musical Fidelity combination at a quarter the price should outperform the AR, and it didn't. The American duo had stability and consistency of a different order; at

one moment they sounded as taut as a bow, the next they were pouring out music of exquisite beauty. With the *da Vinci* combination, the sound was subtly less solidly anchored, and there was some drawing in of the extremes of the range of expression.

What really surprised me, however, was to discover just how close the Musical Fidelity components often came to equalling the AR pair, which includes in the *LS2* one of the most musical preamps it has been my pleasure to use.

I wouldn't like to leave the impression that owning these two products is entirely pain free. Apart from the cost, which represents a lot of reedies even if it is excellent value for money, you get very few frills. There are no balanced in or outputs, no tape monitoring and no phono input. The power amps also run very hot, which is inconvenient in summer and will add something to your electricity bill. Finally, of course, the valves will need periodic replacement.

Verdict

There is something very attractive about these two products. They're attractive visually if you like that kind of thing, but

more to the point, and less open to question, is that they're attractive sonically. They have that special property of many valve amplifiers of reproducing music in a hands off fashion: you just don't hear the gears grinding and the wheels turning; the music ebbs and flows in a way that suggests nothing more nor less than the changing nature of the music itself.

Unlike many other valve amps, however, the *da Vinci* doesn't romanticise music. Transients are not noticeably rounded and the bass is real bass, not just an airy bloom centred on 50Hz. In general terms, the *da Vinci* can deliver real power into real life loudspeakers in a way that some very prominent middle range valve equipment fails to achieve. The preamplifier is also unusual in being almost as quiet as a transistor amplifier, and in rejecting microphony, which is one reason why the sound is so clear and unmuddled at all volume levels.

I liked the power amps a lot, but I confess that the real star of the show for me was the *da Vinci* preamplifier, which is not significantly compromised in any important area. It is one of the very few genuinely musical British amplifiers.

Alvin Gold

We are probably the only specialist Hi-Fi Dealers who have recorded as well as listen to live music. With this expertise we can recommend equipment from the following manufacturers:

- * Yamaha
- * Audio Note
- * Marantz
- * Rotel
- * Teac

Dolby Pro Logic Surround sound through your Hi Fi will give you cinema sound in your home.

"What impressed me most was Audio South's obvious love of music, the demonstration was both a pleasure and an education; certainly well worth a visit."

Audiophile with Hi-Fi Answers October 1990.

EX-DEM AND SECONDHAND EQUIPMENT AVAILABLE ON SPECIAL OFFER. RING FOR DETAILS

Audio South

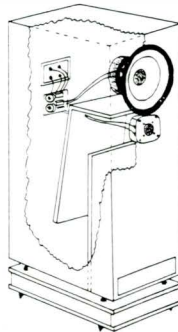
24 (The Woolmead) East Street, Farnham, Surrey GU9 7TT. Tel (0252) 714555



Open Monday - Saturday 11am - 6pm. Closed Tuesday.
Demonstrations, preferably by appointment.



SPEAKER KITS FROM I.P.L. ACOUSTICS



The M3-TL, S3TL, S4TL and S5TL are superb Hi-Fi Transmission Lines using excellent SEAS and MOREL drive units to achieve sound quality and bass extension which is equivalent to speakers costing in the range of £700-£1500.

The kits include sturdy cast chassis basis units, metal and soft dome tweeters, quality crossover components for hardwiring, grille material, acoustic foam, T-nuts and bolts, Dual terminals for BIWIRING, spikes, and assembly plans and instructions.

M3TL — 5.0" bass unit, cab size 810 x 186 x 210mm	£159.85 + £5.75 P&P
S3TL — 6.5" bass unit, cab size 903 x 230 x 350mm	£149.00 + £5.75 P&P
S4TL — 8.0" bass unit, cab size 960 x 275 x 400mm	£179.00 + £6.75 P&P
S5TL — 10" bass, 5" mid, cab size 1080 x 320 x 400mm	£280.00 + £7.50 P&P

MDF Cab kits also available, please phone for details
Send cheque or PO to:

**I.P.L. ACOUSTICS, 2 Laverton Road
Westbury, Wiltshire BA13 3RS
Tel: 0373 823333**

ALTERNATIVELY, send £1.50 for 36-page SPEAKER BUILDING CATALOGUE comprising: VALUABLE ADVICE on DESIGNING, BUILDING & TESTING speakers, and full technical specs, including response curves of eight speaker kits, drive units, cables and quality accessories.

Radlett Audio

CONSULTANTS

EST. 1978

Radlett Audio Consultants
141 Watling Street, Radlett
Hertfordshire, WD7 7NQ.

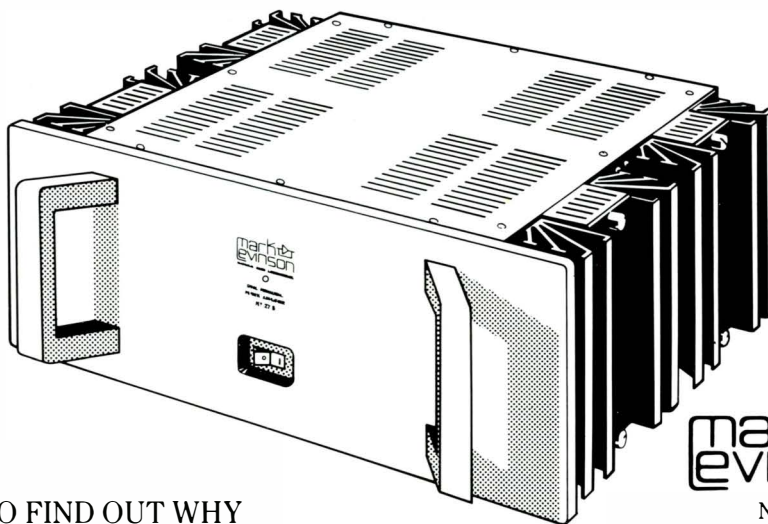
☎ 0923-856497

We are on the A5183 close to
Junction 5, M1 & Junction 22, M25

We stock fine equipment from:-

ALBARRY, ALPHASON, AMC,
APOGEE, ARCAM, A.R.T., ATC,
AUDIO ALCHEMY, AUDIOLAB,
AUDIOPLAN, CASTLE, COPLAND,
CROFT, DALI, DENON, EAR, EPOS,
FURUKAWA, GROOVE TUBES,
HARBETH, JADIS, J.P.W., LYRA,
MADRIGAL, MAGNEPAN, MARK
LEVINSON, MARTIN LOGAN,
MENTOR, MERIDIAN, MICHELL,
MUSICAL FIDELITY, ORTOFON,
PRO AC, PROCEED, QUAD, REGA,
REVOX, ROTEL, ROWLAND,
RUARK, SME, SONIC LINK, SPACE
DECK, STAX, SUMIKO, TARGET,
TUBE TECHNOLOGY.

GET SERIOUS, GET LEVINSON.



mark levinson

No. 27.5

Dual Mono Power Amplifier
100W Stereo

TO FIND OUT WHY
MARK LEVINSON AMPLIFICATION
IS SUPERIOR, CONTACT DAVID OR MIKE.

JORDAN WATTS ACOUSTICS LTD.

CYNTRA PLACE, 201 MARE STREET, HACKNEY, LONDON E8 3QE
Telephone: 081-985 1646 Fax: 081-986 0112

**Come and see our
new creations,
with the Marble Effect**



All enquiries to
Hailey Audio Ltd
tel: 0992 714811
fax: 0992 88271

JORDAN WATTS ACOUSTICS FOR SIGHT AND SOUND

Micromega Trio 3

The Musical Design Company, PO Box 13, London E18 1EG. Tel: (081) 989 0692

When we looked at the *Trio* in the last *Collection* it represented the state of the French CD player manufacturers' art. Not surprisingly, things have changed since then and both YBA and Pierre Lurné have both introduced exotically finished and priced machines to compete with it.

The Mk3 *Trio* differs from its forbearers in a number of respects, most importantly the Holden and Fischer power supplies have been replaced with Schaffner models, a 7321 Bit Stream chip in differential mode has been installed at the heart of the machine, and the discs are now spun by a Philips CDM9 Pro mechanism. Externally the power supply no longer has a phase switch and the transport has grown an acrylic base, not surprisingly the price has also changed, to £4,250.

In three . . .

The *Trio's* approach is unusual in that instead of encasing the player in one box, as is done with the company's more affordable models, it has been split up into three component parts. These stack one on top of the other with the power supply at the bottom, DAC in the middle and the transport on the top.

All the casework is very nicely built and finished. It's made up in black anodised brushed aluminium and held together with Allen head bolts. Each part feels substantial and the complete stack is pretty hefty.

The power supply feeds the transport and DAC with computer style leads terminated in multi pin plugs, complete with fixing screws. The DAC and transport are fitted with both optical and electrical digital sockets, while analogue output is provided by means of WBT phonos and balanced XLRs. The latter is a £250 optional extra that's well worth going for if your preamp has a balanced set of inputs. Another option comprises silver mains, digital and analogue leads, a granite support slab and test discs, this costs £495. It was tested with all but the slab and discs.

The *Trio* is not the most user friendly of CD players, it's slow to respond to commands and from a disc changing point of view it's the CD equivalent of using a *Rock Reference* turntable. Playing a disc involves lifting the heavy perspex lid, removing

the disc clamp (a metal puck that's attached to a circular piece of acrylic which has an irritating tendency to lift the disc a few mil and then drop it), placing the disc over the shallow spindle and precisely relocating the puck. Okay, I've laboured the point a little, but not much, and it doesn't stop there: the remote control has a grand total of seven buttons with legends in French - no keypads or favourite track selectors here!



The machine itself does have a few useful and rare functions including absolute phase switching on the converter and a mains grounding option on the power supply. All the onboard switches are those rather cheesy flat affairs and the display is a very basic calculator type thing which as far as I could make is limited to just the number of track being played.

When I listened to the *Trio* two years ago it was the first machine that I had used at home that really impressed me, I almost started buying discs, but then noticed how much they cost. This time around I had some serious competition on hand in the form of a Marantz *CD12LE*.

Nonetheless the *Trio* struck me as sounding very sure footed and precise, it's very quiet with low levels of hash which makes it sound relaxed and allows it to resolve more low level detail. This in turn gives notes more time to attack and decay, creating a more spacious sound.

Bass is delivered with plenty of punch, although the *CD12*, which seems to specialise in this department, goes down a bit

further. The *Trio* can sound quite aggressive with more up front recordings, Zappa as usual, sounds so hard that it's uncomfortable to endure for long. However, more natural material, in this case some live Black Crowes tracks, sounded superb, with plenty of power, depth and presence. The *Trio* images impressively, with strong images placed in a well delineated acoustic.

Another area it seemed sensitive to was the ebb and flow of music, the way an orchestra changes level subtly and fluently was very nicely resolved, a factor that contributed to the *Trio's* unusually natural sound.

Most of the above comments relate to using the *Trio* with a passive preamp, as a tube in my Audio Note *M7* was having one of its off moments when I started the review. However

later on it revived so I put it back into the system which sprouted wings and flew, revealing gorgeous low frequency speed and subtlety, and superb dynamics.

On the basis of the time I spent with this player it would seem that, despite the hype, CD has progressed in the last couple of years. It could, of course, be that I've started to dig up a few particularly good discs, or it could be that my system is becoming more sympathetic to the medium. Either way I found myself thoroughly enjoying this machine, it manages to extract life and substance from discs in a most convincing manner and present it in a very appetising form.

Conclusion

It would seem that the *Trio 3* with its new CDM9 Pro mechanism is still a very desirable CD player, it may not be the easiest model to use and it's hardly bristling with facilities, but it can make silver discs happen in the musical sense. And you can't ask for a lot more than that.

Jason Kennedy

Monitor Audio Studio 20

**Monitor Audio, 34 Clifton Road, Cambridge CB1 4ZW.
Tel: (0223) 242 898**

Uncle Mo Iqbal — Mr Monitor Audio — takes pride in providing more and more exotic finishes each time he delivers a new loudspeaker. The Monitor Audio *Studio 15* was launched in a stunning lustrous black paint finish with rounded edges. For the enlarged *Studio 20*, MA has provided a flawless mirror black piano gloss enclosure, again with the same chamfered edges.

Under the skin the changes are both more and less than they seem. Acoustically this is a *Studio 15*, with the same driver complement and the same internal volume, which is partitioned off internally and then extended down to floor level. The spiked base section is hollow, and should be filled with sand, or a sand / lead aggregate. Tall and slender, the *Studio 20* stands 93cm high and is designed for use in open space. The moving parts consist of an aluminium cone bass driver — now with a metal centre cap where the *15* uses a synthetic filled plug — and the all-singing all-dancing version of Monitor Audio's usual metal dome tweeter.

Happily, Monitor Audio knows what makes metal domes tick, and has not been slow to source from SEAS in Denmark when its own metal dome was either not up to scratch or was unsuitable, though this one I am assured is made at AEL, Monitor Audio's drive unit subsidiary. Past form suggests that Monitor Audio doesn't allow its tweeters to stick out and add an almost visible zing to the reproduction of music as some do, nor does it throttle the tweeter back so as not to cause offence to a few hyper-critical listeners (and passing bats). The *Studio 20* continues the tradition of getting it just right.

This defines the *20's* similarity with the past, but there are differences too. The older *Studio 15* has been criticised by some for sounding lazy or uncontrolled in the bass; and while I believe this assessment to have been based on a misunderstanding of what the *15* was about, its skills were always slightly understated with the effect that it tended to be extremely system dependent.

Under similar conditions, the *Studio 20* is a little sharper and more lively, there is more stereo projection and greater levels of detail. The *20* also has a more gutsy feel in the midband. Yet the speaker re-



tains all the old qualities, the silkiness, the charm and elegance, even the polish, are all undiminished and in certain cases even enhanced.

Right now for example, I'm listening to the late, great Leonard Bernstein conducting the NY Philharmonic in Mahler's *2nd* (the so-called 'Resurrection') *Symphony* and specifically to the section of almost complete stasis before the great choirs start to carry the music onwards and upwards towards its resolution. The product related point here is that the sense of a journey being undertaken, of a great organic whole seen through the eye of a

great interpreter, is one that came across with unbridled clarity and passion through these speakers (driven by an Audiolab 8000C/P pre/power amp, which could have been designed with the *Studio 20s* in mind).

Of course no individual piece of hi-fi hardware has privileged access to the heart and soul of any work, however trivial or great it may be. Yet to say merely that the *Studio 20* is transparent to the qualities of the music would be to understate the contribution it makes. It does act as a largely open window, but it is also unusually fluid and organic, qualities that come at a premium at any price level.

The *Studio 15* had many of these same qualities, but was not quite as capable as the *20* in coping with the raw, blazing peaks, such as the discordant blast near the end of the scherzo. And yes, although the *Studio 20* is on the rather compact side for a truly full range loudspeaker, the bass is just man enough to make the earth, or at least the floorboards, shake at the finale.

And I've been playing a lot more than just Mahler.

Even as I write Dire Straits' *On Every Street* is playing at an unbelievably high volume level with scarcely a trace of compression (metal drivers are good in this respect). The bass is deep, and lucid, and the band has set up shop at the far end of my listening room as though it means to stay. All this for £2,000 (£2,700 if you want a piano lacquered pair).

The effect is undeniably realistic; and equally undeniably exciting. When Dire Straits is over I shall be tuning in for Radio 3's Mozart day.

Alvin Gold

First published in Hi-Fi Choice April 1992

Morch MP6

**Electroactivity, 11 Muswell Avenue, London, N10 2EB.
Tel: (081) 445 6151**

Although the company has been making turntables and arms in Denmark for many years — notably the *UP4* unipivot design — the Morch name is not a familiar one to most UK hi-fi enthusiasts. The *MP6* under consideration here is a complex and superbly crafted design. Optimisation of the arm's performance and interface are clearly overriding design principles. As a result, every single parameter of arm/cartridge adjustment is user-variable.

Design ideas

The heart of the Morch *MP6* is the bearing housing. This consists of a standard post and collar arrangement for height adjustment, the post being graduated to allow very accurate incremental changes. Atop the post sits a high quality ball race for lateral motion, and above that two sapphire pin and cup bearings allow vertical movement. These are designed to be at the level of the record to optimise tracking of warps, an idea similar to the *SME V*, among others. The bearings are shrouded in a plastic tower which allows independent damping of horizontal and vertical motion with silicon fluid.

One of a range of interchangeable, internally damped, curved armtubes can be attached to the top of the damping tower by a knurled nut. These allow you to change the cartridge with ease, but more importantly they mean you can alter the arm's effective mass from an incredibly light 3.5 grams up to nearly 20 grams. The lighter arm tubes have flat paddle ends against which the cartridge is bolted using the finger lift. This allows a wide range of overhang and offset adjustment, to accommodate almost any cartridge. For those who insist on the last word in rigidity, a heavy arm tube is available, this having a conventional headshell with a precision ground underside, to suit low compliance cartridges.

All internal wiring is Teflon insulated silver. Azimuth is adjusted by screwing one of the pin bearings up or down using an Allen key which fits all the bolts on the arm. A solid rod protruding from the base of the tower accepts a variety of counterweights, to enable optimum positioning of the mass close to the pivot. Bias is applied by a thread and watch spring; both this and the lift/lower device are

models of common sense and elegance.

Finally we come to the most striking aspect of the arm's appearance. Its slender elegance is graced by a gold plated finish, with detailing in black. Chrome is also available, as is black to special order. This arm definitely looks the part. The only sour point is the nondescript lead out cable, but this is easily replaced. It's just a shame in a product which costs £665 plus depending on finish and armtube.

With all those options and adjustments, you may have already guessed that this arm can be in any state of tune between perfect and disastrous.

Thankfully, setting up the *MP6* is fairly logical, and a little patience is all that is



required. The first thing I did was ditch the arm cable, initially for van den Hul 502, and then for the even better Audioplan X Wire. I tried the *MP6* on a Roksan *Xerxes* with the vdH *MC One Super*. Used in a medium mass armtube this was an instant hit, and I settled down to fine tuning. Exhaustive experiment showed that a tracking force just shy of 1.6 grams was ideal, although a pair of counterweights a bit further out sounded a little more lucid than three hard up against the tower. The *MC One Super* is capable of excellent information retrieval and superb soundstaging, but I was surprised at the level of improvement elicited from painstaking overhang and VTA adjustment — and even more so azimuth. Set up originally it had good depth and width, but rather poor focus. VTA was fine, the cartridge body was vertical when viewed from the front, but of course, the stylus doesn't necessarily align with the body! Careful adjustment yielded dramatic results. Finally, I had a turntable which seemed near optimum.

Two aspects of the Morch *MP6*'s per-

formance set it apart from run of the mill pivoted arms. Its ability to present music as an harmonically complete entity is remarkable. It performs with an uncanny sense of warmth and naturalness, allowing the individual character and timbre of instruments to coexist in a way which is both satisfying and convincing. When aligned optimally, it is transparent to the back of the soundstage, locating instrumental voices and choirs in space, and layering them front to back.

It does have some flaws, however, most notably a lack of bass weight, where it lacks the last ounce of definition. Likewise, its overall sound is rather soft and polite.

But gripes aside, low level dynamics are handled beautifully by this combination. Music is allowed to breathe and you never feel it is being hurried along. Subtle rhythmic accents give shape to the music as a whole exactly as they should.

While I can't see the diehard headbanger (classical or pop) choosing the *MP6*, anyone who values a natural acoustic and a sound true to the beauty of live music will be captivated. Rewarding of care in set up, it was developed on, and should work well with, the *PT TOO*. The vdH cartridges are a good match, and I would expect the Dynavector 17D2, Ortofon *MC 3000*, Madrigal *Carnegie*, Sumiko or Monster cartridges to work equally well.

The Morch does more to scale the heights of performance so firmly held by the parallel trackers than any other sub £1,000 pivoted arm. It does so in an easy to use, easy to fit and trouble free design of great ingenuity. As such it is both a pleasure to use and own. I'm going to hang onto this one for as long as possible.

Roy Gregory

Musical Fidelity P180

Musical Fidelity, 15-16 Olympic Trading Estate, Fulton Road, Wembley, Middlesex HA9 0TF. Tel: (081) 900 2866

You need to know the man before you know the product. In Musical Fidelity's case, the man is Anthony Michaelmas (for once I thought I'd let my computer spell-checker have its way with Anthony Michaelson's name) whose legendary abrasiveness is second only to that of 'Ivory' (Ivor) Tiefenbrum, boss of Linn Products.

Over the years, AM has largely lost interest in the mechanical nuts and bolts of sound reproduction. He reportedly hardly ever opens hi-fi magazines except to decide who to issue the next writ against. Not for Anthony fiddling around for hours trying to extract the last microgramme of perfection from his CD player or tuner. (I suspect Ivor T is very similar in this respect, despite the line you're offered by the more sheep-like amongst his acolytes — and they don't come much more sheep-like than Linn acolytes — Sorry, sheep). Antonio Michaelson's way of dealing with hi-fi is to bring it home, plug it in and go. He expects it to deliver the goods. If it doesn't, he takes it back to the factory the next day, and God help anyone who crosses his path.

The business

Despite his lack of patience, AM has a keen and well tutored musical ear, a disc collection I'd give my right arm for, and his house has excellent, lively acoustics. What does this mean for you from this most prolific of amplifier producers, Musical Fidelity? A range of increasingly listenable, no-nonsense amplifiers that work, that's what. He said he'd sue if I wrote anything else . . .

Lately, I've been spending some time with one of Michaelson Audio's (exclusive high-end brand) valve amplifiers, which consists of a preamp, preamp power supply, two monoblocs, Art Deco aesthetics, loadsamoney, the works. The stuff also has an enormous footprint and can't be stacked which means you'll need a stately home to find the room, (and admission charges to buy it in the first place).

I quite liked the way it sounded, but I confess I wasn't bowled over. There are amplifiers out there that come out and grab you by the scruff of the neck, and the Michaelson Audio valve stuff didn't really do that. Nevertheless, I persevered because in a low key way it seemed rather promising, and slowly it took root. There didn't seem to be anything else I preferred listening to. That is until the day came when I had to make way for another high grade amplifier, I forget which one. Suddenly I realised what I was missing. The Michaelson valve amp was the kind of amp that made music without drawing attention to itself, and I only really grew to appreciate it when it was replaced.

The simplest way of understanding the *P180* (the *real* subject of this piece though it may have escaped your attention) is that it was built with one eye on that very same Michaelson Audio valve amp. Anthony was aiming to build an amp which just 'played music' as he put it to me, and which came as close to sounding like his valve amp, as he could contrive.

The *P180* can be bought in a number of configurations at price levels ranging from

£799 for the basic amplifier to about £2,600 for a fully expanded system. The basic *P180* comes in a neat slimline box which contains a basic circuit which is claimed to be similar to the big *A370*, power supply apart. A typical Musical Fidelity product in many ways, the *P180* has five pairs of MOSFET output devices per channel, a 100 watt/channel rating and 50 amps peak current capacity. The amp has a power supply which is housed in an external box, for all the usual reasons, to which it connects using an umbilical terminated by an XLR connector. The amp is also fitted with a mono switch, which parallels the two channels for extra current output, rather than the usual bridging for extra watts. The two features just named, the detachable power supply and the mono switching, are the key to the *P180*'s upgradability. One obvious way to do so of course is to buy another *P180* and use them as monoblocs.

The other part of the *P180* system is the *CRPS*, Choke Regulated Power Supply, which comes in a similar size box, and which costs £499. To use it, the power amp is plugged into a socket on the back of the *CRPS*, which in turn is connected to the power amp supply. One *CRPS* can drive one or two *P180*s, though in its ultimate form, you would dedicate one *CRPS* to each *P180*.

For reasons of expedience, AM left me with a full features preamp called the *P172* as a way of getting the *P180* system running. I soon changed to my own DNM *Primus* as a phono stepup and a Krell *KSL* for line level use (the Krell lacks a phono input) after discovering that although the



P172 was pleasant enough, it wasn't in the same league as the *P180*.

Auditioning the various permutations and combinations proved to be a slightly bumpier process than I had anticipated. I had the use of one *P180* for a considerable period and a second one for about a week and a half. The *CRPS* however was a problem. One was brought round to my place for a couple of days intermittent earballing at the start of the process, but it was not possible to get hold of one for longer term listening until very late in the day, after this copy was due to be completed in fact.

At this very late stage, I struck lucky and was given two *CRPS* units which allowed the full system hierarchy to be assessed. But I had only one weekend to do the job, which was not enough to break the *CRPS* add ons in properly. They changed in sound quite dramatically throughout the weekend, and only at the end of that time began to sound reasonably stable.

Starting at the beginning, the solo *P180* is a civilised and sometimes enthralling box of tricks. The one thing it didn't lack was blood and thunder, and I confess that for a while I wasn't sure what an expanded version was going to do. I harboured thoughts that performance might even deteriorate as the system was built

up because I'd encountered the same problem elsewhere. Even a solitary *P180* has a good deal of what I'm used to in my own *A370* (rarely used these days there are so many big amps being reviewed) including fine imagery, explicit tonal colouring, good but not outstanding resolution and a fine sense of 'grip', a feeling that it is in command of events and of loudspeakers. What sets it apart from some of the big amp competition, however, is something that transcends these things. Quite simply, it sang. It flowed. Like many AM products but perhaps a little more so than usual, the *P180* has an organic response to music. The opposite of organic in this context I suppose is that onomatopoeic term, a bag of nails. We all know amplifiers that sound like that.

The big match

One question that interested me was which upgrade to go for as a first step, a second *P180* or a *CRPS* (which is £200 cheaper by the way)? My answer to this was to go for the first option. The benefit of using two *P180*s are a larger, yet at the same time, more stable and focused stereo soundstage and, for reasons I cannot begin to fathom, a more explicit sense of detail. The differences are useful and not by any means subtle, and they are an absolute prerequisite if the most is to be

obtained from the *CRPS*.

The benefit of the *CRPS* was more difficult to put a finger on, though it can be sensed immediately. Although my first brief listen had been positive, that reaction had been based on a very limited music sample, and the new units with the unformed capacitors had the disconcerting effect of increasing image scale and depth, darkening and enriching tonal colours, but apparently reducing resolution, so that at certain times the music took on a peculiar, detached, floating quality. Slowly, however, as the *CRPS* began to settle in, the sound regained its focus and composure, and it started to sound like what it clearly was, a big amplifier in every sense and one that went some way to matching the rather special, if slightly laid back, charms of the Michaelson Audio valve amp.

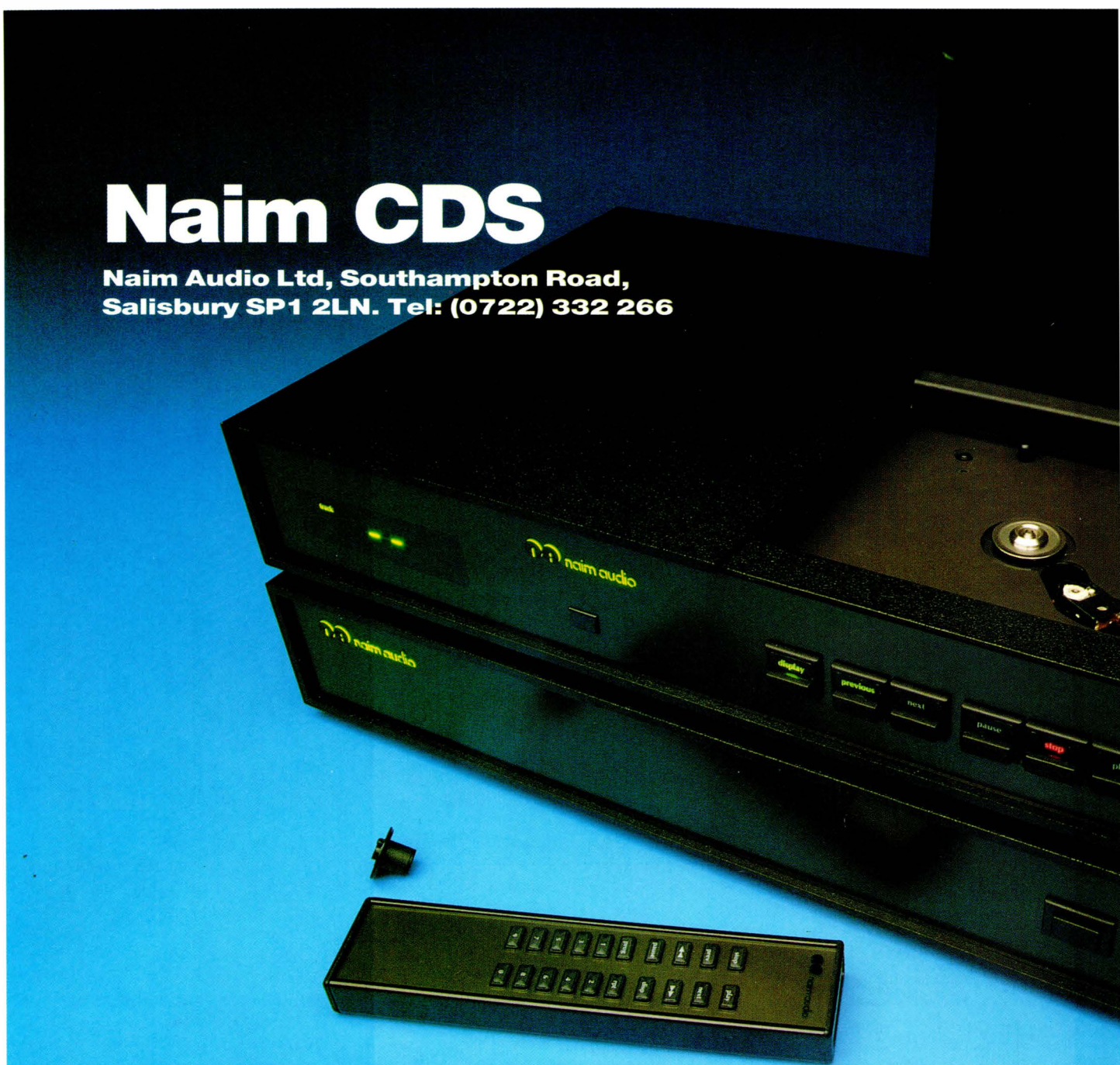
Does the expanded *P180* match the valve amp? Regrettably, it doesn't even come close. But it is somewhat tauter and certainly more useful with difficult loads, and can be bought to its ultimate form in stages, while remaining a fine amplifier even in its simplest configuration. The bottom line? I intend waiting a while to see how it develops before I pass that final, definitive judgement.

Alvin Gold

First published Hi-Fi Choice June 1991

Naim CDS

Naim Audio Ltd, Southampton Road,
Salisbury SP1 2LN. Tel: (0722) 332 266



Only Naim could make a one-box two-box player", commented one wry observer. The £3,100 NACDS may share a number of building blocks with Philips and most audiophile CD player makers, but the way they've been put together is as deliberately different as the sound that this machine makes.

After seven years of consistent and implacable opposition to the silver disc and all its works, Naim Audio celebrated the end of the Thatcher era with one of hi-fi's more comprehensive U-turns. But get a listen to what the CDS can deliver, and you've got to admit it's a U-turn that's been handled with some style.

The rationale is simple enough. Vinyl is disappearing rapidly from the racks of mainstream record stores, and where the music industry leads, specialist hi-fi is forced, however unwillingly, to follow.

But where do you go, if you make amplifiers and speakers that make all commercial CD players you've tried sound like doodly squat? You build one yourself, of course. First and foremost so you've got one to use at home. But it's nice to be able to defray the development costs by making a few replicas that like-eared friends and customers might be interested in buying...

Naim's world

What has emerged from Naim Audio is still a CD player, consisting of two separate boxes and costing £3,100, but it differs from most of the high-end competition in a number of important ways. Even the basic architecture breaks completely — and deliberately — with the currently popular practice of separating out transport and DAC. Instead the NACDS keeps

these together in the same unit, while the second box contains a massive multi-way power supply system.

Such an arrangement doesn't easily lend itself to upgrading or updating one or other box piecemeal, but Naim regards it as the only logical route. The performance of a conventionally separated (transport/DAC) two-box player is constrained by the 'standard' interface that's used to link them both together. Ditching the need to provide universal interfacing by making the player itself a single entity with just a single (DIN) stereo analogue output permits much faster proprietary data transfer links from transport to DAC, resulting in greater retrieval accuracy in the time domain.

The CDS isn't the first CD player to use a spring-decoupled transport, though the Naim variation is unusually bouncy. And

classic Philips 16-bit four times oversampling set, which is still widely regarded, by those unimpressed by bitstream, as the best there is.

Operation is a little quirky, and I can niggle a bit about the ergonomics too. It's not that I mind top-loading my CDs after lifting up a little hatch. In fact I've quickly come to prefer it to those infernal delayed-action sliding drawers. Lift the hatch and the disc stops instantly. Neat.

Nor do I object to removing and replacing the little magnetic clamp with each disc. You only forget to put it back the first half dozen times, the embarrassing clatter of a disc rattling around the transport tray soon providing the necessary conditioning. I suppose it's a bit fiddly, but I'm sure it's been put there for some more serious reason than to show a tiny little Naim Audio logo nipple.

The Naim of the game

Furthermore, I appreciate that the matt black interior surface has been coated in a very special way to minimise laser light scatter. But I do wish the sides of the tray base had been scalloped to allow me to get the fingertips of one hand round a CD and lift it out without dropping it. I suppose the fault lies partly with the disc itself, for being too small for two-hand and too large for one-hand operation. But I haven't yet found the knack of lifting out a disc without dropping it, leaving it canted sideways to be picked up while depositing fingermarks under the edge.

And I do wish the control buttons had been more clearly identified: you can only read what each button says after you've made it light up by selecting it!

Although the player seemed to track damaged discs pretty well, my sample was sometimes reluctant to lock onto the start of an individually selected track, usually when visitors were present. Careful cleaning of the disc's centre hole and the spindle turntable on which it rests usually got things going again quickly.

But such carping is really utterly irrelevant when confronted by a CD player that plays tunes like this one. That, moreover, gets down and boogies in a way that no previous CD player — and precious little vinyl for that matter — can manage.

Speaking as one who has consistently (interminably?) rejected Compact Disc as a serious substitute for vinyl, the NACDS is making by far the most persuasive arguments in favour of the silver disc that I've yet heard. It doesn't make CD 'better' than vinyl, but can make listening to CD

a highly entertaining experience.

There's no denying I was using it under optimum circumstances, driving an extravagantly expensive full-house Naim active system. And there's no denying that the CD player and the big DBL loudspeakers are superbly complementary to each other. But there's no denying the awesome, gobsmacking results either.

This is a dance and rhythm machine, holding strict tempo with an iron grip and remarkable bandwidth through the most complex sampled polyrhythms. On this modern and fundamentally synthetic music, the extraordinary analysis of the mix seems significantly better than I've heard from vinyl.

At the other end of the musical spectrum, I still found myself missing the shimmer and translucency of orchestral strings, or the delicacy of the plucked string that the best vinyl affords. It could be I just haven't come across the right disc yet; it could even be that the ADCs used in the recording chain are to blame. Whatever, textures and timbres seem a little less effective than tempi. Likewise I've yet to find vocals that quite match the intimacy and sex appeal of my favourite vinyl discs. But again it is difficult to know whether one should be blaming the CD medium or the paraphernalia of the modern recording studio, noise-gating doing little to enhance the communication of human emotion.

However, some six months after the original review sample, Naim instituted a modification which involved further mechanical and electrical decoupling on the power supply side of the player. This has done much to sweeten and clarify the treble end of the spectrum, and significantly enhance the overall long term listenability of the player, countering a number of my original criticisms and making CDS even more a valid alternative to audiophile vinyl replay.

Perhaps uniquely amongst CD players, the intention behind the NACDS is not to oust or supplant vinyl. (The music business doesn't need any help in committing that particular act of cultural vandalism.) Instead it's to create a machine that makes the playing of CDs a genuinely enjoyable experience. To this end it must be judged a great success, insofar as it makes more digital discs sound significantly more entertaining and informative than they ever did before. Just listen to the sound of your tapping feet.

Paul Messenger

First published in Hi-Fi Choice June 1991

working out the various spring rates in the different planes of motion to take account of the relevant torque and servo reaction times of the several different motor mechanisms used in the transport did apparently take up quite a bit of computer time.

What is a little more unusual is that there are two sets of transit screws to undo prior to operation. Not just the turntable, but also the main electronics board is carefully mechanically decoupled from the environment. Critical components are apparently several orders of magnitude more sensitive to vibration than the boards used in Naim's preamps, for example.

Given the above mechanical complexity, I felt very disinclined to try and open up the machine to see what's inside. I understand the DACs themselves are the



Naim DBL

**Naim Audio Ltd, Southampton Road,
Salisbury SP1 2LN. Tel: (0722) 332 266**

Love it or loathe it — probably both, consecutively and even concurrently — Naim's new £6,345 *NADBL* is the sort of loudspeaker that can redefine the performance boundaries of the domestic hi-fi system. 'Shocked' most accurately describes my first reaction to these generously proportioned box-sets (the word 'big' has recently been interdicted from the *Naim Dictionary of Psychobabble*, along with all references to PA or public address).

The *DBL* shocks and surprises because of the way layers of previous confusion are stripped away, revealing with uncannily convincing authority and coherence both the mechanics of the recording process and unsuspected continuity in the ultimate musical performance.

The experience is both pleasurable and painful. The pleasure comes from the extra vividness of the music itself, and in the way the underlying musical structure becomes more readily apparent. The downside comes in the warts and carbuncles of the recording process.

The combination of thrilling music with frequently disgusting sound characterises the *DBL* experience. The whole process is highly involving, which in turn makes it challenging, demanding, more

than a mite uncomfortable and definitely not for easylisterners.

Although the *DBL* unquestionably provides a rare level of insight into the quality of the source, that doesn't mean to imply it's the perfect transducer. Any loudspeaker represents a series of compromises, and the ways in which often conflicting ideal desiderata are resolved has much to do with the eventual sound achieved.

One such ideal which even its most loyal fans could not accuse the *DBL* of approaching is that the loudspeaker should try to behave as a point source. And whether you beat around the bush and point out that it's meant to sit snugly against the wall and that the baffle slants backwards towards the top, the dimensions remain pretty daunting. It's not that the height or depth are particularly outrageous, more the sheer width that makes a pair of *DBLs* difficult to ignore. That and the weight of course, which is estimated at around 90kg, and which I've made no attempt to check.

Once planted and assembled, the prospects of moving them is less than enticing, rendering subtle experimenting with positioning less than practical. However, installation proved quite simple and

straightforward, two Naim men getting things up and running in about an hour, while a further hour on fine tuning soon got things starting to boogie.

Decoupled boxes

The construction of this complex three box design has much to do with the end result. Much the largest of the three enclosures has no drivers at all. It's a big, well stuffed and very sturdily built bass cabinet, spiked coupled to the floor and incorporating separate spike/frame arrays for supporting the other two enclosures.

The lower and larger one contains the massive 380mm frame ATC main driver with its enormous 300mm doped paper cone. This box is small enough to keep tight acoustical control over excessive low frequency cone excursion, while a low net system resonant frequency is achieved by using an acoustic resistance (controlled leakage) panel to couple it into the main enclosure, a gasket sealing ritual being part of the installation procedure.

Even the upper box is still larger than the average domestic hi-fi speaker, and houses the mid and treble drivers, based loosely on those used for the baby *IBL* but with much modified motor systems in the quest for higher sensitivity.

Both these drivers are separately mechanically decoupled from the box itself, thereby operating under mass-loaded conditions. Naim's familiar 'leaf spring' arrangement is used for the tweeter and the midrange has a fretwork variation on the same theme.

All was nicely finished in an awful lot of good quality walnut veneer, though they don't match my room aesthetically, more's the pity, and the large, thick, black foam grilles don't do much to shrink the width under my lighting conditions.

Active or passive

First available in active form only, the original review (July 1991) was undertaken using a *NAXO* electronic crossover and three (ageing) *NAP250* stereo power amps. A large externally fitted passive crossover is now available for an extra £440, and this has subsequently been tried with a pair of current *NAP135* monoblock power amps. This review has been updated to incorporate the findings of the passive version where appropriate.

Although much of the design is logical and well founded, certain aspects will remain controversial. Although it's intended as a wall-mount design, the sheer bulk of the cabinetwork keeps the large main driver sufficiently far from the room boundaries to introduce significant lower-mid unevenness, especially since said driver is operated up to surprisingly high crossover point of around 400Hz. In room measurements do suggest that bringing the speaker forward might give a smoother overall result in some instances.

Conventional wisdom has it that a narrow front panel works best for midrange imaging and coloration, so it also seems a little odd to find the full 650mm baffle width maintained to the top of the enclosure here, especially as narrowing the top section might have presented interesting styling possibilities to reduce the perceived bulk.

I suspect that Naim's rationale is that the baffle itself takes control over the distribution pattern, and is more consistent than a tapered approach, though it's probably one reason why the *DBL* image is a bit larger than life, and best enjoyed from at least a couple of metres away. Certainly this isn't a loudspeaker for small rooms, my own far from tiny 6 by 4m being a bit of a tight squeeze. Moreover, the tweeter is mounted quite high up, which doesn't really help one of my preferred listening positions (lying on the floor, quite close to a telly between the speakers), but I guess that won't affect most people.

The bass alignment is unusual too. Almost all speakers make use of one or more bass resonances somewhere between 30Hz and 120Hz in order to give the overall bass output a helping hand. The *DBL* (and *IBL* for that matter) do everything they can to avoid bass resonances, by rolling off from a comparatively high frequency, but very gently.

Measured in passive form my best estimate of the sensitivity is around 89-90dB, which is high but not exceptionally so. However, it's fair enough in the context of very good bass extension (20Hz in-room at -4dB) and a very mild and easily driven amplifier load.

The overall frequency balance is pretty flat through the bass region and at all frequencies above 300Hz, with just a gentle downtilt from mid to treble at 1.5-2kHz. However, output is 3-4dB too strong 150-250Hz, perhaps due to the room boundary reinforcement of the bass driver, and this introduces its own distinct subjective coloration.

The slightly retiring nature of the bass comes as a bit of a surprise at first, since all the visual cues signal a sock-it-to-'em earthquake experience. However, the lack of thump and boom is enormously refreshing, allowing the fine speed, information, detail, control and authority to come clearly through. It's interesting to note that very little vibration can be felt in the various box panels, even when pumping up the volume to flat out.

One consequence of the tight bass control is that the midrange 'honk' at around 200Hz is a little exposed, which tends to push the sound out slightly ahead of the already quite deep boxes, again favouring the larger room. It's this characteristic, uncommon in hi-fi models but quite familiar amongst professional sound reinforcement loudspeakers, that I believe accounts for an initial impression of a 'PA' type sound.

Given the above, it's easy to see how this speaker could be misunderstood. But spend a little time with it and almost all will be readily forgiven. I doubt it will be high on the shortlist of those seeking precise holographic stereo image depth, though the image there is seems solid enough if you get a couple of metres back and stay on the bisector. Indeed, there's good focus and microstructure to be heard, even if voices do come across rather larger than life.

There is a slight richening and echoey coloration, especially on male singers, but vocal rendition is one area in which the *DBL* demonstrates its startling superior-

ity. Dylan sounds more like Dylan, Jagger like Jagger, Pavarotti like a large Italian with a very good voice, Joni Mitchell does sometimes have sinus problems, and Tom Waits becomes totally intelligible!

It's almost uncanny the way this speaker emphasises the distinctiveness of individual human contributions, not only on voices but on instruments too. Indeed on many well loved favourites, listening past the equalisation of the recording processes, I became aware of whole layers of instrumental subtlety — multi-tracked overdubbed harmonies and the like — that had previously remained hidden, while the way individual instruments maintain their continuity, cohesiveness and distinctiveness, whatever is going on elsewhere in the music, is equally unusual and highly impressive.

Loud and proud

Highly impressive as a passive speaker, there's no question that active drive offers worthwhile advantages, markedly improving timing, cohesiveness and dynamic range. I've yet to try a six-pack (six *NAP135* power amps) here at home, but active drive certainly shows the *DBL* to its best advantage, especially in the uncannily accurate tracking of the whole dynamic range, from the lowest late night listening levels up to loudness capabilities beyond most people's wildest dreams (or nightmares).

The more you turn up the volume, the louder the sound gets. That much is logical. The crucial distinction here is that it doesn't change in character to any significant degree, right up until you start to clip the amplifiers. There's no point in going any louder still, since by this time the ears are well into nonlinearity and the chest cavity is resonating, with in-room peaks registering 110-115dB.

There's no question that this is a very big and expensive loudspeaker, but nor can be any dispute that its elaborate and expensive engineering is highly effective and fully justified. However, it really needs a room 8x5m or larger, and doesn't really glue things together for the first 2m in front of the speakers themselves, which is certainly a practical constraint. It is also a demanding rather than relaxing experience, and isn't kind to the iniquities of recording studios and engineers. What you hear is clearly a lot more truthful than what you've heard before, though I wouldn't go so far as to suggest it can quite manage either the whole truth or nothing but the truth.

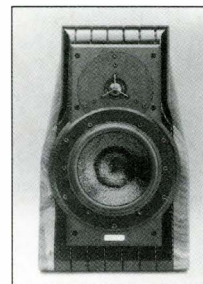
Paul Messenger

Oxford Audio Consultants

OXFORDSHIRE'S PREMIER HIGH END DEALER

SONUS FABER: MINUETTOS to EXTREMAS

– We love them all!!

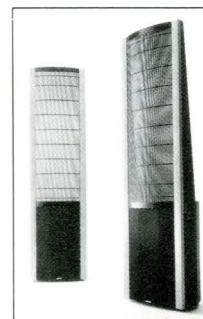


AUDIO RESEARCH

LS3 – the latest extraordinary value line stage
– not a value in sight!! V140s – fabulous monoblocks

MARTIN LOGAN

– We just love the new AERIUS
– stunning looks/gorgeous sound

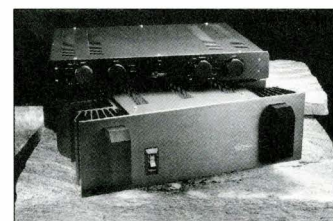


THETA

DATA 2 TRANSPORT PRO PRIME d/a
– TOP CLASS!

KRELL

KST100 – Still a leading contender!



Agencies include: Audio Research, Apogee, Air Tangent, Koetsu, Krell, Magneplanar, PS Audio, Sonus Faber, Audio Technica, Goldring, Marantz, Micromega, Ortofon, Rogers, SD Acoustics, Stax, Thorens, Wharfedale, Kimber, Sennheiser, Slate Audio, Target, QED, van den Hul, NAD, Nakamichi, SME, JPW, Revox, Dual, Monitor Audio, Pioneer, Proceed, Onix, Teac, Rotel, T.D.L., Ruark, Acoustic Energy, Audio Alchemy, Deltec, Musical Fidelity, Basis, Theta, Sequerra, Copland, Jadio, Linaeum.

TAX-FREE EXPORT SERVICE · MAIL-ORDER AVAILABLE ON MANY ITEMS

Opening hours Mon-Sat 10am-6pm

Oxford Audio Consultants

Cantay House, Park End Street, Oxford OX1 1JE
Telephone: Oxford (0865) 790879
Facsimile: Oxford (0865) 791665

Ortofon MC2000

Ortofon Ltd, Chiltern Hill, Chalfont St Peter, Gerrards Cross, Bucks SL9 9UG. Tel: (0753) 889 949

Having managed to wangle a Voyd on long term loan, I've been looking for a cartridge that is capable of doing both the deck and the SME IV tonearm attached to it some justice. The obvious choice was the Audio Note IO that is much favoured by Voyd users, among others, and was once imported by a closely associated company. However, despite being a friend of the chap that builds them and extremely tolerant of the Dane who distributes them, I couldn't get hold of one. Obviously something else of suitable calibre was required.

Asking around the tube fraternity I was advised to try the Ortofon MC2000MkII, and as we hadn't actually reviewed it, I wasted no time in rounding one up and bolting it to the IV's headshell.

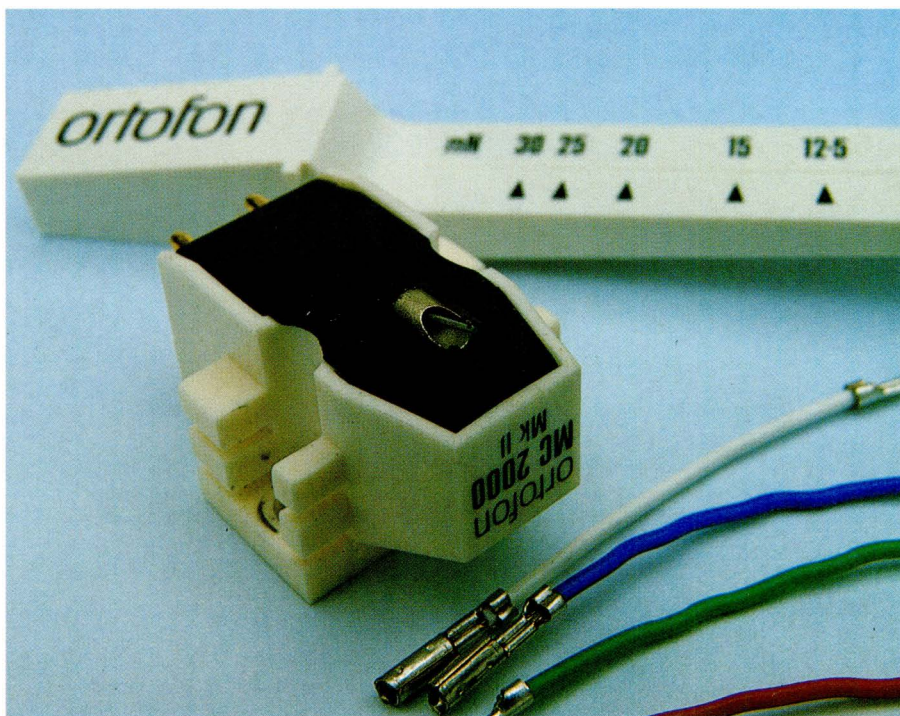
But before I ramble on about its sonic character, or lack thereof, it's worth mentioning a few of the technical features of this £600 cartridge. The original MC2000 came out in 1983 and met with some degree of critical success, though nothing like that which greeted the subsequent MC3000.

One of the 2000's problems was a ridiculously low output that required the finest of step-up transformers to drive most phono stages. This aspect has been significantly improved in the MkII version, which puts out 125µV (1kHz, 5cm/sec), a voltage that, although not as high as many other MCs, is far more workable than its predecessor. A step-up transformer, however, is still recommended.

Hard as ruby

The MkII also comes in a harder body made out of sintered aluminium oxide, which is a type of ceramic that's said to be as hard as ruby, and thus has a resonant frequency that's way above the audio spectrum. The stylus profile is also different, it's now a Fritz Gyger 90 which is a variation on the fineline shape that's said to be as close to the shape of a lacquer cutting stylus as it's safe to get.

There is, of course, plenty more tekkie stuff which one could go into, but what ultimately counts is the product's per-



formance. In this respect the 2000 turned out to one of the best reasons for keeping the faith I've heard in quite a while.

Like its predecessor, this cartridge is a real detail fiend. It digs out the finest nuances of information, but, unlike the original 2000, it presents them in a coherent and fluent fashion that emphasises musical structure rather than information content.

It also sounds very natural. One is convinced that the timbre of notes it retrieves from the grooves is spot on. Only comparison with considerably more expensive alternatives reveals that the 2000 is a touch lightweight in this respect. It is capable of rendering an image that is precise and deep with a very appealing shape to the various notes in the piece. The bass, although dry, is tactile and fast, as is the midrange.

Speed is not a characteristic that I place much emphasis on, but taking the Voyd up to Paul Messenger's place with this cartridge, I was surprised to hear him say that the 2000 had a faster midrange than

his *Troika*, which, if you've read his column a few times, you'll realise is quite an admission.

The kiss of life

By now you've guessed it: I thoroughly enjoyed the MC2000MkII. It breathed life into my records and provided hours of great music. I suspect that it is particularly well suited to the virtually neutral nature of the Voyd and the slightly warm character of the SME IV, although the bass dryness probably wasn't helped by a similar characteristic in the Audio Note speakers that I use.

With careful component matching, I can see no reason why this cartridge shouldn't sound as if it's got a virtually flat response.

If you can afford it, and don't forget you'll need a decent step-up or phono stage (of the *Iso* or *Equinox* standard), the Ortofon MC2000MkII will turn your records into serious musical events.

Jason Kennedy

First published in Hi-Fi Choice Oct 1991



CHOICE

We all want the best. So why not choose from the best...?

Many of our Hi-Fi recommendations have become "BEST BUYS" and award winners. Contact us when choosing your Hi-Fi

SIMPLY BETTER HI-FI

BADA
THE ULTIMATE IN
SOUND ADVICE

Steve Boxshall

AUDIO

INTEREST
FREE
CREDIT

41 VICTORIA ROAD, CAMBRIDGE: (0223) 68305

FURUKAWA

AWARD WINNING CABLES, FIBRE OPTICS & INTERCONNECTS



FV-10 SERIES

PCOCC 75 OHM UNBALANCED DIGITAL FV SERIES FOR CD-DAC, OR VIDEO.

FV-1005	CD TO DAC OR VIDEO	0.5M	50.00 EACH
FV-1010	CD TO DAC OR VIDEO	1.0M	55.00 EACH
FV-1015	CD TO DAC OR VIDEO	1.5M	60.00 EACH
FV-3010	CD TO DAC OR VIDEO	1.0M	NEW 35.00 EACH
FV-3015	CD TO DAC OR VIDEO	1.5M	NEW 37.50 EACH



FD-10 SERIES

PCOCC 75 OHM UNBALANCED ANALOGUE FD SERIES FOR CD TO PRE AMPLIFIER.

FD-1005	CD TO PRE AMP	0.5MM	95.00 PAIR
FD-1010	CD TO PRE AMP	1.0M	105.00 PAIR
FD-1015	CD TO PRE AMP	1.5M	115.00 PAIR
FD-3010	CD TO PRE AMP	1.0M	NEW 70.00 PAIR
FD-3015	CD TO PRE AMP	1.5M	NEW 72.50 PAIR



FO-11 SERIES

PCOCC FULLY BALANCED FA SERIES ANALOGUE INTERCONNECTS FOR PRE TO POWER AMP ETC.

FA-2010	PRE TO POWER ETC.	1.0M	120.00 PAIR
FA-2015	PRE TO POWER ETC.	1.5M	125.00 PAIR
FD-2010S	PRE TO POWER ETC.	1.0M	285.00 PAIR
7N-1010	PRE TO POWER ETC.	1.0M	775.00 PAIR
FA-3010	PRE TO POWER ETC.	1.0M	NEW 87.50 PAIR
FA-3015	PRE TO POWER ETC.	1.5M	NEW 92.50 PAIR



FO-12 SERIES

FIBRE OPTICS.

FO-1110	PMMA SINGLE STRAND	1.0M	50.00 EACH
FO-1115	PMMA SINGLE STRAND	1.5M	55.00 EACH
FO-1210	PCS SINGLE STRAND	1.0M	120.00 EACH
FO-1215	PCS SINGLE STRAND	1.5M	130.00 EACH
FO-1310	PCS MULTI STRAND	1.0M	145.00 EACH
FO-1315	PCS MULTI STRAND	1.5M	155.00 EACH

FEATURES:

- ALL PCOCC
- GOLD PLUGS
- DEDICATED
- SEALED
- SOLDERLESS

**10 YEAR
GUARANTEE**

PCOCC SPEAKER CABLES

FS-2T07	0.7 SQ MM	STRANDED	NEW	4.50 PER M
FS-2F09	0.9 SQ MM	STRANDED		6.75 PER M
FS-2T14	1.4 SQ MM	STRANDED		7.50 PER M
FS-2T20P	2.0 SQ MM	STRANDED		11.00 PER M
FS-2T30F	3.0 SQ MM	STRANDED		16.00 PER M
FS-2T35P	3.5 SQ MM	STRANDED		20.00 PER M
FS-2T55F	5.5 SQ MM	STRANDED		32.50 PER M
FS-2T15	1.5 SQ MM	SOLID		65.00 PER M
FS-2T15/7N	1.5 SQ MM	SOLID		340.00 PER M
FS-2T BW	BI WIRING	STRANDED	NEW	47.50 PER M

DISCOVER WHAT THOUSANDS OF USERS, INDUSTRY LEADERS AND JOURNALISTS KNOW, FURUKAWA MAKE BETTER CABLES. THE FOLLOWING DEALERS WILL BE PLEASED TO DEMONSTRATE THE MANIFOLD IMPROVEMENTS FURUKAWA WILL MAKE TO YOUR SYSTEM, CALL NOW FOR AN APPOINTMENT.

BEDS	WENTWORTH AUDIO	0592 663383
BUCKS	AUDIO INSIGHT	0908 561551
CHESHIRE	DOUG BRADY HI FI	0925 828009
CLEVELAND	ACTION AUDIO	0442 480723
CLWYD	ACTION GATE AUDIO	0978 364500
CUMBRIA	PETER TYSON	0228 46754
DEVON	CHELSTON HI FI	0803 604863
ESSEX	BRENTWOOD MUSIC CENTRE	0277 221210
ESSEX	SEVENOAKS HI FI	0376 501733
GLAMPHAN	AUDIO SUITE	0224 625435
HERTS	RADLETT AUDIO	0923 856497
HUMBERSIDE	MANDERS HI FI	0472 351391
KENT	SEVENOAKS HI FI	0732 459555
KENT	SEVENOAKS HI FI	0892 541968
LEICS	LEICESTER HI FI	0533 539753
LONDON	BARTLETTS HI FI	071 607 2296
LONDON	SOUNDSENSE	071 402 2100
LONDON	DOUG BRADY HI FI	071 379 4010
W.LONDON	BABBER ELECTRONICS	081 579 6315
S.E.LONDON	SEVENOAKS HI FI	081 855 8016
S.E.LONDON	BILLY YEE	081 318 5755
MSEX	SEVENOAKS HI FI	081 342 1973
MSEX	RIVERSIDE HI FI	081 892 7613
MSEX	MUSICAL IMAGES	081 549 5802
MORPOLA	SOUND APPROACH	0403 422833
N.I.	ZEUS HI FI	0232 332522
SURREY	P.J. HI FI	0483 504801
SURREY	ZEBRA	081 688 2093
SURREY	SEVENOAKS HI FI	081 645 1203
SURREY	AUDIO SOUTH	0252 714555
SURREY	AUDIO IMAGES	0502 582583
SURREY	AMADEUS SOUND & VISION	021 3542311
WEST MIDL.	DOUG BRADY HI FI	0943 467489
YORKS	AUDIO REFLECTIONS	0532 528950

**FOR FURTHER INFORMATION, & FREE LITERATURE, CONTACT:
QUANTUM AUDIO LTD.
PO BOX 26,
KILMARNOCK KAI IBA.
TEL: 0563 71122. FAX 0563 71133**



FO-13 SERIES



FS-2T14



FS-2F09



FS-2T20P



FS-2T35P



FS-2T15S

Pink Triangle Anniversary

Pink Triangle Ltd, 4 Brunswick Villas, Camberwell, London SE5 7RR. Tel: (071) 703 5498

It just so happens that Pink Triangle's tenth anniversary coincided with my acquisition of the original *PT* turntable in 1981. In what was very much a Linn *LP12* dominated era I felt like a pariah and an outcast, but the *PT* sounded, ahem, simply better.

Since then, despite the emergence of new and improved competing decks, I have remained loyal to the marque. My original *PT* was converted to *TOO* spec in 1987, and for the last few months I have been coming to terms with the company's latest £1,400 flagship, the *Anniversary*.

Internally, the *Anniversary* subchassis is thicker than the *PT2/Export* version, the latter's aerolam sheet supplemented by balsa wood in the *Anniversary*. The armboard is supplied in the same sandwich of materials to maintain continuity from armbase to subchassis. Besides Pink's established inverted bearing assembly, the subchassis is also host to a quiet running DC motor (the commonly used AC motors are generally too prone to vibration for such a location). The spaces between subchassis and plinth are filled with shaped blocks of medite to reduce plinth resonances. Speed selection (33/45) is achieved via an acrylic knob on the front of the power supply.

True pink

In true Pink tradition the suspension is delightfully free and bouncy, and to keep it that way a thin-wire flexi-link arrangement is incorporated between the arm base and two phono sockets on the rear of the plinth. While this arrangement offers users their own choice of interconnects between deck and preamp, take note that many of the more fashionable interconnects on the market are unscreened and are therefore unsuitable for this application. Having searched high and low for a suitable screened cable for the *Anniversary*, my best find is Sonic Link *Violet*. It has a refreshingly open, transparent quality which matches the deck well. At £80 for a terminated metre *Violet* is reasonably priced in the context of a £1,200 turntable and the quality of arms and cartridges likely to be fitted to it. No point in spoiling the ship for a ha'p'orth of tar.

Owners of the *PT TOO/Export* models will no doubt be curious as to whether an upgrade to the *Anniversary* is worthwhile.



As a long term *PT TOO* user I find that the *Anniversary* offers subtle improvements in almost every area of performance, resulting in another step towards Pink's stated aims of clarity, neutrality, and faithfulness to the master tape. Indeed my own experiments persuade me that the *Anniversary* is virtually transparent. If anything, it is the subtle characteristics of arms and cartridges which make themselves apparent. My comparison of the original *PT* with the *LP12* highlighted the ability of the Pink to allow the music to speak for itself. To hear this virtue improved upon firstly with the *TOO*, and now even more so with the *Anniversary* is quite an enlightening experience.

Already pleasantly surprised by the deck's resolution capabilities with classical material, I turned to rock music via some Jethro Tull records, which I swore I knew off by heart. The *Anniversary* delicately scuppered this belief by revealing hitherto unnoticed subtleties such as Ian Anderson's breathy flute style and occasional vocal grunts and sighs, minor percussion details, the interplay of the various rustic instruments on *Songs From The Wood* and the effective sparseness of production on the debut album *This Was*.

The languorous mood of the jazz-tinged *Serenade To A Cuckoo* was captivating; even old chestnuts like *Bouree* from *Stand Up* came up as fresh as new paint.

To assess the *Anniversary* on a more

recent album, I chose Ron Kavana's *Home Fire*. This LP scores for its down to earth production and the exclusive use of acoustic instruments.

Having had the undoubted privilege of seeing Mr Kavana live recently, I was pleasantly surprised to hear the same spirit injected into this studio recording as witnessed at his live performance. The *Anniversary* commendably conveyed the unbridled gusto of these performances, the biting sincerity of the lyrics and the clean, natural production to good effect.

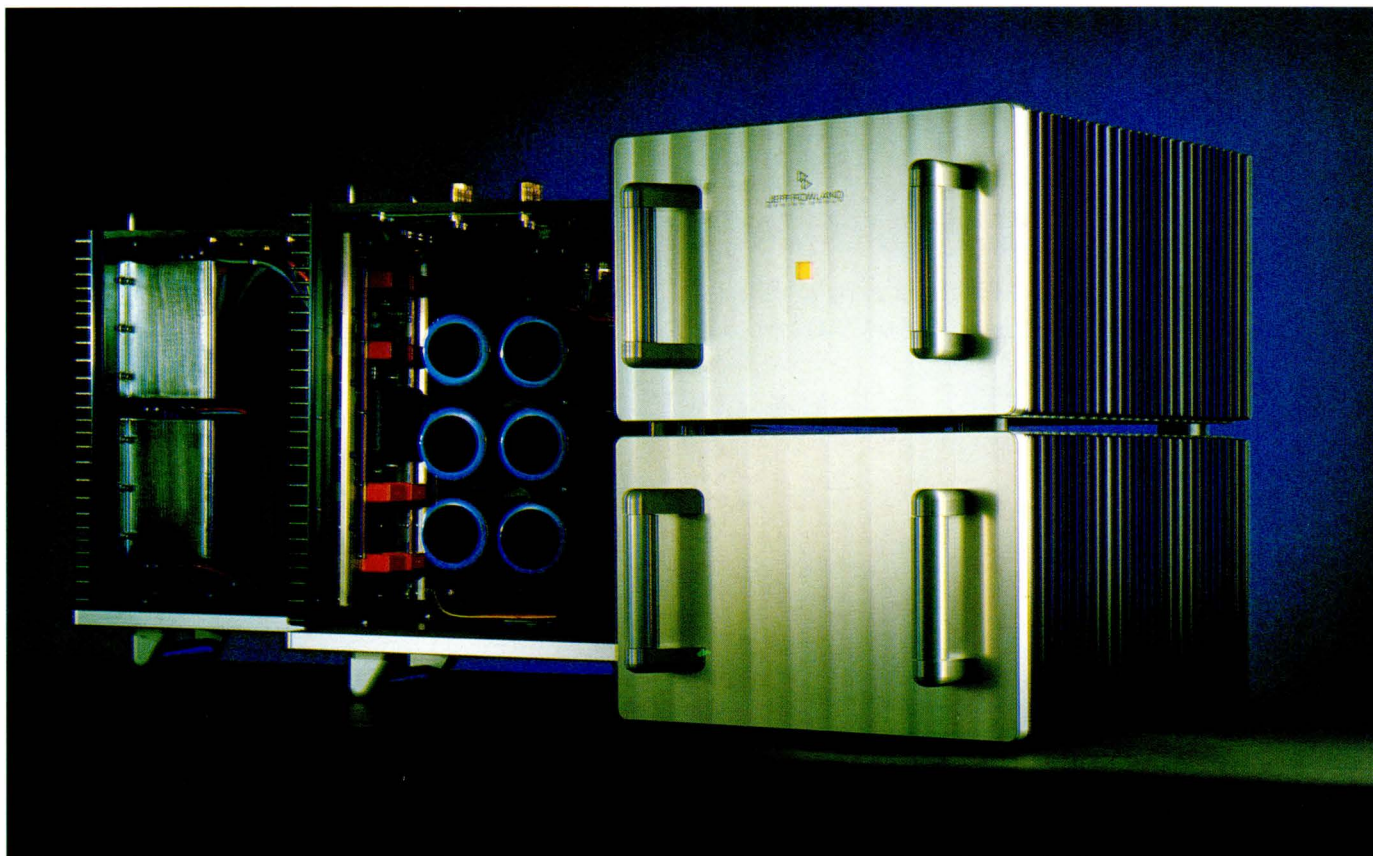
By this time the *Anniversary's* virtues were wholly apparent; astonishing detail retrieval, clean bass reproduction, sweet treble, kind treatment of surface noise, and superb resolution of three dimensional clues. For the benefit of the rhythm and timing brigade, rest assured that the various boogie factors essential to most forms of music were also intact.

As far as I can tell, coloration is non-existent, maintaining Pink's reputation as a producer of neutral turntables. Some of the other top flight decks I have heard seek to seduce the listener by stamping their own personality on the music via subtle euphonic enhancements.

You may have gathered that the *PT Anniversary* does nothing of the kind, which is why I have decided to invest in one for my own use.

Ian Ward

First published in Hi-Fi Choice Sept 1992



Rowland Model 9

**Gamepath Ltd, 25 Heathfield, Stacey Bushes,
Milton Keynes MK12 6HR. Tel: (0908) 317 707**

Got a bad back? No hairs on your chest? Then read no further for, at £17,500 and 205kg (452lbs) per stereo pair, the Rowland *Model 9s* are for heavyweight enthusiasts with a bank balance and *latissimus dorsi* to match. The *Model 9s*, current top-dog in the Jeff Rowland range and what the company describes as 'the fulfillment of an enduring desire to build an elegant, technically advanced amplifier . . . that embodies the timeless beauty and investment value often found in fine works of art'. Groan.

Yes, the *Model 9s* hail from Colorado Springs in the ever-enterprising US of A. They also comprise four very large and very heavy black-anodised alloy cases, each flanked by substantial heatsinks and decorated with a pair of impractical grab-handles. A real departure from the archetypal US school of heavyweight amp design. I don't think.

Sound as a pound

But the sound? Ah, now that is distinctly 'Rowland'. From the unswerving grip of its bass, the expansive midrange and the flood of sweet, delicate treble, these amplifiers seem at pains to deliver nine-times the soundstage of my favourite JR amplifier, the modest *Model 1*. For instance, the inherently bold and atmospheric quality

of Jennifer Warne's *Hunter* CD had already made its mark on our listening panel during our recent CD player survey. Yet, with a top-notch front-end (Arcam *D170.3/DPA PDM2*), these *Model 9s* still managed to surpass those earlier impressions of an exceptionally 'clean' recording.

Her voice was all but carved in stone, a sincere and vital presence surrounded by what was an eerie sense of space, a very free acoustic that had room to spare for the fuller and warmer spirit of the male harmonies. Then again this was not a loose or wishy-washy sound. No, despite the tremendous scale and atmosphere of even the most mundane recordings, there's always the feeling of this amplifier hovering in the background, a vast, brooding menace that keeps every fleeting nuance firmly in check. The *9s* do not smother the passion of the music but the latitude granted each performer is still rigidly controlled.

So the *9's* could never be described as 'euphonic' in the traditional sense, even if their very strict and exacting performance can be as compelling as the most exotically-coloured of tube gear.

One thing these behemoths are never short of is power, well over 1kW of steaming (I thought they were solid-state—Ed)

watts ready and waiting to thrash the living daylight out of any 'difficult' speaker under dynamic conditions. Otherwise Rowland rates each *Model 9* at some 600W into a standard 4ohm load, a conservative if no less alarming estimate. Just the ticket, however, when it comes to capturing the explosive introduction to Arnold's *Sussex Overture*.

In this instance the bass cones of my AudioNote *J* speakers all but ripped clear of their end-stops as the orchestra started abruptly into life. But like the very best of amplifiers the *Model 9s* do not sound objectionably 'loud' even when the room is crowded with SPLs. Instead the music sounds big, effortless and so very confident, a grand sound that sweeps out and up from the speakers like a magnificent condor breaking clear of the clouds. Well, reviewing 'fantasy hi-fi' brings out the pseud in me . . .

Back to the *Model 9*. It's as if the sheer scale and presence of its music is sufficient to provoke a powerful emotional response, even if the natural colour and vibrancy of the instruments themselves are permitted little or no leeway. Nevertheless, the supreme tautness, the unprecedented grip of this amplifier enables it to rattle off the most fiercest of orchestral dynamics. Mussorgsky's *Great Gate of Kiev*

all but detonated in my listening room, the sweeping climax of horns, low brass, strings and tympani crashing in wave upon wave of frighteningly complex but exquisitely-resolved musical detail.

And all the while these amplifiers were simply cruising, the high sensitivity and easy-going impedance of my speakers taxing but a fraction of its reserves.

Meanwhile the music rolled-on, awesome in stature and yet perfectly intelligible, every strand, every fibre of the orchestra preserved without muddling from its nearest neighbour. And that, with music so complex, is something I have experienced on too few occasions.

Reverting to a far simpler and elegant recording like Maire Brennan's self-titled CD and I was aware, once again, of the hulking presence of these amplifiers like a shadow moving silently through the midst of the music. A shadow that's not seen yet retains a visceral impact. The gentle but persistent rhythm of *Land of Youth*, for example, sounds just a trifle too composed with the *Model 9s*. With nary a hair out of place, her voice floats free of the percussion and strings to spark a deep and richly-detailed sound. The sort of sound that curves effortlessly from the speakers to envelop the listener and yet fails to probe every nook and cranny of the room.

Once again the *Model 9s* make their presence felt: this is a dominating amplifier that rules its music with a rod of iron, utterly neutral and transparent yet strangely unyielding, intolerant of any fickle humour in the music. There is emotion, certainly, but it's a passion that's derived from the power and grandeur of the music rather than a true reflection of the intensity provided by any one individual performer.

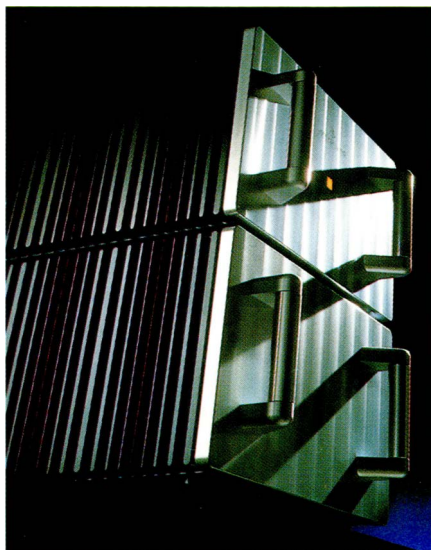
Power games

And power is something that Rowland takes very seriously indeed. Each monoblock amplifier, for example, is sustained by an outboard power supply of demonic dimensions. Both amplifier and power supply are built into massive anodised cases, each precision-milled from solid slabs of aluminium and dove-tailed into an exceptionally rigid frame. Connecting-up the PSU is simplicity itself though the power amps offer a bewildering array of options.

You can select between balanced XLR and unbalanced phono (RCA) inputs, for example, while determining both the signal phase and input impedance. The low

(300ohm) option should only be used with single-ended preamps offering an appropriately low output impedance while valve preamps, in particular, are better served by Rowland's 50kohm loading mode.

As an aside, the choice of pre-power interconnect is especially important when both source and input are of a very low impedance. Problems including dielectric absorption are exacerbated under these conditions, as the company representatives who came to set-up the *Model 9s* were soon to discover. Rowland, by all accounts, recommends that a certain high-end brand of interconnect be used with its amps (no names, no pack-drill) even though this looked suspiciously like a three-core multi-strand mic cable. Swopping this for an equivalent length of *Black Slink* (but retaining the Silver Sounds 12/



2 speaker cable) made a bigger difference to the cleanliness and resolution of treble detail than our earlier experiments with different speakers.

Once again this amp makes use of JR's DMT or Differential Mode Technology, a series of differential gain stages that dramatically reduce noise and distortion, including RF interference, that are common to both phases of the amp's balanced input. In fact it's possible to run the *Model 9s* in a floating balanced mode from input to output as the speaker return path (the 'black' terminal) is not referenced to ground.

Lift the lid and you'll be faced with six huge reservoir capacitors, the tail-end of its two-part and tightly-regulated power supply. But look a little closer and you'll see three encapsulated DMT modules, one serving the various inputs and the

other two forming the voltage gain stage for the massive mono power amp. It's even possible to vary the overall gain of the amp from +26dB (1:20) to +32dB (1:40). You'll not squeeze any more juice from the 9s but they will become proportionally more sensitive.

I've very little data to fall back on but, from past experience, the main power amp section would appear to deploy a combination of Class A drivers with no less than ten pairs of substantial bipolar current dumpers. And the entire show is thermally stabilised at a constant 43-44°C (110F), maintained even when the amplifier is left ticking-over in standby mode. Incidentally, the floating positive and negative speaker connections are hard-wired across the entire output stage using lengths of one eighth of an inch copper tubing!

Additional excesses include the option of a rechargeable Ni-Cad battery power supply to replace the existing mains-powered unit. Gamepath, Rowland's UK distributors, were unable to quote a price for this audiophile upgrade but then there's probably only one person left in the UK able to afford the 'basic' item anyway. It's a expensive way of avoiding rubbish on the AC mains but even with ten or more Ni-Cad cells strapped in parallel there's only sufficient current available to maintain some 200W (rather than 600W) into 4ohms.

Conclusion

At this outrageous price you have every right to expect superlative standards of construction, finish and reliability — expectations that are fulfilled to the letter in the *Model 9s*. Whatever your views regarding their subjective performance, there's no doubting the genuine enthusiasm and attention to detail that lies behind their construction. If nothing else, you can be sure that the £17,500 entry fee promises excellence in both materials and component technology. Meanwhile their commanding and meticulous sound is something that's likely to appeal to the classical buff rather than the pop or jazz fan who likes his or her music with its rough edges left intact.

At which point it doesn't really matter whether you've hairs on your chest or not. For at £17,500 you can afford to sit back, sip lemon tea and listen for the sound of tendons snapping as your Rowland dealer unpacks the *Model 9s* from their silver flight cases. . . .

Paul Miller

Sennheiser Orpheus

Sennheiser UK Ltd, 12 Davies Way, Knaves Beech Business Centre, Loudwater, High Wycombe, Bucks HP10 9QY. Tel: (0628) 850 811

Sennheiser is a pretty big fish in the European headphone pond, but it has always had very strong competition from the Japanese, especially from Sony, which not so long ago launched a statement on the art of headphone design, a £2,500 closed-back dynamic called the *MDR-10 King*.

Possibly in response to that, but more likely as a means of establishing itself as a high-end contender, Sennheiser has launched its own statement, the *Orpheus* electrostatic headphone. At £9,652 including a dedicated valve amplifier/energiser/DAC this is the most expensive headphone system currently available.

As one would expect of a cost no object, limited production creation, the construction of the *Orpheus* is pretty special. Each elliptically shaped earphone chassis is made out of laminated beech, which was chosen for strength and acoustic neutrality. The diaphragm is a 1µm gold coated polymer foil and the electrodes are made of honeycomb perforated glass sheets, which are gold plated on one side.

These delicate layers are protected by a honeycomb perforated stainless steel mesh on either side, but you can still see through the earphones if you hold them up to the light.

The circumaural earpads are furnished in an imitation leather which has a finish that's a cross between suede and velvet, very comfortable and not too sweaty. Power and signal are supplied via a flat OFC cable that connects to both earpieces and is made of teflon insulated OFC with a rubber outer dielectric.

The *Orpheus HEV 90* valve amplifier which drives the phones is nothing short of a work of art, the attention to detail and the standard of construction second to none. It combines stainless and chrome steel with a laminate edge trim and cast alloy to create a sculpturesque piece of audio equipment. You shouldn't need to ask why Sennheiser didn't make it a particularly stackable component.

The chrome amphitheatre

Its unusual design, resembling nothing so much as a chrome amphitheatre, conceals a power supply in the right hand wing, amplifier electronics in the middle and preamplification including D to A conversion in the left wing. There are no



output transformers and the four output valves operate in class A at all times. In an effort to extend tube life Sennheiser has incorporated an automatic delay into the start up of the heaters, so when you switch on the *HEV 90* the red LED flashes for about 30 seconds while the valves are gently brought to life.

The amp has both optical and coaxial digital connections for its BitStream (SAA 7323) DAC and a single line input. Switching between the two is available next to the sockets and volume is controlled by the chrome knob on top of the amp's front leg. Pretty subtle, huh? About the only other feature apart from the ignition key on/off switch is a second output socket for another pair of *Orpheus* cans, which are available separately, at a price.

I auditioned the set-up using the main output of my phono preamp (itself a be-tubed beauty) and spent some very enjoyable hours in the process. With most headphones one has a tendency to listen to specific reference tracks and then take them off with a not inconsiderable feeling of relief. With the *Orpheus* I ended up listening to whole album sides without even thinking about their sound quality, just enjoying the music.

All this made it rather difficult to assess the *Orpheus'* sonic character, especially in a critical fashion. Had Stax's finest been to hand it might have been possible to find some weakness, but to be honest I very much doubt it.

The *Orpheus* is amazingly clean and distortion free, which can be quite hard to get used to after the relatively raw sound of moving coil drivers. You lose a lot of aggression, which takes the edge off electric guitar, for instance, but gain incredible fluidity which allows acoustic instruments to sound phenomenally natural. The sense of spaciousness is superb, the ambient information being so rich in some cases that you get a precise impression of the acoustic space in which a recording was made. Detail resolution is excellent and it's presented in such a relaxed fashion that it doesn't wear you out. There is a degree of relief when you take the headphones off, but that's a result of the earpads and the unhealthy high levels one is prone to listen at because of the lack of distortion. Real long term comfort can only be achieved with designs like the Jecklin Float which don't touch the ear.

I had the £500 AKG *K1000* on hand for comparison. It didn't fare too well, sounding crude and flat for the most part. Bass performance approached the *Orpheus* in terms of dynamics and perceived extension but lacked its cleanliness.

In a nutshell, the Sennheiser *Orpheus* is a state of the art electrostatic headphone with build quality to match its high price. If you want the best cans in town and a future collectors' item to boot (only 300 are being made), look no further.

Jason Kennedy

First published in Hi-Fi Choice Dec 1991

Sequerra MET 7/II

Path Premier, Unit 2, Desborough Ind Park, Desborough Park Rd, High Wycombe, Bucks HP12 3BG. Tel: (0494) 441 736

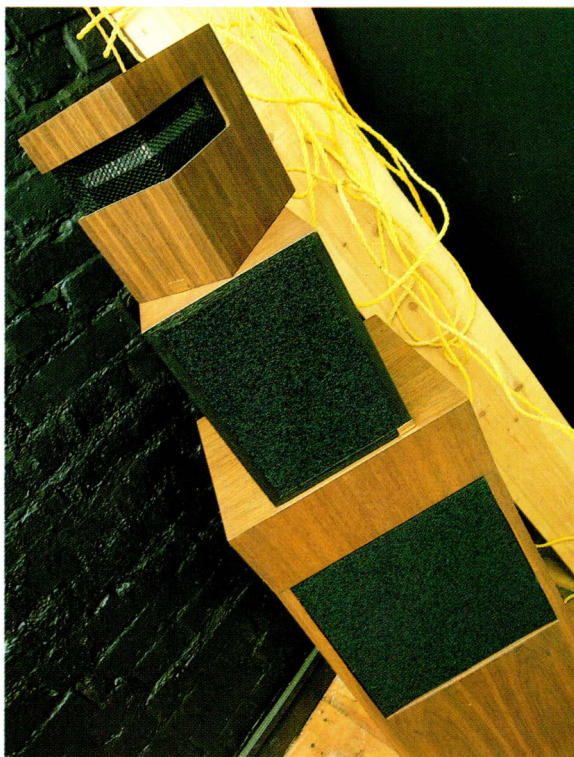
Imported by Path Premier, the Sequerra MET 7/II is an American speaker which comes with a heavyweight reputation, and a heavyweight name. Designer Dick Sequerra is the man behind such legendary products as the Marantz 10B and the original Sequerra tuner. These stratospherically priced products are a far cry from the MET 7/II, which signals a new determination on the part of Mr Sequerra to bring quality music to a wider audience. Of course, the price of importing and distributing the MET 7 goes some way toward undoing that good work, and by the time the speaker hits the streets this side of the pond, it will cost £695 for the standard walnut veneered version.

Trashing pop wisdom

One thing that immediately endears the MET 7/II to this jaded hack is the way it trashes popular wisdom. What we have here is a carefully considered answer to the problem of getting a musically satisfying performance out of a tiny enclosure. First, it's time and phase coherent. The stepped baffle sees to the time alignment while the narrow dispersion of the cone tweeter minimises diffractive effects. The baffle and inner edges are also felt lined. Impedance is a fairly easy 8ohms and, unusually for such a design, efficiency is high at 90dB (1W at 1m).

The frequency response, measured in room, is far from flat, but reveals some careful tailoring. Substantially flat from 130Hz to nearly 2K, the response falls gently above that. Below it, a severe dip leads to a bass peak at around 50Hz. The result is that you seem to hear far more bass than you really do, or to put it another way, you don't really miss what isn't there. Which brings us to the way the speakers actually sound.

Fire them up and you'll quickly discover that the Sequerras throw a huge soundstage, extending well outside the speakers and beyond the back wall. The other thing you'll be aware of is an increased sense of insight into the performance. It's that much easier to tell what's happening where and when. This is because the MET 7s take their virtues (speed, articulation, rhythmic integrity and resolution) and integrate them into a coherent whole. And the bass, despite its real limitations, remains convincing. In fact that's



the best word to sum up the MET 7s. They are, without fail, musically convincing.

But, fine speaker that it is, the MET 7 is only part of the story. Where Sequerra gets really clever is in providing the MET 8/II stereo subwoofer, and the MET 9/II ribbon tweeters.

The MET 8/II is a pair of single driver subwoofer enclosures intended to sit beneath the 7s, and fill out the bottom octave. They cost £1,850 a pair. They use a 10 inch polypropylene driver, time aligned by the slope of the front baffle, and claimed to reach down to a -6dB point at 23Hz, a figure which agrees pretty well with my measurements.

The clever bit comes with their sensitivity, the same 90dB (1W at 1m) as the MET 7s, and the fact that you connect them in parallel with the smaller speakers. That's right, no feeding the signal through a nasty crossover. The MET 7s continue to operate full range; the 8s simply roll off when they reach them.

Perhaps even more surprisingly, the MET 9 ribbons work in exactly the same way, overlaying their output on that of the existing tweeter. Again, sensitivity is high, 91dB for their omnidirectional output, largely due to enormous magnets

which go a long way towards explaining the £1,295 pricetag for the 9s. Unlike the subs, the tweeters are intended as a universal product, and as such you can match their sensitivity to other speakers using a trio of dip switches on the back.

The Sequerra stack, 7, 8 and 9, represents a serious full range system at an all in price of £3,840. And the real beauty of it is that it doesn't need an enormous muscle amp; 25 Watts of Jadis drove the whole lot to ear shattering levels with ease.

So what do you get for all that extra outlay? The subs give you an increased sense of body and substance, a sense of volume to the soundstage. Whether you're playing Julian Bream or Bon Jovi, you'll hear the difference, along with a dramatic in-

crease in dynamic range and a real sense of bass power when it's called for. Subwoofers should be heard but not noticed and the 8s do just that, adding scale and authority.

The tweeters are similarly subtle in their contribution. Play them on their own and you can barely hear them. Connect them along with the 7s and the air and sweetness, detail and focus they add to the top end is hard to miss. If the subs give the soundstage 'volume' then the tweeters give it 'height'.

The icing on the MET 7 cake doesn't come cheap, but it is there. The proof of that cake is in the eating and the 7s alone are surprising satisfying. Add the 8s or 9s and they get even better. But the key moment comes when you remove the extra units. Suddenly you wonder how you put up with the sound before. Of course, come back to the 7s a day later, and they'll seduce you all over again.

This is one speaker system I'll be very sorry to part with. At US prices the Americans should be beating down Dick Sequerra's door. At UK prices, I'd recommend a very serious listen.

Roy Gregory

First published in Hi-Fi Choice Feb 1992

Sonus Faber Extrema

Absolute Sounds Ltd, 58 Durham Road, London SW20 0DE. Tel: (081) 947 5047

Think Italian: what comes to mind? Red cars? Smooth men and sultry women? Fat singers? How about sheer style? One hi-fi manufacturer from that boot-shaped country has taken the best of latin visual sense and applied it to the most boring of hi-fi shapes: the speaker enclosure. That company is Sonus Faber, and it has — for the past decade — produced small specialist speakers with the kind of woodwork that even a camp interior decorator can adore.

So far, the company has concentrated on speakers selling for approachable prices. To celebrate the first decade, the company decided to issue its statement, and even the name tells you that no punches were pulled. The *Extrema* is Sonus Faber's challenger in the 'Killer Mini Monitor' stakes.

Going to Extremas

Initially the *Extrema* looks like its siblings, only slightly larger. The frontal area measures a not-intimidating 280mm wide and 460mm tall. A front baffle/grille combination is hardly the palette for great artistry, but we're talking about Italians, remember? The frontal area includes sensual curves around the woofer, a sculpted grille and even a leather baffle if you insist on removing the Cadbury-coloured grille. The bottom section is in the most exquisite walnut imaginable, eventually greeting a satin black top section, grooved at 30mm intervals. It's been described by various observers as resembling a Pharaoh's headpiece, Darth Vader's tobacco humidior or the perfect coffin for a dwarf art critic.

The small frontal area, though, is deceptive because the *Extrema* is 550mm deep. It's still no giant and only an attempt at lifting it or a peek at the pricetag tells you that it has high-end aspirations. Once placed on its massive, 24in six-pillar stand, the *Extrema* assumes real presence. And still it won't cause as much of a domestic ruckus as a six-foot panel.

At the back, more indications that all is not as it seems. Beside the obvious pairs of terminals for bi-wiring, the *Extrema* sports a heat sink, a knob and a black metal plate measuring 310x225mm and curved at the top and bottom, raised away from the speaker. Behind it is a third driver, a KEF B139, used as a passive radiator. The knob

is there to select one of five positions for damping the KEF unit. More about the *Extrema*'s backside in a moment.

At the top there is a 28mm soft dome Esotar 330/SF tweeter from Denmark, also used in the Electa *Amator*. It overlaps with the 190mm Audio Technology woofer, which uses a textured polypropylene cone coated with carbonium-acrilate; the woofer's magnet is the same diameter as the cone. It's rated to deal with 2kW for 10ms, confirming the notion that this compact design is unbreakable.

Sonus Faber has created its own technique for cabinet assembly, the enclosure sections corresponding to the grooves at the top. This sandwich construction creates a dense, inert box, accounting for much of the speaker's 40kg weight.

Back to the heat sink, which should have all of you wondering why it's there since the *Extrema* is not active, so it carries no amplifiers which need cooling. Below the '*Extrema*' legend at the back are the words SINE CAP_{PAT}. This tells you that the *Extrema* is the first Sonus Faber, and possibly the first-ever commercially available speaker, without any capacitors in its crossover network. Sonus Faber admits that this creates a need to dissipate whole watts of wasted power, hence the heat sink. It does mean that the *Extrema* is a power-hungry speaker. The cost of the gains in transparency by eliminating a key component from the crossover, creates a need for the kind of amplifiers with power to spare.

SINE CAP_{PAT} is a first-order parallel rather than series filter. By completely eliminating the capacitors, it allows the tweeter to deliver greater transient response and speed as well as higher transparency. The tweeter's level still has to be attenuated relative to the woofer, due to the former's higher sensitivity, so an inductor is fitted parallel to the tweeter.

The extra demands placed on the amplifiers render the stated nominal 40hm impedance and sensitivity of 88dB/1W/1m as little more than rough guidelines. While some of the truly sensational low power designs currently available — the Marantz *MA-24* Class-A monoblocks, Audio Research's *Classic 60* and others — will deliver adequate levels in small rooms, there are far too many occasions

when the *Extrema* will take such amplifiers to their limits. Whether you prefer tubes or transistors, you must connect the *Extremas* to a real powerhouse of the Krell/Levinson/(big) Jadis/Cello persuasion. For the review, a pair of Krell *MDA-300s* provided the necessary juice, while a surprising match consisted of two pairs of Yoshinos, transistor at the bottom and valve at the top.

The rest of the review system included the official *Extrema* stands, NBS speaker cable and the Krell *MD-20* transport, Studio DAC and KRC preamp, in balanced mode throughout. Tweaking proved to be a real chore because of the speakers' weight and the sheer inconvenience of repositioning stands with spikes top and bottom and weighing over 100lb each — not counting the speakers on top. And as with all small-systems, positioning is a fine art measured in tiny steps, each centimeter affecting the imaging and the bass performance.

The rear plate protecting the B139 reduces the importance of the speaker-to-back-wall positioning. It acts like a portable rear wall, so moving the speakers fore and aft produced only marginal changes in the bass. Stereo imaging, though, is affected by such moves. The minimum distance from the rear wall for acceptable performance is just over 1m, but the further away from the back, the better. That rear plate provides a kind of freedom for positioning never seen before in a small monitor.

Toe-in with the *Extrema* is a matter of taste. If your room is large enough to allow you to sit 4m or more from the line of the speakers, they can fire straight ahead, almost regardless of the distance between them. If you must sit closer, adjust the toe-in in small increments because, with this system, both imaging and treble balance will be affected. It was discovered by trial and error that it's best to set the positioning before experimenting with the adjustable damping.

The rotary damping control at the back works around the 40kHz mark in 3dB steps. This can only be adjusted by ear, starting with the middle of the five positions. It is almost entirely room-dependent, but it can fine-tune the bottom octaves in tiny steps, reminiscent of the capabilities of Apogee's DAX crossover. As the

Extrema has a wide but clearly-defined hot seat, it's advisable to sit tight while a colleague adjusts the controls, with the listener in the key position. The changes are subtle but identifiable, tightening or loosening the bass behaviour, especially on the decay of acoustic bass notes.

Mini monsters

Assessing a product which offers such a contrasting approach to perceived value is a tough task. Here we have a speaker selling for £5,991 per pair, plus £799 for the stands which really should be considered mandatory. Physically it seems too small to justify the price. On the other hand, anyone with an appreciation of fine furniture, component costs and the like will reckon it's great value for money. But the real test is the sound, and here the *Extrema* belies its size with the dynamic behaviour of a wardrobe-sized, driver-filled monster.

Provided that the amplifier is up to the task, the cables have been chosen with care and the siting issues have been addressed, the *Extrema* will fool you into thinking that it's the size of a phone kiosk. Indeed, the most dramatic demonstration one could have of the *Extrema* is in a pitch-dark room. When the lights

come on, the listeners will shake their heads in disbelief. This TV-sized box delivers scale and level adequate for filling rooms up to 6x10m without any difficulty whatsoever.

The transparency has become a Sonus Faber trademark, especially after the Esotar tweeter made its first appearance in the *Electa Amator*. Although capable of sizzling when the source material or the partnering components tend toward the bright, the sound remains tolerable rather than aggressive or fatigue-inducing. The tweeter is simply too revealing to feed with a signal from lesser components. The dispersion is such that the hot seat is wider than that of its only real competitor, the Wilson WATT, and the *Extrema* can almost match that little miracle for detail retrieval.

Unlike the WATT, the *Extrema* does not seem so much a studio tool as a pleasure machine. The listening experience is more relaxing, more cossetting, more comfortable. It has a romantic side, so the focus is on enjoyment rather than information exchange. To be fair to the WATT, its original purpose was that of a true studio monitor. The *Extrema* has been designed for the end-user rather than the record producer or engineer. And it doesn't need a subwoofer.

Although three quite different drivers are employed, from separate sources, the *Extrema* has a top-to-bottom consistency reminiscent of certain dipole designs; at times, it sounds like a Quad '63 with slam and bass. The tonal quality remains consistent regardless of frequency, and all transitions from loud to soft and back are smooth, with no stepping effect.

Possibly the only area worth criticising is the bass, which does need a certain amount of fine-tuning if it's not to reveal any flab or, worse, appear in disproportionate quantities relative to the rest of the sound. It's one of the reasons that the speaker should only be used on the dedicated stand, why spikes should be fitted to the top plate, why cables should be chosen with care and why the amplifier must have vice-like control. Again, proximity to the walls is less of an issue than with other speakers, but a distance toward the rear wall of less than 1m can result in too much low-end richness.

Possibly the most rewarding aspect of the *Extrema*'s performance is the convincing soundstage and (especially) image height. This contributes mightily to the impression that the speaker is massive. The properly tuned bass supplies ample weight and body, the mid/treble provides just the right clues for locating each sound. And the speed of that tweeter ensures that transients are as crisp and focused as they need to be for that sense of real precision.

Conclusion

The clever bit is the balance between the detail, speed and transparency with the sheer silkiness which places the *Extrema* as much in the 'musical' camp as in the 'accurate' camp. While this speaker will serve adequately as an analyst's tool, it's far better to think of it as a music lover's delight.

The only challenge facing those lucky enough to own the *Extrema* is that of finding sympathetic components. Any careful hi-fi enthusiast can alter the performance of a speaker by countering its character with that of another component. An all-tube-driven *Extrema* can go soft. A solid-state amp with too much bite can produce too cutting an edge to the sound of the Esotar.

But marry the *Extrema* to the kind of amplifiers, regardless of their drive technology, which share its sense of equanimity and balance between work and play, and you have the kind of system which makes you forget it's there. In short, the *Extrema* is *magnifico*.

The Hi-Fi Choice panel



Sony DAS/CDP R1a

Sony UK Ltd, Sony House, South Street, Staines, Middlesex TW18 4PF. Tel: (0784) 467 000

This £5,000 top-of-the-range duo takes its lead from Sony's first *R1* combination, though there has been a wholesale conversion from multi-bit to PLM bitstream technology. Externally the champagne-gold casework with its polished wooden side cheeks looks little different, but tucked inside the *DAS-R1a* are two *CXD2552* PLM DACs. These operate in a true complementary fashion to reduce distortion, maximise the signal-to-noise ratio and improve the player's overall linearity.

I won't bore you with reams of measurements, but suffice it to say the *DAS-R1a* DAC is seriously state of the art. The company has further improved its performance by incorporating a bi-directional optical link between both transport and DAC. The master oscillator in the DAC is used to clock out digital audio data from the transport, synchronising the timing between transport and convertor. Standard Toslink optical and EIAJ coax digital connections are also provided.

Other potential sources of digital jitter are addressed by means of the *CDP-R1a*'s GTS servo-controlled laser assembly and super-rigid transport mechanism, the latter built from tough, mineral-loaded castings. The entire mechanism is topped-off by a 5mm plate of extruded alloy, while even the two mains transformers are potted in resin to suppress vibration.

The care and attention that Sony has lavished on the construction of these units is obvious, but getting to grips with their subjective quality proved a more daunting task. Not least, I should add, because the *R1a* combination has no obvious colour and goes about making music with an almost frustrating evenhandedness. I ended up listening to this player for several weeks, hopping between it and several other combinations in an attempt to discern some sonic hallmark.

A refined performer

My concern was that the very refinement and neutrality of the *R1a* might also prove its downfall. It seemed utterly impartial, not grey or matter-of-fact but strangely effortless: the music appeared before and beyond the speakers with individual instruments hanging in space as if it were the most natural thing in the world.

In this respect the *R1a* bears compari-

son with the same company's *CDP-X77ES*. My lasting memories of the *X77* are of a light and refreshing sound, both pure and sparkling. The *R1a* sparkles too, but its bubbles are velvety smooth rather than astringent. A track like *The Promise* from Garson's *Serendipity* CD makes best use of the player's unforced but expansive soundstaging, the piano standing out clearly ahead of the glittering shower of percussion. And the patter of cymbals really did seem to glitter, each delicate

On the other hand, no sooner does *Auberge* die into silence than the gentler, meandering pace of *Gone Fishing* strikes up a deeper and warmer acoustic. His voice seems to fill the room, richly detailed, just as the measured tempo of guitar, percussion and bass fall unhurriedly into place. Once again everything seems in balance and a delightful sense of ease permeates the music. It is a pity this confidence is so rudely shaken by the busiest of material, hinting at a chink in an other-



strike revealed with pin-point accuracy.

The atmosphere and unspoken tension encouraged by the panflute from Engelberg's *Mosaic* was similarly tangible, the natural colour of the flute bringing the simplicity of his music to life.

Coping with rock

This is all well and good, but how does the *R1a* cope with a busy rock or pop track? This is where the cracks begin to show. The various sound effects that mark the intro to Chris Rea's *Auberge* are both intricately resolved and crystalline in focus, but they still failed to conjure up the airy acoustic that's captured on the disc.

Once the guitar, organ and drums join the fray there seems less 'space' in which to accommodate them. There's no anguished sense of compression, but neither is there the thrill of his slide guitar nor a raw power and impact behind the drums. The music's just too darn polite!

wise impervious armour.

So how can one justify the extreme cost of the *R1a* combo? You're certainly getting £5,000 worth of the highest technology and there are plenty of features too, most discretely hidden away on a matching infra-red handset which offers a range of play modes, a program memory bank and versatile custom index filing system.

Nevertheless, I cannot help but wonder if the sheer sophistication of the *DAS-R1a* DAC, in particular, is of any genuine sonic benefit. It is highly complex yet still elegantly executed and - most importantly - a very genuine attempt on the part of Sony's engineers to push back the frontiers of CD technology. In this respect at least they have succeeded even if, somewhere along its multitudinous pathways, the heart and soul of the music itself occasionally escapes its grip.

Paul Miller

First published in Hi-Fi Choice July 1991

Stax SR-Gamma Pro/SRM-X

Path Premiere, Desborough Park Industrial Estate, Desborough Park Road, High Wycombe, Bucks HP12 3BG. Tel: (0494) 441 736

Stax has been building electrostatic headphones, or earspeakers as it likes to call them, since 1960. In that time it has branched out into loudspeakers, amplifiers and D to A converters among other things, but, in this country at least, it is best known for its cans. It currently has a range of eight earspeakers and six energisers, the top valve driven combination retailing for nigh on £1,500.

The set-up under consideration here comprises the latest version of the £349 *SR-Gamma Pro* and a new energiser the £449 *SRM-X Pro* which is unusual in as much as it can be used with a £129 bolt on battery pack.

The *SR-Gamma Pro* is the least expensive *Pro* model in the Stax range. *Pro*, as well as being a suggestion that people who earn their living listening to cans might use them, is an indication that the diaphragms are 1.5 microns thick. A good half a micron thinner than the standard version, hence the £130 premium. The *Gamma* is a medium size headphone with circumaural pads and relatively flat oval capsules that don't leave much breathing space for your ears. They aren't crushed or even uncomfortable, it's just that larger circumaurals don't touch the ear at all. The pads have been modified on the latest version of the *Gamma* with squared off bottoms which presumably enhance long term comfort.

Structurally the *Gamma* is a pretty simple headphone, a polypropylene band supports an adjustable headstrap and a pair of swiveling yolks which cradle the capsules. The headband is a wide, flexible, man made affair that's comfortable and not too hot. Long term durability was very good in fact, it's only really the aural insulation that makes them a relief to remove. That said I don't know of a headphone that isn't a relief to take off, so it's no indictment.

Unlike dynamic headphones, electrostatics require an energiser to create an electrical charge on the diaphragm. A couple of Stax energisers run off the speaker outputs of your amplifier but the more expensive models require a mains supply and connect to a line output such



as an amp's tape output or the sockets on a CD player. The Stax *SRM-X Pro* is unusual in as much as it can be used either directly off the mains or with a rechargeable NI-CAD battery pack called the *BPS-600*. The latter is housed in the same extrusion as the energiser and can be screwed onto the back of the *SRM-X Pro* with a pair of knurled head bolts. The pair form a very neat little unit that, while hardly pocket sized, is pretty compact (37x130x200mm).

The outdoor life

I don't know whether anyone would want to use a pair of electrostatic headphones on the move, and whether a fully open backed phone like the *Gamma* is entirely suited to the outdoor life is a moot point. But there is another reason for the pack's existence, mainly that batteries generally sound better than inexpensive mains transformers, which turned out to be the case here.

The *SRM-X Pro* normally connects to your source via a pair of RCA phonos on its rear, however, if the *BPS-600* is bolted on these are no longer accessible and you have to use a mini jack on the front. An adaptor for a pair of phono plugs is supplied but it's not an elegant arrangement.

One forgets the extraordinary effect of electrostatics, they're so incredibly relaxed

when compared with dynamics, it's a totally different listening experience. The *Gamma/SRM-X* combination is difficult to assess in isolation, it easily outclasses even very good dynamics like Sony's *MDC-CD3000* on the lack of distortion front but then again so do all the electrostatics I've heard. The *Gamma* doesn't generally manage to create the impression of the sound being outside your head most of the time like the bigger Staxs, but when the recording really calls for it sounds can seem as though they are way out of the capsule.

Listening to Rush's *Moving Pictures* on an *Alpha* CD player with the energiser running off the battery pack, it's not difficult to see why people fall in love with stax. It's possible to listen at highish levels for long periods without the slightest hint of fatigue. They could sound more open perhaps and they don't have the welly of models like the Koss electrostatic but there's a lot that's intrinsically right about this set-up.

I rather like this particular Stax headphone and energiser combination, it's expensive but it's also a very capable set up that sits close to the top of the can tree. If you are looking for some special headphones give this combo a bit of your time, I think you'll enjoy them.

Jason Kennedy

Tannoy Westminster Royal

Tannoy Ltd, Rosehall Industrial Estate, Coatbridge, Strathclyde,

Scotland ML5 4TF. Tel: (0236) 420 199

Let's face it, you need a pretty juicy carrot to persuade almost the entire complement of UK hi-fi hacks to bestir themselves at five something in the morning, battle to Heathrow and shuttle up to Glasgow for the day. A new range of hexagonal loudspeakers is interesting enough in its way of course, but Tannoy's press liaison department was holding a couple of jokers up its sleeve.

"After we've done the *Sixes* presentation, there's a couple of other speakers we make that you might like to hear, but they're a bit big to ship down south." The fact that the couple of models concerned were the biggest, loudest, heaviest and most expensive speakers made in the UK outside the PA field turned the trick. Even the most unlikely characters could be spotted at a most implausible hour preparing for the trek north — especially once word had filtered back that *Westminster Royals* were something very special indeed.

The vital statistics tell their own story. The basic parameters are roughly two orders of magnitude greater than the typical British bookshelf speaker. A metre wide, more than half a metre deep and nearly a metre and a half high, 530 litres of internal volume could hang more clothes than I'm ever likely to use. A pricetag the wrong side of thirteen grand and a total weight of 138kg are further evidence of a statement so far outside the norm it leaves an immense credibility gulf. Surely such a leviathan isn't meant to be taken seriously?

Not by many over here in minispeakerland perhaps, but nearly a hundred pairs a year are snapped up by eager, mostly Japanese buyers, a phenomenon that deserves examination, investigation and explanation. Are they simply nostalgia buffs with more money than sense, who feel that a pair of WRs is the next best thing to owning a stately home? Or could such an extraordinary loudspeaker actually work better than the more

prosaic models we all use, and even go some way towards justifying its celebration of excess?

Certainly the *Prestige* series styling and presentation is well over the top, what with the gold coat of arms on the giant paper cone, and an engraved brass plate that's all too visible when the grille's removed (which it has to be, since it's acoustically pretty opaque). Acres of delicious linseed oiled veneerwork in American walnut with burr hardwood trim is both very impressive and somehow very Fifties with it, but presumably if you want a pair in tasteful black ash vinyl with foam grilles, Tannoy will be only too happy to oblige.

Going west

In any case, if it's the styling you're after, you can have all of that in the 'standard' *Westminster* which costs a whole lot less, and which is now available in updated TW (tulip waveguide) form at a mere six grand. I borrowed a pair of the originals eight or ten years ago, and although I can't claim total recall, I'm pretty sure this *Royal* variation is a very different animal. It's only a little larger, but the box is much beefier, better braced and built from Finnish birch ply, and the main driver has an old style Alcomax magnet in place of the now ubiquitous ferrites, a feature which some might dismiss as so much rubbish, but which Far Eastern audiophiles hold in great reverence.

The reason it's all so massive is that this speaker is a full range (three-way) horn, a technique which confers certain rather special advantages, but which does involve considerable and highly complex woodwork. Horn theory is significantly more difficult than Schrodinger's wave equations, which is about where my Physics petered out a couple of decades ago, so there's neither the space nor the inclination to go into much detail here. Suffice to say, a horn is essentially an acoustic trans-

former that improves the energy transfer efficiency between the speaker diaphragm and the air in the room.

The conventional direct radiating speaker uses a comparatively heavy cone to try and excite the layer of infinitesimally light air molecules with which it makes contact, which is a lousy way to transfer energy. Put a horn in between and the air in it acts almost like a fluid; the cone now works against the whole mass of air in the horn, which is much more substantial, and the large horn mouth helps get the energy into the room. A crucial bonus is that the air mass of the horn acts as a rather efficient damper that works directly on the cone surface, and this effectively negates the fundamental mechanical resonance found in box speaker systems.

In fact the *Westminster Royal* uses a combination of three horns. The single giant (15 inch frame) main driver is one of Tannoy's famous dual concentrics, which hide the tweeter down in the magnet assembly and fire it through a horn fabricated into the pole piece and extended by the main cone flare. Said cone's forward output is reinforced by the elaborately shaped baffle, while a large, complex, folded bass horn is energised by the rear of main driver and exits through full length vertical slots that slice off the baffle edges. Bi-wire/-amp terminals feed an elaborate crossover that allows five alternative treble level settings over two independent bands.

The sheer scale of the beasts dictated close to wall placement, and my usual room based measurements delivered some interesting and impressive results. Indeed, the averaged in-room response fell within a remarkably good ± 6 dB limits from 20Hz right up to 15kHz. It's distinctly mid forward 200-600Hz, and rather uneven through the treble too, but very respectable low bass extension (-10dB at 20Hz) in conjunction with a very high

'real' sensitivity of around 95dB and a generally mild amplifier load represent an astonishing performance envelope by normal standards. In fact it seems somehow more voltage- than current-driven, and clearly matches valve amplifiers very well, though the high sensitivity does tend to show up any residual noise in amplifier output stages.

The sound is no less sensational too, given a little effort tweaking and running them in. First impressions led to some embarrassed shuffling of the feet all round, but by the time we'd removed the thick grille and fixed the monsters properly in position on some upward facing Michell cones (they come with castors and no formal spiking provision), things were really starting to come together.

By the third day I'd fallen in love, and several mouthwatering weeks further

and less coherent the louder you go.

This speaker is an audio/optical illusion. It's so goddam enormous you expect great gobs of uncontrolled bass, masses of welly and not a lot in the way of subtlety. What you get is quite the reverse. It's actually rather shy and light in the bass, and the whole thing sounds remarkably transparent in the way you hear right through the speaker back to the source and the music. The 'point source' provided by the coaxial driver is a major bonus in creating stereo focus which is first class by any standards, and superb from something so large.

The bass is a bit lacking in weight to be sure, but that's a small price to pay for an utterly refreshing openness and freedom from boom and overhang effects of any kind. There's plenty of extension and considerable agility too, with an almost

no favouritism but merely revealing the strengths and weaknesses of each.

Change the record on the turntable and you'll probably hear a whole different set of mistakes and flaws from the change of recording and cutting studios. Go over to CD — boring, isn't it! Switch to radio and marvel at the horrid little continuity studios the BBC uses. Turn on the TV and gasp at the atrocious mangling generated by the clip-on lapel mike. Then a blockbuster movie starts, and it's like being in the best seats at the Odeon Leicester Square — those guys who mix the big movie soundtracks are true artists!

Not only is the sound exceptionally coherent, especially at very low levels, it also seems to make differences that much more obvious — something which not only makes for a highly analytical experience but also provides tremendous insight beyond the source and into the music itself. Even the most ghastly recordings remain unfailingly interesting musically, and are therefore surprisingly tolerable to listen to.

Less comforting perhaps is the unerring way it pinpoints the limitations of the rest of the system, a characteristic that could result in excessively tweaky behaviour patterns, and pose a real threat to any income, disposable or not.

Seat of power

One of its closest performance rivals is probably the other Tannoy monster mentioned in the second paragraph. The 215DMT is much smaller and the textured sculpted grey MDF much closer to British tastes than the WR. The treble horn has a new 'tulip waveguide' (as has the new *Westminster TW*) for a much smoother HF, and a second 15inch driver helps out in the bass, but there's no bass horn or Alcomax magnet. I've been trying (unsuccessfully!) to borrow a pair for eighteen months now, but studio monitors are not sold through the hi-fi trade. (A top Japanese hi-fi journal recently gave the 215DMT a major award, throwing Tannoy's niche marketing strategy right out of kilter!)

But the *Westminster Royal* is all about celebrating vintage engineering, and my findings only confirm that big Alcomax magnet coaxial drivers and full horn loading still have a great deal to offer. So much in fact that one wonders why the UK market consigned them to the scrapheap of history twenty years ago.

Happily, the perspicacity of Japanese audiophiles saved the species from extinction, enabling these *Westminster Royals* to prove that even though hi-fi has got cheaper and smaller over the years, it has also been advancing steadily backwards at the same time.

Paul Messenger

First published in *Hi-Fi Choice* May 1992



down the road I am still convinced that this is the best loudspeaker I've yet encountered. Its flaws and fundamental character are obvious enough, and the middly balance takes a bit of getting used to. But the perfect loudspeaker doesn't exist, and the WR is so exceptional in other respects that it's easy to forgive its cosmetic blemishes.

Effortless is the adjective that immediately springs to mind, but it's difficult to convey the sensation involved without undergoing the experience. The system has prodigious dynamic range and can deliver enough loudness to make sure you give up before they do, though in fact the WR is happiest at low and medium levels, where it is delicate, dynamically very precise and uncannily transparent, and the sound does become more untidy

uncannily ability to distinguish subtle low frequency textures and tonality, though one might wish for just a little more slam and overall consistency. And it has to be admitted, when the going gets tough and you start to work them hard, the bass does become rather less convincing and the 'woody' panel colorations more obvious.

In some senses the WR is just too good. It provides an uncannily accurate sonic picture of the source from which it is fed, not to mention all the components along the way — an open window onto the manifold audio engineering inadequacies that lesser speakers merely gloss over. It takes no prisoners — if your system isn't properly set up it'll tell you all about it — but it is also impressively evenhanded in the way it deals with all the various sources, disc, tape or broadcast, showing

Technics SH-X/SL-Z1000

Panasonic Consumer Electronics, Panasonic House, Willoughby Road, Bracknell, Berks RG12 8FP. Tel: (0344) 862 444

The term 'high-end' conjures up visions of expense and luxury, but it's mainly concerned with performance; audio equipment is expected to come up to certain standards. In Japan these standards are pursued by small but well known specialists such as Stax and Koetsu. But there is also another high-end enclave less familiar to Western audiophiles: almost all the major Japanese brands produce high-end products for the home market. Indeed, the two largest operators, Sony and Technics, are big enough to distribute some of this high-end equipment on a small scale in Europe. Hence the Technics SH-X1000, SL-Z1000 combo.

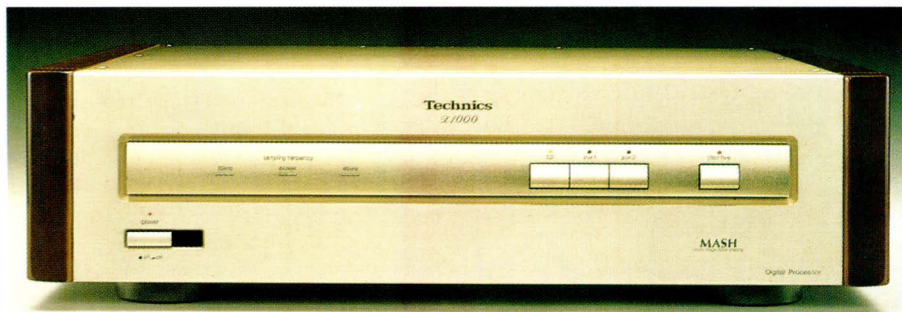
Taken from Technics' *Digital Reference* series, this is a virtual cost-no-object machine which costs 10p less than £5,000. The transport and decoder boxed sections are linked by the SPDIF digital interface, which can be connected up with either optical or coaxial connectors.

This is not the place for a heavy technical story, so suffice it to say that state of the art signal to noise ratio, distortion and linearity are all achieved by a balanced differential, low bit conversion system incorporating a total of eight MASH D to A converters.

While the transport is an inert, low vibration design, the key aspect of the decoder is its low jitter receiving system which recovers digital signals with greater than usual accuracy. Three voltage controlled quartz crystals are used but the heart of the jitter reduction scheme involves clocking the data into a large 1.5Mbit memory, the data fully synchronised via a DSP controller. This directly addresses one of the known weaknesses of the SPDIF interface and, as such, is no gimmick.

The main listening system comprised a Krell *KSP7B* preamp driving a pair of *KSA80B* power amplifiers bi-amped to Apogee *Duetta Signature* loudspeakers. Reference CD systems included the Audio Research *DAC1* and Meridian *606*, together with the *602* transport. Further comparisons were undertaken with B&W *805* speakers on Slate Audio stands.

First impressions of this CD player were of a unit of exceptional sonic precision, one obviously in the top rank of digital products and well removed from the common herd.



Its striking purity is typical of Japanese esoterica. It is capable of sounding totally free from subjective distortion and exquisitely detailed and well polished. Another element was the feeling of weight and authority, the sound giving a reminder of its physical bulk and weight. It is great hi-fi, which delivers wide, deep, and very well focused sound stages over a wide dynamic range.

Bass hit

Bass goes deep, with a meaty, powerful effect which is impressive. Through the mid range, the player avoids the mild tendency to glare and also the presence range brashness evident with some multi-bit designs, while at the same time avoiding the dynamic softness of some cheaper low bit designs. The mid is expressive, informative and unfatiguing, despite a touch of forwardness in stereo presentation. The soloists are placed a bit further forward in the sonic picture than with the Audio Research and Meridian decoders.

With the Technics there is a slightly 'processed quality' in the treble, the sound lacking analogue master tape neutrality in timbral and harmonic terms, but high frequencies are nonetheless handled with great skill. Sibilance is beautifully controlled, the effect is crisp and well localised without undue emphasis.

By Linn *Sondek* standards, its ranking fell back in terms of pace and rhythm, its performance more of an exercise in clean signal handling than a communication of a musical event. Thus the *1000* appealed more to the cerebral aspects of musical appreciation and less to the emotions.

Nonetheless, its ability to skilfully portray all the other audio dimensions means that its use with fine recordings will generally carry the day.

Finally, the sound quality was explored with the player in 'jitter free' and 'normal' operational modes. In the latter case, the treble was more like that experienced with less sophisticated designs, with a touch of audible grain and blurring. Certainly 'jitter free' gave the clearest, cleanest and highest definition.

Despite its internal complexity, all the control circuits operated without fuss or limitation. The low jitter design has made a significant contribution to sound quality, while the Technics' overall performance is similar to the standards set by comparably priced, highly rated audiophile gear imported from the USA.

Longevity and pride of ownership play their part in purchases at this price level and the machine's flawless build quality and finish certainly provide that.

Martin Colloms

First published in Hi-Fi Choice Oct 1991

Theta DS Pro Prime

**Absolute Sounds, 58 Durham Road, London SW20
ODE. Tel: (081) 947 5047**

Two manufacturers in the States have built a reputation for digital hardware based on a simple, daring idea. Simply stated, and without attempting to reproduce the full force and subtlety of the argument, it is that brickwall anti-aliasing filters introduce phase distortions on the fast rising leading waveform edges. The effect is that transients are smeared, leading to a hardening of the sound and a loss of timing and subtlety, complaints often levelled against Compact Disc.

The two companies involved — Theta and Wadia — have pioneered various forms of ‘time domain’ filtering, which allows a certain amount of in-band treble roll-off in exchange for a more benign filter broadly optimised for the transient waveforms that play so dominant a role in our perception of music.

Although they design their filters in rather different ways, both Wadia and Theta use programmable EPROMS to store their in-house designed filter algorithms, which are processed by high speed DSPs instead of standard off-the-shelf digital filters.

Prime time

In the past, digital convertors using time domain filtering have used multibit DACs because, when properly designed, they offer superior audio performance to low or one bit DACs. The £1,299 *DS Pro Prime*, however, is designed as a low cost convertor (by US audiophile standards), and a decision was made to employ a Philips SAA7350 Bitstream convertor which is both less costly and which doesn't need the time consuming and costly trimming required by multibit convertors if they are to do their job properly.

The *DS Pro Prime* was conceived as a minimalist audiophile convertor, and lives up to this with its compact casework, and its almost complete lack of extraneous features. There is just one switch on the front, to select between the S/PDIF coaxial and TOSLINK optical inputs — the latter a convenience feature that should not be used unless an electrical feed is unavailable — and a single set of fixed level analogue outputs. Power consumption is minimal, no mains switching is provided and there is no polarity inversion.

The Theta DAC was used with a Theta transport, the *Data II Universal*, a unit adapted from a mechanism originally designed by Philips for Laservision purposes.

The *Pro Prime* sounded good used cold from the box, but really began to sing after a few days. From then on, the unit was characterised by its seamlessly musical quality. Most readers won't need reminding that this is a key failing with most digital processors, but the Theta sounded too fluid and organic to ever fall into the trap of sounding synthetic.



The real stand out feature of the Theta, however, is its bass, which is nothing less than extraordinary. If you have a system with real LF capabilities, you will be rewarded in a way that no previous digital hardware in my experience has been quite able to match. It is not just that the bass stretches a long way down; this is par for the source with even the cheapest and nastiest CD player. Where the Theta comes into its own is the organic nature of that bass, the way it changes perfectly adequate musical sounds into something that lives and breathes, that has a recognisable sense of structure and position within a tangible soundstage.

With a number of my better recordings, music reproduced by the Theta was surrounded not by the usual amorphous ambience, but a highly specific low frequency signature of the particular space captured on disc. In this sense the *Pro Prime* sounds more like a top flight analogue record player, albeit with greater stereo depth and less overhang. Conversely it is a long way from the sterility of much digital hardware. Neither the Linn nor the Roksan CD players could quite match the Theta here.

Elsewhere the Theta remained impressive, if not quite so impressive. By ordinary CD standards the *Pro Prime* coupled

to the *Data II* is a sharp, articulate and explicitly detailed player, with just a trace of shyness at the very top end, giving some middle range tonal colours a slightly darker feel than expected, though this was far from being unwelcome.

The signature of the Bit Stream convertor could be clearly detected by a loss of articulation and separation during complex musical passages such as the messy bits (if they can be called that) of Mozart's *Requiem* for example. Players like the Wadia X-32, which cost rather more, have a much greater feeling of the struc-

ture of the music outside the bass region, and both the Linn and the Roksan ran the Theta close, the Roksan especially sounding more neutral and explicit, though a little more ‘electronic’ in character.

Conclusion

The Theta *Prime's* extraordinarily vivid quality and spacious, natural voicing is a triumph for this almost affordable D/A convertor, and incidentally a vindication of its time domain filtering, though probably not for Bit Stream conversion per se. This comparatively rare audiophile application of this emergent technology, now almost ubiquitous at lower price levels, shows a certain amount of promise, though it continues to underperform compared to the best of multibit in crucial areas.

Summing up, the *Pro Prime* offers a slightly unusual combination of virtues, but its large scale, natural imagery and superb bass carry it through, and the occasional very slight loss of separation in the midband is the only shortcoming. Taking the rather attractive price into account, the criticisms tend to recede, and subject to auditioning, the Theta DAC is highly recommended for extended bandwidth systems.

Alvin Gold

Thiel CS2.2

**MPI Electronic (UK) Ltd, Wood Lane, Manchester,
M31 4BP (061) 777 8522**

Usually the £1,995 Thiel CS2.2 is certainly more than a little out of the ordinary. It's a floor standing design that ends up just over a metre tall when placed onto the three spikes that serve to couple it to the floor. Basically it looks as though someone has taken a conventional, rectangular cross section speaker and sliced it in half along the diagonal, with the drive units themselves being mounted on the sloping face left by this bisection.

From a visual point of view this makes for a rather appealing, if unusual, shape, which tends to merge with the average domestic environment rather better than its more conventionally shaped brethren. The cabinet itself is covered with a luxurious real wood veneer and a measure of the tender loving care that has been lavished on it can be found in the fact that the veneer on the top of the cabinet precisely matched that of the small inset at the base of the front panel, as well as the sides and back, something which lends it a real 'craftsman built' look.

Further inspection of the front baffle reveals that not only is it sloping but it is also slightly curved, to reduce diffraction, as well as having its edges neatly rebated. It is a massive two inches thick, as opposed to the cabinet itself which is built from a still comparatively OTT one inch thick fibre board. The whole thing comes covered with a cloth grill which proved to be remarkably acoustically transparent and ended up staying on the speakers for most of the listening tests, something which further adds to the aesthetic appeal of the design.

As an interesting aside, the Thiel is also an ideologically sound speaker, if anything costing £2,000 and dedicated to pure musical enjoyment can ever be described

as such. On unpacking the cartons I was rather surprised to find a white paper entitled *Manufacturing, the environment and Thiel Speakers* written by no less a personage than Tom Thiel himself. In the paper he goes into some detail on the sourcing of the timber used in his products as well as other 'information about the health and environmental considerations of Thiel speaker cabinet materials and manufacturing processes.' Although it can sound a bit clichéd it is still a concern to be applauded.

Anyway, back at the 2.2, the speaker itself is a three and half way, with tweeter, midrange and bass units sitting alongside a six by nine inch passive radiator.

A coherent argument

The drivers are arranged on the sloping baffle in such a way that they are time aligned, ie, the sound reaches the listener at almost exactly the same time from each driver, rather than coming from the tweeter first. This is the case if both small and large units are mounted on a vertical baffle, for the simple reason that the cone extends further back in a bass unit and therefore the sound has further to travel before it reaches the listener. Thiel uses the trademark phrase Coherent Source to describe the twin aims of time and phase coherence which sit at the heart of its speaker designs.

The tweeter and mid unit are grouped together towards the top of the baffle, the tweeter being a 25mm metal dome unit which takes care of frequencies over 3kHz. The larger, 75mm midrange unit takes over and extends the output down to 800Hz or so where it is picked up and carried down to the -3dB point at 33Hz by a 200mm long throw woofer.

As you would expect of this sort of

design the cross-over is a fairly complex beast which, according to the manufacturer, is designed for precise phase and time alignment. In fact, to say the cross-over is fairly complex is a bit of an understatement. In my book, any crossover that has no less than 26 elements and a total of 35 components deserves the title of very complicated and should be proud of it.

The reason for the crossover being so complex is that it is a true first order device, something that is both complicated and very difficult to engineer, and is therefore only very occasionally seen in loudspeaker designs. However, Thiel has used first order crossovers since 1978 because it feels that the phase coherence achievable with this type of device more than offsets the extra costs involved.

Just missed the post

Rather unusually for a speaker at this price point, just a single set of binding posts are provided, underneath the speaker. Thiel designed the speaker to operate best when fed from a single set of cables and didn't want to compromise the design by providing another set of posts just because it's the latest fad. And, of course, it saves on cable and certainly left my living room floor in the tidiest state it's been in for years.

In theory there is a lot to be said for three way designs, but in my experience, with a few very notable exceptions, they tend to suffer from a lack of integration and the crossover points are inclined to be fairly obvious. However, the first thing that struck me about the Thiels was exactly the opposite, in that the sound was incredibly smooth and well integrated right across the frequency range.

In fact if I had to pull out the Thiel's greatest strength, and there are many,



then it would have to be overall integration. This facet of the Thiel's reproduction of music is best addressed with adjectives such as smooth and unfatiguing. In short, they are the sort of speaker that just disappears and lets the music get on with it. I was lucky enough to have them at home for a couple of months before sitting down to write this review, and although by that stage I had got almost completely used to them and took this musical transparency for granted, it was interesting to note their effect on visitors who got just a brief exposure. I suppose I should really try and keep this quiet but I'm a bit of a Leonard Cohen fan on the side. I have been listening to some of his early albums for more than a decade now, and really thought that I knew all there was to know about them. However, late one night I settled down with a friend to listen to a bit of

Laughing Len (OK so I've got weird friends as well) and we were both amazed to hear details coming through that we'd never heard before.

This was particularly apparent with the female backing vocalists, who had just seemed an integral part of the track in the past, but with the Thiels you were somehow presented with a different picture in which the female vocals were almost as important as the main vocals and the layers of detail and positional clues that had somehow passed me by before became blindly obvious.

Elsewhere in this issue reference is made to Jimmy Hughes' comment that a great hi-fi component should sound great whatever the source material, and in this respect the Thiels are a truly great speaker. Most hi-fi speakers will just laugh when faced with naff Guns 'n' Roses or Van

Halen recordings and being asked to present same at outrageous volume levels. In fact this sort of material often sounds better on the ghetto blaster in the kitchen than it does on the main system. However, the Thiels proved up to the job of turning my front room into the front row of the Hammy Odeon with consummate ease. In short, they've got balls and know a bit about rock and roll.

However, there is a lot more to the story than that. Another of my musical loves is female vocals, in almost endless variety, and for this sort of music the Thiel is quite simply the best speaker that it has ever been my pleasure to have in the house. Although other designs might better the Thiel in a single area of performance, the 2.2 seems to be such an excellent overall compromise that you end up listening to music rather than looking for faults. In fact this could even go against the Thiel on demonstration as they just disappear, leaving a nicely detailed sound stage and a very involving musical event, but not one which is immediately rammed down your throat as impressive. It's just natural, and above all, right.

Let's face it, I fell in love with the Thiels and think they are one of the best, if not the best, overall performer I have ever come across. Despite numerous changes of source components, they seemed to positively thrive on mid-end amplification and sources, the Thiels proved to have so much in reserve that, as various benchmark components passed through my system in the course of compiling this *Collection*, they always proved up to the job of showing just why a particular amp or CD player was better or worse than its predecessor. I never felt that the speakers that were holding the sound back.

In fact I could quite happily live with a pair forever. At least that's what I thought right up until the point that Thiel's UK distributor, John Watson, kindly lent me a pair of the larger, and more expensive, 3.6s, which are much the same only more so, but that's a story for another day.

Andy Benham

Transfiguration

Reference Imports, Pineridge, Theobalds Green, Sandy Cross, Heathfield, East Sussex TN21 8BS. Tel: (0435) 868 004

It's curious, with Lyra seeming to be the last new cartridge company which the greatly reduced analogue market could accept, it's still possible for yet another all-new firm to make its mark in vinyl replay. From Japan, (like Lyra) comes the *Transfiguration* made by Immutable Music, Inc. In no time flat, this sort-of-affordable device had caused a stir around the world. Who would have believed that enough cartridge buyers remained to allow any new moving-coil to carve out a market share?

Small is beautiful

The *Transfiguration*, like all high-end Japanese wares, is beautifully presented. It comes in a small, suede-covered box more suitable for jewellery than hi-fi. Inside the box is a tiny black semi-sphere, one of the smallest moving-coils ever, rivalled in its tininess only by cartridges which have no body shell (eg Ken Chan Koetsu, Sumiko's *Blue Point* special). The finish is immaculate, flawless. And at just under £1,400, it's far from being costly in terms of today's best moving coil cartridges.

This miniaturisation, though, means a low profile which can cause problems with certain arm/turntable combinations. The small size, which contributes to a weight of only 7g, is such that certain arms, like the conically-barrelled SME V, will not be able to provide the correct vertical tracking angle without hitting the platter. In short order, Immutable realised this, so proper spacers are now available.

The cartridge is described by the company as unique for it employs no yokes. Instead, the basis of the system is a ring magnet, with the two tiny coils centred within it. Immutable Music believes that this is as compact and intimate a design as can ever be produced. The reason behind this tight magnet-to-coil coupling includes the reduction of moving mass for more accurate stylus response, near-perfect magnetic focus and the elimination of coil saturation, believed to compromise the balance between the retrieval of fine de-



tail and dynamic/transient response.

Immutable employs an aluminium cantilever treated with a special exterior coating for greater rigidity, a proprietary damping compound immune to temperature changes, a special alloy core for the coil assembly and an unspecified, inert material for the body. The stylus is described as a 'PA, solid diamond', which is probably shorthand for parabolic.

Even though an output of 0.1mV and an impedance of more than 2ohms might imply the need for a suitable transformer (one is rumoured to be on the way from Immutable), the *Transfiguration* worked perfectly into the 47kohm inputs of a variety of preamps including the Gryphon, Audio Research *SP-14* and the Classe *DR4*, without any sonic anomalies nor any need for more gain. Despite the high-end nature of the design and the price tag, this cartridge is as simple to employ as any budget moving coil, the only problems involving the mechanical matching due to low body height, and alignment due to the round shape. Electrically speaking, it's a doddle.

Smooth and silky

Manufacturers, in the literature they produce, attribute all manner of qualities to their products. In the case of the *Transfiguration*, Immutable seems to value the cartridge's neutrality and lack of coloration. While there are no colorations worth identifying, this neutrality is not the car-

tridge's greatest strength. More impressive is its overall coherence and lack of texture. It's a curious sensation, hearing music so seamless that it's almost impossible to dissect the product into frequency-based categories. The transitions from bass to mid to treble are so smooth and silky that one is reminded of the original Quad Electrostatic, or the best Stax headphones.

This one-piece sound is reasonable enough to add the *Transfiguration* to your shopping list, but it doesn't stop there. The cartridge reproduces spatial characteristics with utter authority, providing space, three-dimensionality and image solidity on a par with the leaders in those areas, including the better Denons and Koetsus. Stage width matches that of the classic Denon 103, an all-time champion for this aspect of reproduction.

But what is the sound of neutrality? However important the spatial concerns, the sound quality is the single greatest concern. What the *Transfiguration* seems to do is allow the music to breathe, neither imposing constraints nor subtracting any information. The music blooms with the swelling and decay of a real event, which is all that you could want. Nothing is heightened—especially not the unwanted artefacts of sibilance—nor is anything truncated or crushed. The cartridge, quite simply, follows the music and reports to the preamp. That's all. Nothing more.

And there's more . . .

It's a staggering achievement, this late in the history of the LP, to learn that there's even more in the grooves than we thought, and it is possible to hear more information from old and familiar discs. This cartridge may lack the warmth of a Koetsu or the cut-glass detail of a Lyra, yet it satisfies in other ways.

However, its neutrality is a double-edged sword, and seekers of the truth are advised to audition this in precisely the system in which it might find a home. The *Transfiguration's* balance is such that it will be compromised by any other components which do not meet its standards.

The Hi-Fi Choice Panel

Wilson Watt

Absolute Sounds, 58 Durham Road, London SW20 ODE. Tel: (081) 947 5047

The eponymous American Dave Wilson is a noted audio designer and recording engineer. Having produced a number of highly rated recordings under the 'Wilson' label, he set out to produce a no-compromise loudspeaker that would provide a close approach to the dynamics, power and bandwidth of live sound. The legendary WAMM system (Wilson Audio Modular Monitor) has been in limited production for a number of years now, the £60,000 asking price including custom installation in the purchaser's house by the system designer.

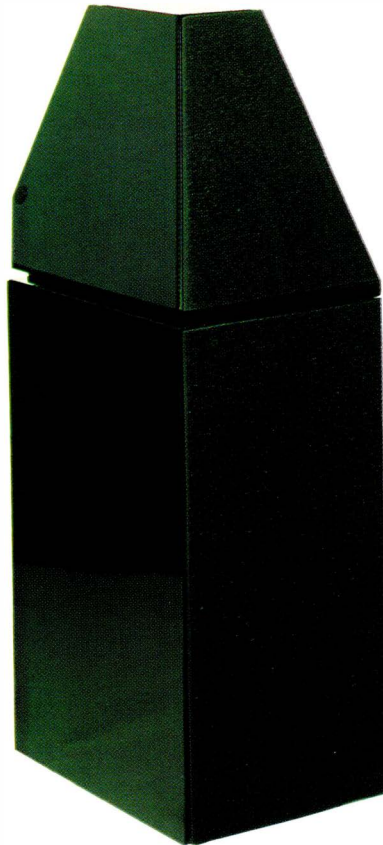
In the subsequent search for a decent nearfield monitor for location recording work, Wilson next devised the WATT (Wilson Audio Tiny Tot). This was quickly appropriated for domestic use by hi-fi enthusiasts who appreciated the fine focus, transparency, timing and high resolution, though the system had some drawbacks. The amplifier load was rather cruel and the system sounded rather bass light and thin when away from reflective surfaces like walls or mixing desks.

One solution is a little woofer, reprehensibly entitled *Puppy*. A pair of *Puppies* is readily added to a pair of WATT Mk3s, resulting in a relatively straightforward floorstanding, three-way, four-box system. Put thoughts of subwoofers and their many complications out of your mind — this is effectively a full range design.

With an asking price around twelve grand, serious money is involved, although at just 1m high, the W3-P doesn't look particularly imposing or dramatic looking. The pyramid shape of the WATT makes them less boxy looking than most, and there's more than a hint of the Canary Wharf Tower about the total shape.

Sensitivity is a high 91dB/W, though the amplifier loading is a fairly tough 4ohms with a brief 1.75ohms minimum in the lower treble. The bass response of the WATT alone is limited to 60Hz, the *Puppy* adds a full octave of extension to a little below 30Hz (in-room). Measurements confirmed that the system possesses a very smooth midrange, an excellently low stored energy performance and also integrates well with a domestic room.

Each massive lowerbox contains a pair of 220mm bass drivers, loaded by a criti-



cally tuned semi-labyrinth reflex chamber with small, oval port at the rear.

The bass units are well regarded DynAudio drivers, built on die-cast frames. A Wilson-modified classic paper cone cast chassis SEAS unit covers the WATT midrange above 125Hz, crossing over at 2.6kHz or so to a Focal inverted fibreglass resin dome tweeter, again specially adapted.

Encapsulated in resin in a massive alloy box, the crossover uses the finest parts, but the crowning glory is the WATT enclosure. No sides are parallel and the superbly rigid structure is built of 20mm marble loaded acrylic (DuPont Corian).

Initial set-up was quite straightforward; having determined the correct siting, fitting the floorspikes added the final touch of power and precision. First impressions were of an immediate, accessible rightness, an open, communicative and articulate sound full of natural harmonics, subtle textures and immense detail. It did not sound like a typical

floorstanding three-way. Power and speed are near breathtaking while the bass appears devoid of unwanted emphases or resonances.

Unusually, this is a US speaker which displays the kind of rhythmic drive normally associated with the offerings from Naim or Linn, while at the same time plumbing the depths of all but the lowest extremes of the bass. It is also impressively accurate: well worn favourites sounded familiar, natural and believable.

The big, full, naturally balanced sound suits both rock and classical programme, proving highly analytical of the rhythmic potential of source components and the programme itself and delivering a measure of drive, energy and rhythmic precision which leaves many 'good' hi fi systems sounding tired and anaemic.

Add to that remarkable stereo focus, a stage depth and transparency bordering on the excellent, together with large scale stereo perspectives and you have some idea of what this speaker can do. Dynamics too are very impressive. Like live music it has the ability to startle and surprise a listener with unexpected sounds — sudden rim shots and the like.

Criticisms are few. In some locations, the system can sound a mite too full in the lower mid-upper bass, still without hampering the rhythmic qualities. There's also a mild 'cone type' nasality in the upper midrange and a slight 'sting' in the extreme treble which is generally inaudible except where the programme has significant treble distortion.

Conclusion

The *Puppies* lift the WATT from the ranks of 'impressive miniatures' to the full range, full power three-way class. The result is one of the best speakers available today. Having owned and enjoyed Apogee *Duetta Signatures* for a couple of years, I found the W3P to be a fitting replacement, fine detail and transparency now being matched by substantial improvements in dynamic range, rhythmic ability, bass evenness and precision. Wholly musical, the W3P is playing as I write and I have chosen them as my current reference. Now all I need is the money to pay for them!

Martin Colloms

First published in Hi-Fi Choice May 1992

Dealer Guide

AVON

VAUDIO 36 Druid Hill, Stoke Bishop, Bristol BS9 1EJ.
Tel: 0272 686005

ATC, AVI, Acoustic Energy, Analogue Electronics, Audio Innovations, Audio plan, Boulder, Micromega, Pink Triangle, Threshold, Ruark, SME, Exposure, Mitchell, Dahlquest, Threshold, Pink Triangle, Wadia.

Dems by Appointment only, Home trial facilities, Free Installation, Servicing Facilities. We are not a shop.

BERKSHIRE

A♦R♦C
AUDIO

- ◆ DENON
- ◆ JPW
- ◆ MARANTZ
- ◆ MONITOR AUDIO
- ◆ MUSICAL FIDELITY
- ◆ NAD
- ◆ ROGERS
- ◆ YAMAHA

9 Dukes Ride
Crowthorne, Berks
☎ 0344 762201

Demonstration facilities
Mon-Sat 9 to 6
Free Installation
Access/Visa/Switch



QUALITY HI-FI AT ITS VERY BEST

Arcam • Audiolab • Aiwa • Beyer • Creek • Celestion • Exposure • Finestra • Linn Products • Meridian • Michell • Nakamichi • Philips • Proac • Quad • Radford • Rega • Rogers • Roksan • Rotel • Royd • Sennheiser • SME • Sony • Stax

READING HI-FI CENTRE
4 QUEENS WALK BROAD STREET MALL
READING RG1 7QF
TEL: (0734) 58546

CAMBRIDGESHIRE

Cam Audio

ARCAM, CASTLE ACOUSTICS, CREEK, DENON, EPOS, EXPOSURE ELECTRONICS, JPW, MARANTZ, MICROMEGA, MISSION, MORDAUNT SHORT, NAIM AUDIO, NAKAMICHI, REGA, RESEARCH

0% Interest free credit

SPECIALIST AUDIO RETAILERS (0223)
110 MILL ROAD, CAMBRIDGE 60442

CHESHIRE



CELESTION YAMAHA REVOLVER
MONITOR AUDIO • CAMBRIDGE
AURA WHARFEDALE B & W
AKG TANNØY SENNHEISER
MARANTZ DUAL DENON
QUAD • SANSUI • TECHNICS
SPENDOR MISSION • SME
NAKAMICHI AUDIOLAB
ROGERS AUDIOQUEST
MORDAUNT-SHORT
MERIDIAN DELTEC
ROKSAN ARCAM
AUDIO-TECHNICA
KEF NAD

4 WEST STREET, ALDERLEY EDGE, CHESHIRE.
TEL: 0625 582704

DISCOUNT CD & TAPE
EXTENDED GUARANTEE
INTEREST FREE CREDIT

CHESHIRE



4 Duke Street, Congleton (0260) 273 206
1 Stanley Street, Leek (0538) 383 780

- AIWA ■ ALBARRY
- ALPHASON
- CASTLE ■ CELESTION
- CREEK ■ DELTEC
- HARMON KARDON
- INFINITY
- MORDAUNT SHORT
- MUSICAL FIDELITY
- PHILIPS
- PINK TRIANGLE
- QED ■ REVOLVER
- ROTEL ■ SYSTEMDEK
- TANNØY ■ TEAC
- TECHNICS ■ THORENS

CLEVELAND

ACTION ACOUSTICS

Albary, Croft, Denon, Harman-Kardon, Michell, Musical Fidelity, Pink Triangle
155-157 High Street, Redcar, Cleveland
Tel: 0642 480723

CORNWALL

art of music

SPECIALISTS IN REFERENCE STANDARD HI-FI EQUIPMENT

We sell only the very finest sounding equipment including the remarkable TRANSFURGARATION cartridge (reviewed in this issue), on permanent demonstration in our reference system. For personal service advice and superior sounds!

Tel: 0566 86649 for an appointment

AGENCIES INCLUDE: Art Audio • Basis • Cary • C.A.T. • Cogan Hall • Diamond Acoustics • Graham • Groove Tubes • Lumley Reference • Lynwood • Magnum • Magnum Dynalab • Metaxas • Rel Acoustics • Silver Sounds • Transfiguration •

ART OF MUSIC, LAUNCESTON, CORNWALL.

DEVON

THE HI-FI ATTIC

One of the South West's oldest hi-fi shops. We'll stock all leading manufacturers & if out the ordinary, we'll get it for you. We have been completely refurbished to give a large demo room with free coffee!! (& whiskey to console the big spenders!!) We have a genuine interest in hi-fi & believe the customer always comes first. Single-speaker comparators a (hopefully) relaxed atmosphere. Bring your own equipment/discs etc. along to have a listen. We offer a 7 day "buy back" period. Home demonstration, & installation & interest free credit over £700.

Open 9:30am-5:30pm & demos can be by appt.

58 New George St, Plymouth, Devon, PL1 1PJ
Tel: 0752 669511



DEMONSTRATION AND HOME TRIAL FACILITIES

CAMBRIDGE AUDIO, ROGERS, DENON, ARCAM, QUAD, RUARK, MUSICAL FIDELITY, REVOLVER, TANNØY, MORDAUNT-SHORT, ARISTON, KEF, TECHNICS, ALISON, NVA, LINX, TDL, etc.

"PIONEER REFERENCE POINT DEALER"

FREE DELIVERY AND INSTALLATION

31 TORQUAY ROAD, PAIGNTON, DEVON, TQ3 3DT
TELEPHONE 551329

DUBLIN



55 MAIN STREET
BLACKROCK
DUBLIN.
TEL: 01-2889449
2888477
FAX: 2834887

MAGNEPLANAR
MUSICAL FIDELITY
NAKAMICHI
ARCAM
PHILIPS
LINN
NAIM
REGA

TECHNICS
SPENDOR
APOGEE
ROGERS
CLASSE
DELTEC
CREEK
SONY

AND THE BEST FO THE REST!!

CLOSED MONDAY - OPEN LATE TILL 9 PM THURSDAY/FRIDAY

DUBLIN

Acoustic Dimension
67 Mountjoy Street, Dublin 7.
Tel: 305633 Fax: 305839

Ruark, TDL, Revolver, Heybrook, JPW, Ion Systems, Aiwa, Sony, Proac, Rotel and more. Straight Wire, Sonographe. Listening Rooms. Philips now available!
Open Mon-Fri 9-6. Sat 10-6pm. After 6pm by appointment.

ESSEX



Akai • Alphason • Arcam* • B&W • Bang & Olufsen • Bose • Celestion • Dual • Harman Kardon • Kenwood • Quad* • Marantz • Mordaunt-Short • NAD • Nakamichi* • Pioneer • Ruark • Sony • Wharfedale • Yamaha

*Epping and Saffron Walden only

148 HIGH STREET • EPPING • TEL: (0992) 574242

26 KING STREET • SAFFRON WALDEN • ESSEX • TEL: (0799) 523728

70 SOUTH STREET BISHOP'S STORTFORD • HERTS • TEL: (0279) 656401

GLASGOW

Robert Smith
HI-FI AND VISION CENTRE



CHOICE - QUALITY - PERSONAL ATTENTION

113 UNION STREET, GLASGOW G1 3TA
(OPPOSITE WATERSTONES)

WHERE CUSTOMERS COME FIRST 041 248 5242

GLOUCESTERSHIRE

Hutchinsons
TV • VIDEO • HI-FI

295 High Street, Cheltenham GL50 3HL
Telephone: 0242 573 012

AIWA, CELESTION, DUAL, KENWOOD, MARANTZ, PIONEER, REFERENCE POINT, SENNHEISER, TECHNICS, WHARFEDALE. FREE INSTALLATION SERVE DEPT

HAMPSHIRE

The Audio Gallery

51 Town Lane, Sheet Green, Sheet, Nr Petersfield, HANTS GU32 2AF
TEL: (0730) 895194

Micromega, Audio Innovations, Rogers, MANA TABLES, Pioneer, Acoustic Energy, QED, Wadia, Threshold, NAD, Forte, Pink Triangle, Deltec, Denon, Moth, Mordaunt-Short, Teac, Alchemist, Albany, Ortofon, Dual, Monitor Audio, Royd Yamaha DSP 1000

Mail Order Available Home Demos.
Single Speaker, Demo Room 2 yr guarantee on some products. Car parking on site. 10-5 Wed-Sat any other time by appointment.

"NOW THATS...HI-FI"

THE ART OF ENTERTAINMENT
▼ PIONEER HI-FI + SYSTEMS + A/V ▼ KENWOOD
▼ SONY ▼ MARANTZ ▼ YAMAHA ▼ AIWA MISSION
▼ DUAL ▼ MORDAUNT-SHORT ▼ JBL ▼ SENNHEISER
▼ JAMO ▼ TARGT ▼ etc. etc
AWARD WINNING HI-FI AVAILABLE AT
"NOW THATS...HI-FI"

24 ARUNDEL WAY, PORTSMOUTH PO1 1NY
TELEPHONE: 0705 811230

Classified

Dealer Guide

HAMPSHIRE

TRU FI

10-12 Grosvenor Road
Aldershot, Hants,

Tel: 0252 26390/332424

Technics, Sony, Pioneer, B&W, Aiwa, Mission, and many more.

HEREFORD

ENGLISH audio

IN HEREFORD

ALBARRY, ARCAM, CYRUS, CHORD, AMPLIFICATION, D.P.A., DENON, DUAL, HEYBROOK, JPW, MARANTZ, MICROMEGA, MISSION, MOTH, MUSICAL FIDELITY, NAD, NAKAMICHI, PINKL TRIANGLE, ROGERS, ROTEL, RUARK, SYSTEMDEK, TDL, TANNY AND OTHERS
Free installations. Credit Facilities. Service Dept.
Mon-Sat 10-6. 95 Whitecross Road, Hereford (0432) 355081

HERTFORDSHIRE

The Audio File

8% R.P.R. B.A.R.A.

NAMES WITHIN A NAME...

27 HOCKERILL ST. BISHOPS STORTFORD HERTS. TEL 0274 506576
2 FOUNDRY WALK, ST IVES, CAMBS. TEL 0478 66123
3 QUAYSIDE, BRIDGE ST. CAMBRIDGE. (OPEN AUG)

Hi-Fi City

Brands stocked include:

A.R., Aiwa, Arcam, Bose, Canon, Celestion, Cerwin, Vega, Cyrus, Denon, Dual, Jamo, JPW, Kenwood, Marantz, Mission, Monitor Audio, Musical Fidelity, NAD, Phillips, Pioneer, Rogers, Rotel, Tannoy, Thorens, Wharfedale • Plus many more

FRIENDLY PROFESSIONAL ADVICE
WATFORD (0923) 226169
15 CHARTER PLACE, HIGH STREET, WATFORD

HUMBERSIDE

MANDERS HI-FI LTD.

For: Nakamichi, Quad, Dual, Kef, Michell, Denon, Revox, Harman-Kardon, A+R, Thorens, QED, Spondor, Monitor Audio, Rotel, Ariston, Revolver, Technics, Musical Fidelity, Wharfedale, Celestion, Meridian, Proton, A.E. Speakers etc.

Two year guarantee on hi-fi.

2 Edward St, Grimsby,
Humberside
(0472) 351 391

KENT

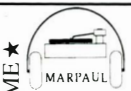
KIMBERLEY HI FI

A Sound Investment
SEPERATE DEMONSTRATION ROOM
BRANDS STOCKED DENON TECHNICS KENWOOD AIWA NAD
DUAL WHARFEDALE MISSION MARANTZ SPKS TANNYO CASTLE
MONITOR AUDIO HECO JAMO CERWIN VEGA CELESTION
SOUTH LONDON'S AND NORTH KENT ONLY



LARGE RANGE OF
ICEINC PIONEER
PANASONIC & JVC

193 BROADWAY, BEXLEYHEATH, KENT Tel: 081 304 3272



MARPAUL HI-FI
0474 833773

MAIL ORDER SERVICE

Any Audio Equipment available. Give us a ring for advice or a quote. We specialise in Valve Amp Equipment, Spares.

"NOW AVAILABLE"
THE NEW SOUND RESEARCH
VALVE AMP RANGE

Access/Barclay/Amex

★ SME ★
★ Pink Triangle ★

★ Ortofon ★ Kef ★

★ Radford ★ Audio Technica ★

Panatec Sound & Vision Centre Ltd.

B&W, Bose, Dual, Kenwood, Marantz, Pioneer, Philips, Sony, Tannoy, Technics.

*Dem Room facilities * 0% credit
* Service Department * Free Installation

PIONEER REFERENCE POINT DEALER

83B High Street Gillingham (0634) 573141
117 Weak Street Maidstone (0622) 661488

LANCASHIRE

MS MONITOR SOUND

HI-FI SPECIALIST

■ TECHNICS ■ SONY ■ PIONEER
■ PANASONIC ■ KENWOOD ■ DUAL
■ ARISTON ■ CREEK ■ CASTLE

■ QUAD ■ B&W ■ MARANTZ ■ SPENDOR ■ THORENS
■ ARCAM ■ ROTEL ■ WHARFEDALE ■ DENON ■ YAMAHA
■ TANNYO ■ PHILIPS CD ■ CELESTION ■ ROGERS
■ MORDAUNT SHORT ■ FOUNDATION ■ MONITOR AUDIO
■ AND MANY MORE

BIG DISCOUNT • TWO YEAR GUARANTEE ON HI-FI
EXCELLENT COMPARATOR DEMONSTRATIONS
PRIVATE LISTENING ROOM • FREE HOME INSTALLATION

CHORLEY (0257) 271935

54 Chapel Street, Chorley

LEICESTERSHIRE

SOUND ADVICE

THE MIDLANDS LEADING BRITISH
EQUIPMENT SPECIALISTS,
FOR OVER A DECADE

NAIM • LINN • MICROMEGA • MISSION CYRUS
• ROYD AUDIO • REVOX
• SENNHEISER • ROTEL • YAMAHA

• NAKAMICHI I EPOS • CREEK • REGA • JPW
• ARCAM I MERIDION • MORDAUNT-SHORT

EXCLUSIVE REGA AGENT:
LEICESTERSHIRE & NOTTINGHAMSHIRE
TEL LOUGHBOROUGH : 0509 218254

LONDON

A.U.D.I.O. C.O.N.C.E.P.T.

27 Bond Street, Ealing, London W5 5AS
Tel: 081-567 8703

Arcam, Bang & Olufsen, Boston Acoustics, Castle, Canon Audio, Cullam, Denon, Dual, Infinity, Kef, Marantz, Mission/Cyrus, Monitor Audio, Mordaunt Short, Sony, Musical Fidelity, NAD, Onix, Proton, Rogers, Rotel, Sennheiser, Quart, Tannoy, Target Audio, TEAC, Thorens.

Opening hours: 10-6 Mon, Tues, Fri, Sat.
10-7.30 Thursday. Closed Wednesday

Babber ELECTRONICS

Akai, Aiwa, A&R, Celestion, Dual, Goodmans, Harman Kardon, JBL, JVC, Kenwood, Marantz, Panasonic, Sennheiser, Sony ES range, Tannoy, Technics, Wharfedale, Yamaha.

Send to:
BABBER ELECTRONICS
158 UXBRIDGE ROAD, WEST EALING, LONDON W13 8SB
TEL: 081 579 6315

HI FI COMPONENTS

84 Battersea Rise SW11 1EH

WHAT HI-FI? BEST BUYS

in stock as well as those hard to find accessories and stylis
Established 27 years

Tannoy • NAD • Rotel • Bose • Dual • QED • Wharfedale •
Celestion • Kenwood • Ortofon • Infinity • Shure •
Tel & Fax No 071 223 1110

MANCHESTER

Central Radio

30-32 SHUDEHILL, MANCHESTER M4 1EY
Tel: 061-834 6700

Main Agents for:
JBL, Mission, B&W, Wharfedale, Aiwa, Teac, Harman-Kardon, Dual, Thorens, Panasonic, Pioneer, Technics, Sony, Bose, Trio-Kenwood

DEALERS!!
TO ADVERTISE HERE
CALL JULIAN O'KELLY
ON 071 631 1433

Classified

Dealer Guide

MIDDLESEX

Northwood
AUDIO

126 Pinner Road, Northwood, Middlesex
HA6 1BP. Tel: 0923 820877

STOCKISTS OF
AUDIO INNOVATIONS,
CASTLE ACOUSTICS, CYRUS,
DIAMOND ACOUSTICS, EXPO-
SURE, HECO, HEYBROOK, INFIN-
ITY, MARANTZ, MISSION, NAD,
ROTEL, SNELL, THORENS.
PLUS MORE.

10% WORTH OF FREE ACCESSORIES
WITH ANY ITEM OVER £200. • 2 DEM
ROOMS • INSTANT CREDIT •

WEST MIDLANDS

AMADAEUS SOUND
AND VISION

10 Boldmere Rd, Sutton Coldfield,
West Midlands. Tel: 021 354 2311

Arcam, Audio Innovations, B&O,
Carver, Castle, QED, Wharfedale,
Yamaha, Cambridge Audio, Hafler.

MAINWAY
HI-FI

THE MOST EXCLUSIVE
INDEPENDENT HI-FI STUDIO

The informal atmosphere and easy access makes it so much more exciting
choosing your Hi-Fi from the finest audio products available.

AUDIOLAB, ACOUSTIC ENERGY ALBANY, ARCAM, CHORD, MERIDIAN,
KEF, REFERENCE, DELTEC, SYSTEMDEK, QUAD, AUDIO TECHNICA,
MARANTZ, MONITOR AUDIO, MICHAELSON AUDIO, JPW, LINX,
MICROMEGA, MISSION, CYRUS, MOTH, ROGERS, SENHEISER, SOUND
FACTORY, ARISTON, TDL, VAV DEN HUL.

Just off the High Street
Bloxwich, Walsall, West Midlands
Tel: 0922 473499/493499
Ample FREE parking
off M6 (Junction 10)
JUST CALL IN OR PHONE RICHARD
FOR A DEMONSTRATION

Norman H. Field Hi-Fi

Consultants for Home High Fidelity

- B&W ■ Thorens
- Denon ■ Tannoy
- Castle ■ Yamaha
- Dual ■ Kenwood
- Mordaunt-Short
- Technics

NAD

Two-year guarantee
Private listening room

HURST STREET
BIRMINGHAM B5 4BJ
Telephone: 021-622 2323

naam HI-FI VISION naam


HI-FI SPECIALISTS IN SEPARATES AND SYSTEMS,
PORTABLE AUDIO SPECIALISTS, NICAM TV AND
VIDEO SPECIALISTS.

Aiwa, Akai 101 Dealer of Distinction, AR, Bose, Canon, Hitachi, Kef, Kenwood
Centre Dealer Panasonic, Pioneer Reference Point Dealer, Philips Collection
Dealer (DCC & CDI available soon), Sony, Toshiba, Wharfedale, Yamaha.
Open 6 days a week.

10 MONTHS INTEREST FREE ON SELECTED ITEMS
SUBJECT TO STATUS

122-123 NEW STREET, BIRMINGHAM B2 4JU TEL.:
021 633 4944

NORFOLK



Near Norwich
Norfolk.
Tel:
0508 70829

Basically Sound of Norfolk

Arcam, Linn, Naim, Rega, Exposure, Creek,
Epos, Acoustic Energy.

Established 1968

MARTINS HI-FI

5 High Street, Kings Lynn
Tel: 0553 761683

85/91 Ber Street, Norwich.
Tel: 0603 627010

NORTHANTS

State of the Heart Hi-Fi

Rotel, Marantz, Kenwood, Yamaha, Philips,
Musical Fidelity, Mission, NAD, Rogers,
Celestion, Wharfedale, Pioneer, & many more.

Free delivery * 2 year guarantee on all Stereo
Components * Unbiased Advice

Classic Hi-Fi Tel: 0536 515766

School Lane, Kettering, Northants

OXFORDSHIRE

Oxford Audio Consultants

Oxford's Hi Fi specialists budget to Esoterica

Open Mon-Sat 10am-6pm
Free Delivery & Installation
Part exchange welcome
Tax Free export service

Cantay House, Park End Street, Oxford OX1 1JE
Telephone: Oxford (0865) 790879
Facsimile: Oxford (0865) 791665

o v e r s t u s e

arcam	linn products
acoustic energy	marantz
audiolab	meridian
creek	mission
cyrus	mordaunt-short
denon	naim audio
dual	quad
epos	rotel
heybrook	systemline
jpw	yamaha

3 Church Lane, Banbury, Oxon
(0295) 272158

ROSSHIRE



Unhurried demonstrations in ideal surroundings.
A 'Reference Group' dealer. Ring for appointment

'Lismore', Avoch. (Nr Inverness).
Tel: 0381-20655

SUFFOLK

Avalon
AUDIO VISION

Pioneer • Mission/Cyrus • NAD • Rotel • Yamaha • Marantz
• KEF • Mordaunt-Short • Mitsubishi • Wharfedale •
• Suffolks only appointed Cyrus Dealer • Single
Speaker Dem Room • Free Installation • Service Dept
• Full H.P. & Interest Free Credit available

12 Saint Margrets Plain, Ipswich.
Suffolk Tel: 0473 281 922

SURREY

Front End Problems?
contact-

The Cartridge Man

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

Also agents for Croft, Sugden, Thorens,
Pentachord Speakers & Nottingham Analogue.
plus cartridge re-tipping service

081-688 6565

ROGERS HI-FI

13 Bridge Road Street, Guildford, Surrey.
Tel: 0483 61049

Aiwa, Creek, Denon, Dual, JPW, Marantz,
Monitor Audio, Philips, Pioneer, Thorens,
Systemdec, Tannoy, Thorns.

Demonstration facilities available, free installation, service
department. Instant credit up to £1000 subject to status.
Open mon-sat 9.30-6pm (later by appt)



SURREY HIFI

SPECIALIST HI-FI OUTLET
DEMONSTRATION ROOM - PARKING

QUAD ■ AUDIO LAB ■ TDL ■ NAKAMICHI ■ KEF
■ THORENS ■ MAGNUM ■ MUSICAL FIDELITY
■ DIAMOND ACOUSTICS ■ ROTEL ■ MARANTZ
■ DENON ■ MICHELL ■ TANNOY ■ JPW ■ REL

'REFERENCE IMPORTS DEALER'

Just 2 minutes off Junc. 6 M25, (A25)

GODSTONE 0883 744755
45 High St, Godstone, Surrey RH9 8LS

TRU FI

10 Church Street
Leatherhead
Surrey
Tel: 0372 378780

2 Central Parade
Redhill
Surrey
Tel: 0737 766128

Technics, Sony, Pioneer, B&W, Aiwa,
Mission, and many more.

All the very best equipment plus the world-
famous Custom Cable service. Surround sound
demo rooms. Free local delivery and installation.

Phone for our unbeatable price list.

UNILET HI-FI **081-942 9567**
SOUND ADVICE AT A BETTER PRICE
35 High St, New Malden, Surrey

Classified

Dealer Guide

SUSSEX

WORTHING AUDIO

20 Teville Gate, W. Sussex, BN11 1UA Tel: (0903) 212133

The friendly shop with the best sound systems in the South. Friendly advice • 3yr guarantees • easy parking
Open Mon-Sat 10am-6pm Late night Wed 7:30pm

Agencies include: Arcam, Exposure, Naim Audio, Marantz, Ruark, Mordaunt-Short, Audio Technica, Target, Tripod, Sennheiser, AR, and many more.

NORTH WALES

ACTON GATE AUDIO

THE HI-FI CENTRE IN
WREXHAM

Aiwa, ARCAM, Audio Technica B&W, Cambridge, Celestion, Cyrus, Hasler, Marantz, Michell, Mission, NAD, Nakamichi, Ortofon, Proton, Quad, Radford, Rega, Rogers, Rotel, Sansui, Spondor, Teac, Tannoy, Thorens, Wharfedale, Yamaha, etc...

4 RUABON ROAD, WREXHAM
TEL: 0978 364500

WALES AND WEST

audio excellence

WHERE THE MUSIC MATTERS

Gloucester

58 Bristol Road
Gloucester GL1 5SD
(0452) 300046

Swansea

9 High Street
Swansea SA1 1LE
(0792) 474608

Bristol

65 Park Street
Bristol BS1 5PB
(0272) 264975

Cardiff

134/6 Crwys Road
Cardiff CF2 4NR
(0222) 228565

WARWICKSHIRE

HI-FI VISION

COVENTRY'S BIGGEST & BRIGHTEST DEALS
Akai 101 Dealer of Distinction. Aiwa, AR, AKG, Kenwood Centre, Mordaunt Short, Panasonic, Philips, (DCC & CDI available soon), Pioneer Reference Point Dealer, Rotel, Technics, Wharfedale, Marantz and Yamaha available soon.
10 MONTHS FREE INTEREST ON SELECTED ITEMS
SUBJECT TO STATUS.

78 LOWER PRECINCT
COVENTRY CV1 1DX
TEL: 0203 632086
Located near to C&A

WORCESTERSHIRE

HI-FI VISION

FORMERLY THE SONY CENTRE
WORCESTER'S SONY SPECIALIST
Akai, AR, AKG, Canon, Denon, Fuji and Sont Tape Specialists, Harman Kardon, Jamo, Kef, Marantz, Mission, NAD (arriving soon), Philips Collection Dealer (DCC and CDI available soon), Panasonic (Portable Audio only), Technics, TV & Video Stockists, Camcorders

Open 9am - 5:30pm, 6 days a week.
10 MONTHS INTEREST FREE ON SELECTED ITEMS
SUBJECT TO STATUS
27 THE CROSS, WORCESTER WR1 3PZ
TEL: 0905 726375

David Waring

Camera and Hi Fi Ltd

FOR QUALITY PRODUCTS AND PROFESSIONAL ADVICE
AT THE BEST PRICES
Stockists of: Aiwa, Akai, Bose, Denon, Kenwood, Technics, JVC, Kef, AR, Mordaunt-Short, Panasonic, Pioneer, Sony & Wharfedale, Rotel.

10 Month's interest free credit available on selected products
MARMION HOUSE
HIGH STREET, WORCESTER, Free delivery within 15 miles
WORCS WR1 2HB Tel: 0905

"Our Reputation is Your Guarantee"

YORKSHIRE

ARE YOU MAD?



IF YOU LIVE IN YORKSHIRE AND YOU'RE LOOKING FOR SERIOUS HI-FI AT SENSIBLE PRICES FROM AS LITTLE AS £100, YOU'D BE STARK RAVING MAD NOT TO PAY US A VISIT!

LINN • NAIM • REGA • ARCAM

284 GLOSSOP RD SHEFFIELD S10 2HS TEL (0742) 737893
81 NETHER HALL RD. DONCASTER DN1 2QA TEL (0302) 321421

SOUND WITH STYLE

The Sound Organisation (York)

2B Gillygate, York YO3 7EQ.
Telephone: 0904 627108

Linn, Naim, Rega, Arcam, Mission, Denon, Ion, Rotel, Meridian, Micromega

2 single speaker demo rooms, appts preferred.
Home trial, free installation, service dept.
Instant free credit available
Open 10am - 5.30pm Tue - Sat

BADA DEALERS

HI-FI CHOICE THE WORLD'S NO 1 GUIDE TO BUYING HI-FI

Specialist Services

CABLES

SPEAKER'S CORNER HI FI

TELEPHONE 0603 743457

SPECIALISING IN CABLE AND AMPLIFIERS



2ND HAND AND NEW SPECIALISTS SERVICING

• SOUNDS AROUND •

Used and new Hi Fi specialists In house Service & Repairs. Demonstration facilities.

Agents for: Audio Technica, Wharfedale, Teac, Dual, Thorens, Mordaunt Short, Tannoy, Celestion.

146 Clarendon Park Road, Leicester
Tel: Leicester 702442

INSTALLER

"One of the 5 best hi-fi shops in the world"

QED Systemline • Meridian
• Roomlink • In-Wall Speakers...
Consultancy • Design
• Professional Installation

ACCESSORIES

CVC
audiovisual

Professional Video
AUDIO HI-FI
accessory centre

Specialist in Audio & Video Accessories

11 Sheffield Road
Chesterfield S41 7LL
Tel: (0246) 209796

MUSIC

DISK WYSE

CDs from £5.99.
We specialise in CD's.
Phone or Write for Catalogue:
Disc Wyse,
14 Thornhill Road, Uxbridge
UB10 8SF Tel: 0895 633558



GRAHAMS HI-FI

Canonbury Yard, 190a New North Road,
London N1 7BS. Tel: 071 226 5500
Ring for a chat and a map!



Classified

*For more than 2000 years,
Man has been searching
for the perfect live experience*



UNIT 205, LAKESIDE SHOPPING CENTRE, WEST THURROCK, GRAYS RM16 1ZQ
We are open Monday to Thursday 10am to 8pm. Friday 10am to 9pm. Saturday 9am to 7.30pm
TELEPHONE: (0708) 891 818. FACSIMILE: (0708) 891 300

'Ambient' Stands HI-FI FURNITURE



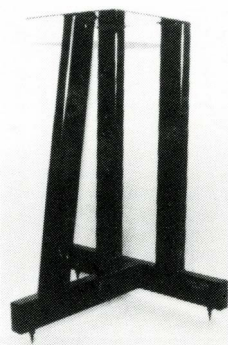
AMB 1

MAXIMISE YOUR LOUDSPEAKERS' PERFORMANCE.
EACH STAND HAS ADJUSTABLE SPIKED FEET TO MAINTAIN LEVELLING AND ALL ARE IMMACULATEDLY FINISHED IN BLACK.
TOP SPIKES ARE AVAILABLE IF REQUIRED.
TOP PLATES
AMB 1 190x190mm
AMB 2 200x200mm
SIZES:

AMB 1	12"	20"	28"	£48.95
AMB 2	12"	20"		£59.95

INCL. OF P&P UK MAINLAND
TOP SPIKES £3.50 EXTRA

AMB



PLEASE ALLOW 28 DAYS FOR DELIVERY.
CHEQUES AND POSTAL ORDERS CROSSED AND MADE PAYABLE TO 'AMBIENT STANDS'.

**CUSTOMISED
STANDS MADE TO
YOUR PERSONAL
SPECIFICATIONS
POA**

32A Shadwell St
Birmingham B4 6HB
021-236 2496
021-428 2224



ONE OF THE WORLD'S GREAT CONCERT HALLS

With the help of

Room Acoustics Services

you can achieve near concert hall realism in your home

Audiophile Systems need

- ACOUSTIC SPACE -

in which to breathe

Full details, reviews etc, of our computerised postal consultancy available from:-

ROOM ACOUSTICS SERVICES

3, Queen Elizabeth Way, BARTON-upon-HUMBER,
South Humberside, DN18 6AJ. Tel: (0652) 635523

The Choice Dealer Directory

Choosing a good hi-fi dealer is the most vital step in acquiring the system that is right for you. This unique directory gives full information on dealers in your area.

AVON

AUDIO EXCELLENCE, 65 Park Street, Bristol. (0272) 264975.
Great Hi Fi carefully selected and demonstrated by friendly enthusiastic staff. Closed Mon. **BADA**
PAUL GREEN HI-FI LTD, Kensington Showrooms, London Road, Bath. (0225) 316197. Linn, Musical Fidelity, Krell, A&R, Creek, Rogers, Quad, Cust. car park. Best selection in the West.
V AUDIO, 36 Druid Hill, Stoke Bishop, Bristol B59 1EJ. (0272) 686005
ATC, Acoustic Energy, Audio Alchemy, Boulder, Impulse, Micromega, Sound Pipes, SME, Ruark, AVI, Exposure, Dahlquist, Threshold, Pink Triangle, Wadia. Demos by appt only, home trial facilities, free installation, service facilities.

BEDFORDSHIRE

WENTWORTH AUDIO, 83 High Street North, Dunstable. (0582) 663383.
Pioneer, Marantz, Pink Triangle, Musical Fidelity, Yamaha, Ariston, Linn, Acoustic Energy, Revox, Monitor Audio. 2 large single speaker dem. rooms. 1 general showroom. No appt nec. Home trial. Free install. Service dept. Access & Visa. Tue-Sat 10-6.

BERKSHIRE

B&B HI-FI, 11-12 Market Place, Reading, Berkshire, RG1 2EG. (0734) 583730. Aiwa, Denon, Kenwood, Mission, NAD, Panasonic, Pioneer, Rotel, Sony, Technics. Free installation, Service dept. Access, Visa, Credit facilities including interest free credit subject to status. 9.30-5.30, Sat 9-5.30. Also at: Bracknell, Maidenhead, High Wycombe, Newbury.
NEWBURY AUDIO, 2 Weavers Walk, Northbrooke St., Newbury, Berkshire RG13 1A1 (0635) 33929. Linn, Naim, Roksan, Exposure, Creek, Epos, Royd, Denon, Nakamichi. Single speaker dem. Room. Appts. necessary. Home trial facilities. Free installation. Service dept. Late appointments. Access, Visa. Interest free credit subject to status. 6 days 9.30am-6pm.
READING HI-FI CENTRE, 4 Queen's Walk, Reading RG1 7QF. (0734) 585463. The best equipment, advice and service from Berkshire's premier Hi-Fi emporium. **BADA**

BUCKINGHAMSHIRE

AUDIO INSIGHT LTD, 53 Wolverton Rd, Stony Stratford, Milton Keynes (0908) 561551. Arcam, Audiolab, Heybrook, Ion, Linn, Meridian, Quad and more. Access, Visa, Finance, Dem. Room etc.
AYLESBURY HI-FI, (B Cambridge Street. Aylesbury, Bucks, HP20 1BE. Tel 092628790. Arcam, Celestion, Denon, Exposure, Heybrook, Marantz, Micromega, Rogers, Rotel, Ruark. 2 Single Speaker Demo Room. Interest Free Credit. Lombard, Access and Visa. Open 10-6 Mon-Fri (9.30-5.30 Sat.
DEJAC HI-FI CONSULTANTS, 21 The Broadway, Old Amersham, Bucks, HP7 0HL. Tel 0494 433173. AMC, Arcam, Bose, Meridian, Quad, Rotel, Denon, NAD, Tannoy, Mission, TDL. 2 Dem Rooms. Appts Necessary. Free Installation. Tricity Finance, Instant Credit, Open 9.30-5.30pm including Sat.
TECHNOSOUND, 7 Granville Square, Willen Centre, Milton Keynes (0908) 604949. Bang & Olufsen, Denon, Rotel, Technics, Yamaha and enthusiast Hi-Fi. Also at Luton and Dunstable

CAMBRIDGESHIRE

AUDIO FILE, 2 Foundry Walk, Market Hill, St. Ives, Cambridgeshire. (0480) 66123. Linn, Naim, Rega, Quad, Cyrus, Arcam, Mission, Arcsm, Denon, Audio Lab, Meredion, JPW. Musical Fidelity. 9.30am-6pm 6 days. 0% Credit. **BADA**
CAMBRIDGE HI-FI, 1-3 Hawthorn Way, Chesterton, Cambs, CB4 1AT (0223) 67773. Mission-Cyrus, Rotel, Kenwood, Pioneer, Manticores, Revolver, Ariston, ITL, KEF, Meridian, Technics, Ruark, Monitor Audio. Single speaker dem. room. Tues-Sat 9.30-5.30 closed Mon. Free installation. Service Dept. Visa, Access, Credit facilities
HI-FI COMPANY, 42 Cowgate, Peterborough, Cambs. PE1 1NA. (0733) 341755. Pioneer, Technics, Yamaha, Rotel, NAD, Denon, Arcam, Audiolab, Mission, Kef. No appts necessary, home trial facilities, free install (if necessary), service dept. Access, Visa, Amex, Switch. Open 6 days 10-5.30.
STEVE BOXSHALL AUDIO, 41 Victoria Rd, Cambridge CB4 3BW. (0223) 68305. 10-6 - 6 days. 3 dem rooms, home trial, appts. preferred. Free installation and service dept. Access, Visa & credit **BADA**
UNIVERSITY AUDIO, 1-2 Peas Hill, Cambridge. (0223) 354237. Roksan, Quads, Meridian, Arcam, Musical Fidelity, Marantz, ATC, Pioneer, Yamaha, Infinity. 2 dems, 1 single speaker Home trial, free install, Service Dept Visa, Access, Amex, Credit. 9-5.30.

CHESHIRE

ASTON AUDIO, 4 West St, Alderley Edge. (0625) 582704. Wide range of specialist audio, interest free credit. Visa, Access. Home trial. **BADA**
DOUG BRADY HI-FI, Kingsway Studios, Kingsway North, Warrington. (Padgate 0925) 828009. Largest choice of specialist Hi-Fi in N.W. All credit cards. 3 Dem rooms. Open 6 days **BADA**
CHRIS BROOKS HI-FI, 29 Gaskell St, Stockton Heath, Warrington. (0925) 61212/3. Tues-Sat 10-6. 2 dem rooms. Credit facilities. All credit cards. Total absence of bull**** **BADA**
CONGLETON HI-FI, 1/1a Duke St, Congleton, Cheshire, CW12 1AP. (0260) 297544. Arcam, Linn, Naim Audio, Nakamichi, Epos, Audio Innovations, Voyd, Neat Peite, B&W, NAD, Rational Audio. Superbly appointed single speaker demo facilities. No appts nec, home trial facilities, free installation. 2 year guarantee on all equipment. Access, Visa. Mon-Fri 10-6, Sat 9.30-5.30, Other times by appt.
PETER MARTIN HI-FI, 4 Duke St, Congleton (0260 273206), 1 Stanley St, Leek (0533 383780), Celestion, Creek, Musical Fidelity, Pink Triangle, Rotel, Ruark, Sony, Systemdek, Tannoy, Teac, Technics. 2 Demo Rooms, No appts nec, Home trial, Free install, Service dept.. Access, Visa, Combar Tricity. Open 4-5.30, 6 days a week.
SWIFT OF WILMSLOW, 4-8 St Annes Parade, Wilmslow. (0625) 526213. Arcam, Denon, Kenwood, Musical Fidelity, Marantz, NAD, Cambridge. 2 dem rooms. Tues-Sat 9.15-6pm. No pressure! **BADA**

CLEVELAND

ACTION ACOUSTICS, 155-157 High Street, Redcar, Cleveland TS10 3AN. 0642 480723. Audio Innovations, Cambridge, Harman-Kardon, JBL, Michell, Musical Fidelity, Pink Triangle, Revox, Rogers, Thorens, etc. Dem Room. Appts nec. Home trial facilities, free installation, service dept. Access, Visa & H.P. Open 9.15-5.30.
GILSON AUDIO LTD, 172 Borough Road, Middlesbrough. (0642) 248793 Linn, Exposure, Arcam, Mission, Cyrus, Denon, Marantz, Rotel, Pioneer, Audiolab, Tannoy. Demonstration facilities in main shop and 1 dem. room, appt nec, home trial facilities, free install. on request, service department. Access, Visa, HP. 10-5 - 6 days.

CORNWALL

ART OF MUSIC, Near Launceston, Cornwall. (0566) 86649. Cary, Cogan Hall, Convergent Audio Technology, Diamond Acoustics, Lumley Reference, Metaxas, Magnum Dynalab, R.E.L., Silver Sounds, Transfiguration. Dem studio appointments necessary, home trial facilities, & free installation. Open 7 days.
DEFINITIVE AUDIO, St Austell, Cornwall TR16 5NH. (0726) 844039. Voyd, Audio Innovations, Micromega, Helius, Syrius, Audio Note, System Dek, JPW, SME, Goldring etc. Free Home Demo and Install throughout Cornwall. Credit facilities. Open 7 days.

CUMBRIA

MISONS SOUND & VISION, 11 Warwick Road, Carlisle CA1 1DH. Tel (0228) 22620. Bang & Olufsen, Arcam, Quad, NAD< Yamaha, Sony Demo Suite, No appts nec, Home trial facilities, Free Installation, Service Department. Open 9-5.30 Mon-Fri. Thurs 9-1. Sat 9-5.

DEVONSHIRE

CHELSTON HI-FI, 38 Walnut Road, Chelston, Torquay, Devon TQ2 6HS. Tel: (0803) 606863. Denon, Marantz, Rotel, Musical Fidelity, Acoustic Energy, NAD, Castle, Heybrook, Celestion, JPWetc. 2 dem rooms. Home trial. Free installation. Access, Visa, Amex, Diners, Hi-Fi Markets Chargecard. Credit facilities. 9.30-7.30 Mon-Fri, 9.30-6 Sat.
THE HI-FI ATTIC, 58 New George St, Plymouth, Devon PL1 1PJ. (0752) 669511. One of the South West's oldest hifi shops. We stock all leading manufacturers & if out of the ordinary, we'll get it for you. We are about to be completely re-furbished to give a large demo room with free coffee!! (& whiskey to console the big spenders!!) We have a genuine interest in hifi & believe the customer always comes first. Single speaker comparators & a (hopefully) relaxed atmosphere. Bring your own equipment/dics etc. along to have a listen. We have been completely re-furbished to give a large demo room with free coffee. Home demonstrations & installations & interest free credit over £700. Open 9.30-5.30 & demos can be by appt
STUDIO ACOUSTICS (0626) 67060. OCM Technology, Shahinian Acoustics, Superplan amplifiers, Nobis loudspeakers & amplifiers, Mirror Image Audio, J.A. Michell, plus other fine equipment. home trial, free install, in-house service dept. Mon-Fri 9-4.30, appointments only.

UPTONELECTRONICS, 3 Torquay Rd, Paignton, Devon. (0803) 551329. Pioneer, Denon, NVA, Musical Fidelity, Tannoy, Ruark, Arcam, Audiolab, Mordaunt Short, Rogers, Revolver, etc. Single Speaker Room. Home demonstrations, Appointments pref for demonstrations. Free Installation. Own service Department. Access & Visa, instant credit. up to £1000. 9-5:30 Mon-Sat 9-1 Weds.

DORSET

SUTTONS HI-FI, 18 Westover Road, Bournemouth. 0202 555512. Linn, Arcam, Mission, Quad, Audiolab, Rotel, Yamaha, Denon, etc. 2 Single Speaker Listening Rooms, Home Demonstrations, Free Installations. Mon-Sat 9-5:30. Call for details. **BADA**

ESSEX

AUDIO T, Gants Hill, 442-444 Cranbrook Rd, Gants Hill, Ilford, Essex 1G2 6LL. Tel: 081 518 0915 Fax 081 554 8463. Arcam, Audiolab, Cyrus, Denon, Kef, Meridian, Rotel, Micromega, Yamaha & many more. Tues-Sat 10-6. 3 yr gntee on Hi-Fi. Free del & instal. 30 day upgrade scheme. Home dems. PX. 2 dem rooms 2 single spker dem rooms. **BADA**
1ST AND FOREMOST HI-FI CENTRE, 49-55 North Station Road, Colchester, Essex CO1 1RQ. Tel: (0206) 549842. Fax: (0206) 762900. Tlx: 987873 SAIDG. Trio Kenwood, JVC, Akai, Aiwa, Sony, Pioneer, Technics, Nakamichi, Panasonic, Revox, etc. Home trial, free installation. Service dept. Instant credit available + all credit cards accepted. Mon to Sat 9am-6pm.
BRENTWOOD MUSIC & HI-FI CENTRE, 2 Ingrave Rd, Brentwood (0277) 221210. Alphason, Denon, Marantz, Quad, DNM, Rock/Glastonbury, E.A.R., Exposure, Kelvin Labs, Rotel, plus many more. Dem facilities, home trial, evening appts, (high end). Home installations. System problem diagnosis. Mon-Sat 9.30-5.30 (Thurs from 10am, Sat from 9am). Credit facilities, Access, Visa, Hi-Fi Markets Chargecard. Service facilities.
LYON AUDIO, 16 Peartree Business Centre, Peartree Road, Stanway, Colchester, Essex CO3 5JN. (0206) 560259. Mission, Cyrus, Arcam, Denon, Rotel, JPW, KEF, Rogers, Quad. Dem facilities. Mon-Sat 9-6. Installations. Access, Visa, Instant credit. Service dept.
RAYLEIGH HI-FI, 44a High Street, Rayleigh, Essex. (0268) 779762/747571. 216 Moulsham St, On-the-Parkway, Chelmsford. (0245) 265245. 132-134 London Road, Southend-on-Sea. (0702) 435255. A&R, Creek, Cyrus, Denon, Epos, Ion, Linn, Mission, Naim, Quad, Rega, Roksan, Rotel, Royd. 0% finance. **BADA**
THOMSONS, 2 High Street, Great Baddow, Chelmsford, Essex. Tel: (0245) 714665, Fax 0245 77528. JVC, Kenwood, Mitsubishi, Toshiba, Tannoy, Mordaunt-Short, Wharfedale, Philips, Audio-Visual dealer. Home trial. Free installation. Service dept. Access, Visa, HP. Open 9-1, 25.30 Mon-Sat. Open 9-1 Wed.

GLOUCESTERSHIRE

AUDIO EXCELLENCE, 58 Bristol Road, Gloucester. (0452) 300046. Great Hi Fi carefully selected and demonstrated by friendly and enthusiastic staff. Closed Mon
AUDIO T, 40-42 Albion St, Cheltenham, Glos. GL52 2RQ. (0242) 583960. Fax (0242) 226435. Great hi-fi from Arcam, Audiolab, Cyrus, Denon, Linn, Meridian, Mission, Rogers, Rotel, Yamaha and many more. Mon-Fri 10-6pm. Sat 9.30-5.30. 3 yr gntee on Hi-Fi. 30 day upgrade scheme. Home dems. PX. Single speaker dem room Free del. and instal **BADA**
HUTCHINSONS, 295-297 High Str, Cheltenham, Glos. GL50 3HL. (0242) 573012. Pioneer reference point, Technics, Dual, NAD, jWharfedale, Celestion, Marantz, Aiwa, Kenwood, Sennheiser. No appts necessary, free install, service dept. Instant credit up to £1000. Open Mon-Sat 9.15-5.30. RLEWIS & CO Ltd, 45 High Str, Stroud, Gloucestershire GL5 1AW. (0453) 762485/9. Bang & Olufsen, Denon, Dual, Mission, Mordaunt-Short, Pioneer, Sony, Technics, Yamaha, Celestion etc. In store dems, free install. service dept. Access, visa. Open 8.30-5pm 6 days.

HAMPSHIRE

AUDIO T, 4 Feathers Lane, Basingstoke, Hants. RG21 1AS. (0256) 24311. Fax (0256) 24430. Great hi-fi from Linn, arcam, Audiolab, Cyrus, Denon, Linn, Merideian, Mission, Rotel, Yamaha and many more. Mon-Sat 9.30-5.30pm. 3 yr gntee on Hi-Fi. Free del & instal. 30 day upgrade scheme. Home dems. PX. Single speaker dem room. Free del. and instal.

HAMILTON ELECTRONICS, 35 London Rd, Southampton, Tel: 0703 228622/3 Fax: 0703 332141. Hi-Fi & Surrounding Sound and theatre Specialists. Harman Kardon, Marantz, Denon, QED, Tannoy, Celestion, B&W, Quad, Aiwa, Technics, JBL, Hecc. Studio Demonstration. No appts nec, Home trial facilities, Free Install, Full service and installation. Open 9-5:15pm Mon-Sat. Access and Visa. **BADA**

The Choice Dealer Directory

HAMPSHIRE AUDIO LTD, 2-12 Hursley Rd, Chandlers Ford. (0703) 252827/265232. Quality CD and analogue agencies. 5 dem studios. Large free car park. **BADA**

JEFFERIES HI-FI (Portsmouth) 29 London Road, Portsmouth PO2 0BH Tel: 0705 663604. 2 Dem Rooms, closed Mondays. Late night Wed. Free Parking Bus route. Credit facilities. **BADA**

TRU-FI SOUND & VISION, 10-12 Grosvenor Road, Aldershot, Hants. Tel/Fax: (0252) 26390/332424. Aiwa, Audio Technica, B&W, Nakamichi, Mission, Mordaunt-Short, Nagaoka, Sony, Technics. Dem fac. Free install. Service dept. 0% finance. Access, Visa. Mon-Sat 9.30-6.

HEREFORDSHIRE

ENGLISHAUDIO, 95 Whitecross Road, Hereford HR4 0DG. (0432) 355081. Musical Fidelity, Arcam, Pink Triangle, Denon, Marantz, Mission-Cyrus, Tannoy, Rotel, NAD, Nakamichi, TDL, and others. Single Speaker Dem room. Home trial. Free install. Service dept. Access, Visa. Credit arranged Open Mon-Sat 10am-6pm

GOSPEL MUSIC AUDIO, 32A High St Kington, Herefordshire. (0544) 230254. New Shop open: Castle Video, 1 Spa Centre, Station Crescent, Landrindod Wells (0587 824 0200) Alphason, Alison, Revolver, Luxman, Yamaha, QED, Audio Systemline, Wharfedale, Jamo, Micromega, No appts nec., home trial facilities, service dept. -5.30 +evening dems.

HERTFORDSHIRE

ACOUSTIC ARTS LTD, 101 St Albans Rd, Watford, Herts. (0923) 245250. Fax (0923) 230798 Absolute Sounds, Acoustic Energy, Audiolab, Denon, Marantz, Meridian, Quad, Ref Imports, TDL, Teak, Tues-Sat 9.30-6:00 **BADA**

RADLETT AUDIO, 141 Watling Street, Radlett, Hertfordshire, WD7 7NQ. (0923) 856497. Mark Levinson, Proceed, PRO AC, Magnepan, Albany, Martin Logan, Tube Technology, Audiolab, Rotel, Rega. Home trial facilities, Free Install, Service Dept. Visa, Access 9-5:30 Mon-Fri 10-5:30 Sat

STUDIO 99, 82 High Street, Harpenden. ((0582) 764 246. Linn, Naim, Meridian, Rega, Nakamichi, Mission/Cyrus, Quad, Creek, KEF, Bang & Olufsen, Yamaha etc. Quiet single speaker dem room. Appts nec. Home trial, free install. Service Dept. Visa/c, Access/c & finance terms. 9-5.30pm (Mon/Sat). Closed Weds. **BADA**

THE AUDIO FILE, 27 Hockerill St, Bishops Stortford, Herts CM23 2DW. (0279) 506576. 9.30-5.30 open 6 days. Dealer Of The Year 1988/89. Linn, Naim, Quad, Cyrus, Arcam, Roksan, Denon, Epos, Rotel, KEF, Pro-Ac. 0% credit. **BADA**

NORTH HUMBERSIDE

JUST AUDIO, 2A Foston Lane, North Frodingham, Driffield. Tel 0262 488700, call for details.

SUPERFI, 4 Dock Str, Queens Gardens Hull, HU1 3DL. (0482) 24051. See main entry under Nottinghamshire for full details.

KENT

CANTERBURY HI-FI, 50 Burgate, Canterbury, Kent, (0227) 765 315 B&W, Denon, Kenwood, Cerwin-Vega, Yamaha, Technica, Rogers, Musical Fidelity, Sony, NAD. No appointments necessary. Free Installation. Service Dept. Access and Visa Mon-Sat 9-5:30

JOHN MARLEY HI-FI CENTRES, 2 Station Rd, West Canterbury. (0227) 769329. Also at Dover - (0304) 207562. Arcam, B&W, Heybrook, Infinity, JPW, Pro-Ac, Pioneer, Rotel, Tannoy, Technics. Dem and home trial fac. Mon-Sat 9-5.30 closed Thurs. Free install. Credit to £1,000. Access, Visa, Credit charge. Service dept.

KIMBERLEY HI-FI, 193 Broadway, Bexleyheath, Kent. (081) 304 3272. Pioneer, Technics, Kenwood, Denon, NAD, Aiwa, Tannoy, Mission, Wharfedale, Castle. Separate dem room, no appt nec. Free installation. Service Dept. Instant credit facilities. 9.30-5.30. No early closing.

PANATEC SOUND & VISION CENTRE, 83b High Str, Gillingham. (0634) 573141. B&W, Bose, Dual, Kenwood, Marantz, Pioneer, Philips, Sony, Tannoy, Technics. Dem room facilities. 0% credit, Service Dept. Free Installation. Pioneer Reference Point Dealer.

PANATEC SOUND & VISION, 17 Week Str, Maidstone. (0622) 661488. See above for details

SOUNDCRAFT HI-FI, 40 High St, Ashford (0233) 624441. No. 1 in Kent for Linn, Naim, Rega, Roksan, Exposure, Onix, Epos, Royd, Creek. But before you choose equipment choose where to buy it. Dem room, appts necessary. Home trial and free installation. Visa, Access, Bada Chargecard. 9-5.30 mon-Fri (Wed & Sat to 5 only). Service Dept. **BADA**

VOLUME ONE, 41 Upper Wickham Lane, Welling, DA16 3AD. 081 304 4622. Arcam, Creek, Dual, Epos, Exposure, Mordaunt Short, Monitor Audio, Nakamichi, Pink Triangle, Rotel. Large demo room, no appt nec, darts & snooker facilities. Evening dems in shop by appt. Home trial & demo, free delivery & installation. Access & Visa, credit up to £1000. 9.30-5.30 Mon-Sat.

V J HI-FI, 29 Guildhall St, Folkestone. (0303) 56860. Mon-Sat 9-6. NAD, Yamaha, Marantz, Cambridge Audio, Denon, Kenwood, Rogers, Dual, Musical Fidelity, Quad, Dem and home trial facilities, free install, credit to £1000. Amex, Diners, Visa, Access. Service dept.

V J HI-FI, 119 High Street Margate. (0843) 226977. Mon-Sat 9-6. NAD, Yamaha, Marantz, Cambridge Audio, Denon, Kenwood, Rogers, Dual, Musical Fidelity, Pioneer. Dem and home trial facilities, free installation, credit to £1000. Amex, Diners, Visa, Access. Service dept.

LANCASHIRE

NORMAN AUDIO, 216 Church Street, Blackpool FY1 3PT. 0253 295661. For details see Preston branch entry (below). Open 9-5.30, Closed Wed. **BADA**

ROMERS HI-FI CENTRE, 94-96 High Street, Rishton, Blackburn, Lancs, BB1 4LQ. Tel: 0254 887799. Musical Fidelity, Technics, Pioneer, Marantz, Revox, Tannoy, Celestion, Sony, Panasonic, Mission. Single Speaker Dem Room, Also wired for pro logic. No appts nec. Home trial fac by arrangement. Free Install, Service Dept. Access, Visa, Switch, Interest free on selected products. Open 9-5:30 Wed 9-1:00

LEICESTERSHIRE

MAYS HI-FI, 27/33 Churchgate, Leicester. LE1 3AL. (0533) 625625. Sony, Technics, Denon, Kenwood, Pioneer(Reference Point) Philips, B&W, Tannoy, Mission/Cyrus, Dual, Listening room, free install, service dept. Full range of credit facilities. Open Mon-Sat 9-5:30 Thurs 9-1:30

THE LEICESTER HI-FI CO, 6 Silver Walk, St. Martins Square, Leicester LE1 5EW. Tel: (0533) 539753. Fax: (0533) 626097. Acoustic Energy, Arcam, Marantz, Micromega, Mission/Cyrus, Musical Fidelity, Nakamichi, Meridian, Rogers, Roksan, "and oodles more". 2 dem rooms, home trial arranged, free install, service dept. Credit facilities. Access, Visa, Diners, Amex. 6 days 9.30-5.30. Bada member. **BADA**

LISTEN INN, 6 Hotel Street, Leicester. (0533) 623754 (Fax) 0533 623758. Linn, Arcam, Royd, Heybrook, Creek, Neat, Mission, Cyrus, Audiolab, Quad, Dewen, etc. 2 Dem Rooms. **BADA**

SOUNDADVICE, The Factory, Duke St, Loughborough LE11 1ED. (0509) 218254. Mission Cyrus, Rega, Naim, Linn, Meridian, Yamaha, Rotel, Arcam, Nakamichi, JPW. 3 demonstration areas, no appts necessary, free installation, service department. Lombard credit charge, Access, Visa. Mon-Fri 9.30-6.00, Sat 9.30-5.30.

LINCOLNSHIRE

BOSTON HI FI CENTRE, 65a Wide Bargate, John Adams Way, Boston, Lincs PE21 6SG. (0205) 365477. Quad, Nakamichi, Arcam, Marantz, NAD, Castle, JPW, Rogers, etc. Separate demo studio. Home trial. Free installation. Access, Visa. Tues - Sat 9-5 pm. **BADA**

STAMFORD HI-FI CENTRE, 9 Red Lion Square, Stamford, Lincs PE9 2AJ. (0780) 62128. Pioneer, Technics, Cyrus-Mission, Rotel, NAD, Yamaha, Kenwood, Marantz, Quad, plus all major speaker manufacturers. Expert advice, comparator demonstrations, on two floors, part exchange Hi-Fi purchased for cash. No appointments necessary, home trial facilities, free installation, service department. Mastercard, Visa & credit charge, finance available. Mon-Sat 9-5.30pm, closed Thursdays.

SUPERFI, 271A High Str, Lincoln LN2 1JG. (0522) 520265. See main entry under Nottinghamshire for full details.

LONDON

ANALOG AUDIO, 849 High Road, London N12. (081) 445 3267. Cambridge, Denon, Rotel, Yamaha, Marantz, Wharfedale, Teac, Mordaunt-Short, Cerwin Vega, Nad. Free install. Service dept. Instant credit up to £1000. Visa & Access. 9.30-6.6 days.

AUDIO T, 190 West End Lane, West Hampstead, London NW6 1SQ. (071) 794 7848, Fax (071) 431 3570. Great hi-fi from Linn, Arcam, Audiolab, Cyrus, Denon, Meridian, Mission, Philips, Rotel, Proac, Micromega, Yamaha, and many more. Tue-Sat 10-6pm. 3 yr gntee on Hi-Fi. Free del & instal. 30 day upgrade scheme. Home dems. PX. 2 dem rooms. A/V Dept. **BADA**

BILLY VEE SOUND SYSTEMS, 248 Lee High Road, London SE13. (081) 318 5755. Arcam, Linn, Naim, Quad, etc. 2 dem rooms. Int. free credit. Access, Visa. Closed Thurs. **BADA**

CORNFLAKE SHOP, 37W Indmill St (just off Tottenham Court Rd), London W1. (071) 631 0472 (domestic). (071) 323 4554 (multiroom). Fax. (071) 436 7165. Tues -Sat 10-7 Rega, Roksan, Naim, Monitor Audio, Arcam, Nakamichi, Rotel, Epos etc. 3 dem rooms (incl. home cinema)/Friendly, professional service. Home trial facilities. Appointments preferred. Full delivery and repair service. Multiroom specialists. Access & Visa

COVENT GARDEN RECORDS, 84 Charing Cross Road, London WC2 (071) 379 7635, Fax (071) 836 1345. London's premier digital audio centre, Photo CD, DCC, CD, & 16X9 TV'S. Audiolab, B&O, Marantz, Mission, Cyrus, Philips, Pioneer, Rotel, Rogers, Quad, Sony, Technics, single speaker dem rooms, appointments suggested, installation service available. All major credit cards accepted. Mon-Sat 10am-7.30pm.

DOUG BRADY HI-FI, 14-18 Monmouth St. London WC2H9HB. (071) 379 4010. Wide range of top specialist hi-fi from Britain, America and Japan. 3 dem rooms. **BADA**

GRAHAMS HI-FI, Canonbury Yard, 190a New North Rd, London N1 7BS. (071) 226 5500. Winner Sony/HFN Greater London Dealer Award 1986-1989-1990. Linn, Naim, Rega, etc. £400-£3000-£13,000. **BADA**

HI-FI COMPONENTS, 84 Battersea Rise, London, SW11 1EH Tel: 071 2231 110. Tannoy, Kenwood, Rotel, NAD, QED+ Wharfedale, Dual, Shure, Ortofon, Celestion. Appts nec, Service Dept. Access, Visa, Diners, Amex, Open 10-6 Closed Wed.

KJ WEST ONE, 26 New Cavendish St, London W1M 7LH. (071) 486 8262/63. Fax (071) 487 3452. Arcam, Audio Alchemy, Audio Lab, Audio Research, Croft, Deltac, Epos, Marantz, Meredian, Mission, Musical Fidelity, Pink Triangle, Roksan. Appts nec. Home trial. Free installation. Service dept. Major credit cards. Mon-Sat 10-6pm. (Late night Thur til 7pm).

MUSICAL IMAGES LTD. See under Middlesex & full page advert in the Product Directory.

MYERS AUDIO, 6-7 Central Parade, Hoe Street, Walthamstow, London, E17 4RT. Te 081 520 72777 Fax 081 5036677

NICHOLLS HI-FI, 430-434 Lee High Rd, Lewisham, London, SE12 8RW. 081 8525780. Sony, Technics, Harman, JBL, Mordaunt Short, Kenwood, Panasonic, Hafler, SÜmo, B&W. Demo facilities, no appt. nec, Home trial facilities, Free Install. Service Dept. Credit available. Access, Visa. Open 9.30-6 Mon-Sat, Thurs 9.30-1pm

SOUND SENSE, 350 Edgeware Road, London W2 1DX. (071) 402 2100. Alphason, B&W, Nakamichi, Celestion, Cambridge Audio, Dual, Denon, Monitor Audio, Marantz, NVA, Sony ES. Appts preferred. Installations available. Access, Visa, Standard credit facilities. Mon-Sat 9.30-6.30.

STUDIO 99, 79-81 Fairfax Road, Swiss Cottage, London NW6. (071) 624 8855. Naim, Rega Quad, Meredian, Mission/Cyrus, ATC, Nakamichi, KEF, Yamaha, Arcam, Epos, Acoustic Energy, Bang & Olufsen, etc. 2 single speaker dem rooms. Service dept. Visa/c, Access/c & finance terms. 10-7 Mon-Fri, 10-6 Sat. **BADA**

SUPERFI, 2-4 Camden High Street, Camden, NW1 0JH (071) 388 1300. See main entry under Notts for full details.

LXBRIDGE AUDIO - CHISWICK, 109 Chiswick High Road, Chiswick, W4 2ED (081) 742 3444 Fax (081) 742 3295. 2 Demo Rooms, Installations, 2 Year Guarantee, 7 day exchange. Major credit cards, Tues - Sat 10 - 6. See Middx entry for brands stocked **BADA**

VOLUME ONE, 41 Upper Wickham Lane, Welling. (081) 304 4622. For full details see entry under Kent

ZEBRA, 18-24 Brighton Road, South Croydon CR2 6AA. 081 688 2093. Audio lab, Arcam, KEF Reference, Marantz, Mission, Micromega, Pioneer, Rotel, Sony, Tannoy, and large range of AV equipment. S2 Air Conditioned Demo Rooms. in a more casual environment. Service department. Mon-Sat 9.30-6.00. Access, Visa & instant credit up to £1000 subject to status.

GREATER MANCHESTER

THE AUDIO COUNSEL, 12 Shaw Road, Oldham, Manchester OL1 3LQ. (061) 633 2602. Linn, Yamaha, Rega, Rotel, Arcam, Micromega, EPOS, Creek, Nakamichi, Denon. 2 dem rooms. Free install. Visa, Access, Licensed credit brokers up to £1000 instant credit. 10.00-5.30 Tues, Weds, Sat; 10.00-7 Thurs & Fri. Closed Mon

MURRAY HI-FI, 19 Middle Hillgate, Stockport. (061) 429 7666. Linn, Naim, Rega, Arcam, Yamaha, Royd, Epos, Creek, Nakamichi, Rotel. Full demo facilities, free installation & delivery, service dept. Full 2yr guarantee on all products. Access, Visa, Lombard Tricity, licensed credit broker. 10-6 Tue-Sat.

MIDDLESEX

AUDIO T, 159a Chase Side, Enfield, Middx EN2 0PW. (081) 367 3132, Fax (081) 367 1638. Great hi-fi from Arcam, Audiolab, Cyrus, Denon, Meridian, Micromega, Mission, Philips, Rotel, Yamaha and many more. Tue-Fri 10-6pm. Sat 9.30 - 5.30 3 yr gntee on Hi-Fi. Free del & instal. 30 day upgrade scheme. Home dems. PX. 3 dem rooms. A/V Dept. **BADA**

The Choice Dealer Directory

HARROWAUDIO, 27 Springfield Rd, Harrow. (081) 863 0938, Mon-Sat 9.30-5.30. A&R, Audiolab, Cyrus, Denon, Epos, Monitor Audio, Musical Fidelity, Nakamichi, Quad, Rotel, Tannoy, Thorens, Yamaha etc **BADA**

MUSICAL IMAGES LTD. 173 Station Rd, Edgeware (081) 952 5535, fax (081) 951 5864 and 45 High St, Hounslow. Tel (081) 569 5802, fax (081) 569 6353. Most brands available - see full page advert in Product Directory. Interest free credit available, ask for details. Demo Room, Repairs & Service, Mail Order facilities.

RIVERSIDE HI-FI LTD. 422 Richmond Road, East Twickenham, Middlesex TW1 2EB. Tel. (081) 892 7613. Fax (081) 892 7749. A.R., Arcam, Audio Innovations, Castle, Dual, Denon, KEF, Luxman, Michell, Musical Fidelity, Micromega, Marantz, Nakamichi, Rotel, Spenhord, Systemdek, Tannoy, Yamaha. One demo room, in-car demo for car hi-fi systems. Appts not always necessary. Home trial facilities. Free installation, service dept. Lombard Tricity, Access, Visa, Amex, Diners Club. Mon-Sat 9.30-6, Thurs, Fri 9.30-7.

SIGHT N SOUND, The Treaty Centre, Hounslow, Middlesex TW3 1ES. 081 572 5418, fax 081 572 5417. Sony, Kenwood, Finlux, Toshiba, Philips, Sanyo, Grundig, Pioneer, Technics, Akai. No appts nec, free intall, service dept. Access & Visa, financing available. 9-6pm Mon-Sat

MERSEYSIDE

W.A. BRADY & SON, 401 Smithdown Rd, Liverpool L15 3JJ. (051) 733 6859. 'Largest choice of specialist Hi-Fi in N.W. £100-£20K'. All credit cards. 3 dem rooms. Closed Monday **BADA**

P & A AUDIO (BIRKDALE) LTD 31 Liverpool Road, Birkdale, Southport (0704) 68373. Arcam, Cambridge, Creek, Denon, Michell, Mission/Cyrus, Mordaunt-Short, NAD, Pink Triangle, QED, Revolver, Rogers, Rotel, Royd, Tannoy. 3 Single speaker demo rooms and Nicam surround sound dem room. Free delivery, installation (Merseyside) Service dept, Mon-Sat 9-5.30 Half day Tues, Access, Visa, Lombard

WEST MIDLANDS

AMADAEUS SOUND & VISION, 10 Boldmere Road, Sutton Coldfield, West Midlands Tel (021) 354 2311. Arcam, Audio Innovations, B&O, Carver, Castle, QED, Wharfedale, Yamaha, Cambridge Audio, Halfer. Single Speaker demo, appts preferred, service available, installations, B&O link install, home trials. Access, Visa, interest free credit available subject to status. 9.30-6pm 6 days.

FRANK HARVEY HI-FI EXCELLENCE, 163 Medieval Spon Street, Coventry (0203) 525200. All major agencies. Free inst. Service dept. Part ex. 3 dem rooms. Mon-Sat 9.30-5.30. Wed til 8pm **BADA**

GRIFFIN AUDIO LTD, 94 Bristol Street, Birmingham. (021) 692 1359/ (021) 622 2230. Arcam, Castle, Cyrus, Denon, Linn, Marantz, Naim, Quad, Rega, Rotel. Tues-Sat 10-6 **BADA**

MUSICAL APPROACH, 37 High Street, Aldridge, Walsall, W. Mids. (0922) 57926. Linn products, Arcam, Creek, NVA, Revolver, Onix, Epos, Marantz, Rotel, Quad & more. Dem facts. Home trial. Service dept. Credit facs available. Access, Visa. 9.30-5.30 Mon-Sat. 9.30-1 on Thurs.

MUSIC MATTERS, 351 Hagley Road, Edgbaston, Birmingham B17 8DL (021) 429 2811. Roksan, Nakamichi, Arcam, Audiolab, Musical Fidelity, Mission/Cyrus, Meridian, KEF, Monitor Audio, Pink Triangle. 2 single speaker luxury demo rooms. Appts nec, home trial facilities, free installation, service dept. Access, Visa, instant credit up to £1000, interest free credit available. Tue-Thur 10.30-6, Fri 10.30-8, Sat 10-5.30.

NAAM HI-FI VISION, 122-123 New Street, Birmingham. (021) 633 4944. Pioneer, Akai, Aiwa, Panasonic, Toshiba, Hitachi, Bose, Wharfedale, Sony. Demo facilities available, appointments preferred. Access, Visa, 10 month interest free credit. Amex, Lombard Tricity Creditcharge. Mon-Sat 9-6.00.

NORFOLK

BASICALLY SOUND, The Old School, School Rd, Bracon Ash, Norwich NR14 8HE. (0508) 70829. Arcam, Linn, Naim, Denon, Spondor, Exposure, Audio Technica, Creek, Rega, Epos, etc. 2 comprehensive dem rooms. Home trial. Free installation. Visa, Access, HP facilities. Tues-Sat 9.30-1, 2-5.30.

MARTINS HI-FI, 5 High Street, Kings Lynn. (0553) 761683. Est. 1968. Making good vibrations for 20 years **BADA**
MARTINS HI-FI, 85/91 Ber Street, Norwich. (0603) 627010. Est. 1968. Making good vibrations for 20 years **BADA**

NORTHAMPTONSHIRE

AUDIO CRAFT 23-25 Derngate, Northampton, NN1 1TY. Tel: 0604 362918 Bang & Olufsen, Kenwood, Technics, Marantz, Celestion, Mordaunt-Short. No appts nec, Free Install, Service Dept. Open Mon-Sat 9-5:30pm

CLASSIC HI-FI + VIDEO, School Lane, Kettering, Northants. (0536) 515766. Rotel, Musical Fidelity, Wharfedale, Yamaha, JBL, Cyrus, Nad, Pioneer, Marantz, Kenwood, Kef, Celestion, and many more. Home trial, free instal., service dept. Access, Visa, credit facs. 9.30-5.30pm.

LISTEN INN, 32 Gold Street, Northampton. (0604) 37871 (Fax) (0604) 601430. Linn, Naim, Epos, Royd, Mission, Cyrus, Arcam, Audiolab, Neat, Creek, Quad, Denon etc. 2 Dem Rooms **BADA**

NOTTINGHAMSHIRE

CHANTRY AUDIO, Chantry Walk, 18a Eldon Street, Tuxford, Nr Newark, Notts NG22 0LH. (0777) 870372. Pink Triangle, Deltac, Rotel, SD Acoustics, Ruark, NVA, Michell, Ion Systems, Croft Acoustics, Kelvin Labs, and much more. 2 dem rooms. Home trial, free installation. Access, Visa & credit facilities and mail order. Mon-Fri 9.30-5.30pm Sat 9.30-5.30 Sun & evenings home dem by appt.

DEFINITIVE AUDIO, (0602) 813562. For a carefully considered approach to building a true hi-fidelity audio system with components derived from the following manufacturers: Audio Innovations, Snell, Wadia, Micromega, Deltac, Voyd, Systemdek, SME, Revox, Audionote, Ortofon, Pioneer Demos by appt. Please phone for further details. Installation free of charge. Mon-Sat 10-7pm, Closed Wed a.m.

NOTTINGHAM HI-FI CENTRE, 120-122 Alfreton Road, Nottingham (0602) 786919. Over 25 years experience, superb demo rooms, extensive range, free parking. Mon-Sat 9-5.30. **BADA**

PETER ELLIS AUDIO, 29 Kirkgate Newark, Nottingham, NG24 1AD (0636 704571) Quad, Castle, Arcam, QED, Sugden, Tannoy, Thorens, Marantz, Dennon, Teac. Demo Room, Free Install, Service Department. Access, Visa, Mon-Sat 9-5:30 Close at 1:00pm on Thursday.

SUPERFI, 15 Market Str, Nottingham NG1 6HY. (0602) 412137. Kenwood, Technics, Denon, Aiwa, Rotel, Wharfedale, Mission, Marantz, NAD-Celestion, and many more. 2 single speaker dem rooms. Free install on systems, service dept. Access & Visa, Amex. Open 9-5.30, 6 days.

OXFORDSHIRE

ASTLEY AUDIO LTD, 3 Marketplace, Wallingford. (0491) 39305/34349 Technics, Panasonic, Pioneer, Kenwood, Sony, Yamaha, Denon, Dual, Mission, Tannoy. Home trial, free installation. Service dept. Access, Visa, Amex, Diners. Instant credit. Tue-Fri 9-5.30, Sat 9-5. Records & CDs stocked

AUDIO T, 19 Old High St, Headington, Oxford OX3 9HS. (0865) 65961, Fax (0865) 60415. Great hi-fi from Arcam, Audiolab, B&O, Cyrus, Denon, KEF, Meridian, Mission, Rotel, Sony, Yamaha and many more. Open Mon Fri 10-6pm, Sat 9.30-5.30. 3 yr gntee on Hi-Fi. Free del & instal. 30 day upgrade scheme. Home dems. PX. 2 dem rooms. A/V Dept **BADA**

OXFORD AUDIO CONSULTANTS LTD, Cantay Hse, Park End Street, Oxford OX1 1JE. (0865) 790879 fax (0865) 791665. NAD, Rotel, Musical Fidelity, Pioneer, Marantz, Rogers, TDL, Thorens, Audio Research, Proceed 2 Demo rooms. Service Dept, Home trial and free installation. Instant credit, Access, Amex, Visa. 10-6 Mon-Sat.

WESTWOOD AND MASON, 46 George Street, Oxford. Tel: 0865 247783 Arcam, Rotel, Rega, Epos, Tanoy, Rega, Royd, JPW, Mission, Nakamichi, Denon, Aiwa, Naim, Quad, Aura, Teac. Open 9:30-5:00pm. Dem room Closed Thursdays.

WITNEY AUDIO VISUAL, 28 High St, Witney, Oxford. (0993) 702414. Aiwa, Akai, AR, Bose, B&W, Cambridge, Dual, Mordaunt-Short, NAD, Onkyo, Pioneer, Roberts, Sony & Sony ES, Tannoy, Wharfedale, Yamaha, Reference Point Dealer. Dem facilities. Mon-Sa 110-6 Free installation, credit to £1,000. Access, Visa. Service dept.

SHROPSHIRE

AVON HI-FI, 12 Barker Street, Shrewsbury, Shropshire SY1 1QJ. (0743) 55166. NAD, Quad, B&W, Arcam, Kenwood, Aiwa, Bose, Nakamichi, Revolver, Onkyo. Dem room. Home trial. Free install. Service dept Access, Visa. £1000 instant credit. Mon, Tues, Wed, Fri, Sat 9-5.30

CREATIVE AUDIO, 9 Dogpole, Shrewsbury. (0743) 241924. Linn, Naim, Roksan, Mission, Arcam, Rogers, Denon, Marantz, Rotel, Celestion, etc Dem room. Home trial and free installation. Credit to £1000. Access, Visa. Tues-Sat 9.30-5.30. Service dept.

MID-SHROPSHIRE AUDIO, 4 Holland Court, Dawley, Telford TF4 2EX. (0952) 630172. Audio Innovations, Marantz (inc Music Link), Denon, Tannoy, Ortofon, Pink Triangle, Ion Systems, Systemdek, Ruark, Monitor Audio etc. 2 dem rooms. Home trial, service dept. Instant credit up to £1000 Access, Vsa, Amex

SOMERSET

MIKE MANNING AUDIO, 110 Middle Street, Yeovil, Somerset BA20 1NE (0935) 79361, Fax (0935) 32923, Mobile (0850) 325965. Naim, Roksan, Pink Triangle, A+R (Arcam), ION, NAD, Pioneer, Rotel, Denon, etc. Dedicated listening lounge, for relaxed and unpressured demonstrations. Appts not usually nec. but best to phone first. Home trial facilities on request, free installation, service department. Instant credit, Access & Visa, etc. 9-5.30 closed Mondays.

STAFFORDSHIRE

GRANGE HI-FI LTD, 153 Branston Rd, Burton-on-Trent, Staffordshire DE14 3DQ. (0283) 33655. Audio Innovations, Arcam, Castle, Denon, Pink Triangle, Marantz, Rotel, Rogers, Systemdek, SME, Tannoy, Dem tac, appts nec on Sat, Free Install. Service dept Access, Visa. 9.00-5.30pm. Closed Mon & Wed atts, open until 7:00pm Thursdays. Closed for lunch 12.00-12.30.

SUFFOLK

EASTERN AUDIO, 41 Bramford Rd, Ipswich. (0473) 217217. Quad Audio Lab, Denon, Dual, Marantz, Mission, NAD, Nakamichi, Technics, Arcam. Mon-Sat 9.30-6. **BADA**

AVALON AUDIO VISION, 12 St Margarets Plain, Ipswich, Suffolk. Tel: 0473 281922. Pioneer, Mission/Cyrus, NAD, Rotel, Yamaha, Marantz, KEF, Mordaunt-Short, Mitsubishi, Wharfedale. Single Speaker Demonstration Room. No appts nec, Home trial fac, Free Install, Service Dept. Full HP fac, Interest Free Credit available on most components, Part exchange. Open 9.30-6:00 Mon-Sat.

SURREY

AUDIO SOUTH, 24 (The Woolmead) East Str, Farnham, Surrey GU9 7TT. (0252) 714555 Audio Innovations, Audio Note, Deltrec, Yamaha, Cary, JPW, Marantz, Rotel, Snell, Voyd. Dem room and evening appointments available. Home trial facilities. Free installation. Access, Visa. 10.30-6 Mon-Sat. Closed Tuesdays.

DATASOUND, 23 South Street, Dorking, Surrey RH4 2JZ. (0306) 882897. Arcam, Celestion, Denon, Dual, Marantz, Mission, Musical Fidelity, NAD, Rotel, Tannoy. Dedicated listening room. Free install. Service dept. Up to £1000 instant credit subject to status. 9.30-5.30 6 days.

PJ HI-FI - the HI-FI Shop, 3 Bridge Street, Guildford, Surrey GU1 4RY. Tel: (0483) 504801. 9-6 Mon-Sat. Linn, Meridian, Creek, Arcam, Quad, Revox, Musical Fidelity, Rotel, NAD, Nakamichi, Marantz. **BADA**

RIVERSIDE HI-FI, 422 Richmond Road, East Twickenham TW1 2EB. Tel: (081) 892 7613. Fax: (081) 892 7749. See main entry under Middlesex.

ROGERS HI-FI, 13 Bridge Street, Guildford, Surrey. (0483) 61049. Aiwa, Denon, Dual, JPW, Marantz, Monitor Audio, Philips, Pioneer, Systemdek, Tannoy. Demonstration facilities available, no appointment necessary. Free installation. Service department. Access/Visa. Instant credit up to £,000 subject to status. Monday-Saturday 9.30-6pm, later by appointment.

SOUNDS EXCLUSIVE, 1 Kent House, High Str, Cranleigh GU6 8AU. (0483) 268185. Michell (amplification & decks), Marantz, Ariston, Ortofon, AME, Sumo, Proac, Jamo, Origin Live, Kiseki. Demo room, appts preferred, home trial facilities, free install, service dept. Access, Visa. Open 9-5.30 Mon-Sat.

SPALDINGS HI-FI, 352-4 Lower Addiscombe Rd, Croydon, Surrey. (081) 654 1231/2040. 3 dem rooms and home dem. Free installation, credit. Mon-Sat 9-6. Tues to 8. Closed Wed. Service dept **BADA**

SURBITON PARK RADIO, 48 Surbiton Rd, Kingston-Upon-Thames, Surrey (081) 546 5549. Quad, Castle, Dual, Denon, Kenwood, Rotel, Pioneer, QED, B&W, Tannoy. Demo facilities. Access, Visa. 9.30-5.00 Tues-Sat. Service dept.

SURREY HI-FI, 45 High Street, Godstone, Surrey RH9 8LS. (0883) 744755. Parking, easy access - just 2 mins off junction 6, M25. Audio Lab, Quad, TDL, Nakamichi, KEF, Thorens, Rotel, Marantz, Denon, Michell, Tannoy, Single speaker demo room. Demonstration by appointment, free installation, service dept. Access, Visa, Mastercard. 0% Credit. Open 9-6, closed Wed.

BRITISH AUDIO DEALERS ASSOCIATION

BADA
THE ULTIMATE IN
SOUND ADVICE

INDICATES MEMBERSHIP OF
BRITISH AUDIO DEALERS ASSOCIATION

The Choice Dealer Directory

TRU-FI SOUND AND VISION, 2 Central Parade, Redhill, Surrey. (0737) 767404/766128. Aiwa, Audio Technica, B&W, Nakamichi, Mission, Mordaunt-Short, Nakoaka, Sony, Technics. Dem. facilities. Free installation. Service dept. 0% finance. Access, Visa. Mon-Sat 9.30-6.

TRU-FI SOUND & VISION, 10 Church Street, Leatherhead, Surrey. (0372) 378780. Sony, Technics, Panasonic, Mitsubishi, Ferguson, Aiwa, Pioneer, Sanyo, B&W, Mission. Free installation. Credit facilities. Access, Visa. 9.15-5.30 Mon-Sat. Closed Wed. Service dept.

ZEBRA 18-24 Brighton Road, South Croydon CR2 6AA. 081 688 2093. See main entry under London.

SUSSEX (EAST)

JEFFRIES HI-FI, 69 London Road, Brighton, East Sussex, Tel 0273 609431. 2 Dem Rooms, closed Mon. Late night Wed. Free parking. Bus route. Credit Facilities. **BADA**

JEFFRIES HI-FI, (Pourtsmouth), 29 London Road, Portsmouth, PO2 0BH Tel: 0705 663604. 2 Dem Rooms. Closed Mondays. Late night Wednesday. Free parking. Bus route. Credit facilities. **BADA**

JEFFRIES HI-FI, 4 Albert Parade, Green Street. Eastbourne, East Sussex. Tel: 0323 31336. 2 Dem Rooms. Closed Mon. Late night Wed. Free Parking. Bus Route. Credit Facilities. **BADA**

THE POWERPLANT, 66 Upper North Street, Brighton BN1 3FL. (0273) 775978. Roksan, Musical Fidelity, Marantz, Rotel, Yamaha, Tannoy, Audiolab, B&W, Micromega, Epos, JPV, etc. Comfortable single speaker demonstration rooms. No appts. nec. Home trial facilities, free install. Service dept. Credit facilities available on request. Mon-Sat 10-1.00, 2.00-6pm.

SUSSEX (WEST)

AUDIO DESIGNS, 26 High Street, East Grinstead, W. Sussex RH19 3AS. 0342 314569 Linn, Naim, Alphason, Arcam, Rotel, NAD, B&W, Quad, Tannoy, Thorens, TEAC, etc. Very comfortable listening room. No appts nec., Home trial facilities, free installation, service dept. Access/Visa. 9.30-6:00 Mon-Sat, late Tue till 8pm.

BOWERS & WILKINS LTD, 1 Becket Buildings, Little Hampton Rd, Worthing. (0903) 2 64141. B&W, Nakamichi, Castle, Denon, Dual, JVC, Mordaunt Short, Philips, Quad, Sony, Technics. 3 dem rooms. Mon-Sat 9-5.30, Wed 9-1pm. Home trial facilities, free install. Credit to £1000, Access, Visa. Service dept. *

CHICHESTER HI-FI, 7 St. Pancras, Chichester, W. Sussex PO191SJ. Tel: (0243) 776402. Linn, Naim, Rega, Creek, Nakamichi, A&R, Denon, Roksan etc, Tues-Sat, 10-1, 2-5.15 (closed Mon). **BADA**

TYNE & WEAR

BILL HUTCHINSON LTD, 87A Clayton Street, Newcastle-Upon Tyne, Tel: (091) 2303600, A.R. Aiwa, Denon, Dual, JVC, Mission, Mordaunt Short, Omar, Technics, Yamaha, etc. Demo facilities. Free Install, Service Department, Instant Credit, Access, Visa, Mon-Sat, Late Tue till 8pm

RED RADIO SHOP AND HI-FI CENTRE, 11 Olive Street, (Off Park Lane), Sunderland. Tyne & Wear SR1 3PE (091) 567 2087. Castle, Carver, Denon, JVC, Kenwood, Mordaunt-Short, Michell, Teac, Tannoy, Monitor Audio etc. Dem room, large with comparator facility. No appts nec, Free install. Service dept. Interest free credit and no deposit 9am-5.30pm daily.

WARWICKSHIRE

FRANK HARVEY HIFI, 163 Spon Street, Coventry, Warwickshire, CV1 3BD. Tel 0203 525200. Arcam, Mission, Cyrus, Musical Fidelity, Marantz, Rotel, NAD, Tannoy, Yamaha, KEF. Open 9.30-5.30 closed Thursday **BADA**

NAAM HI-FI VISION, 78 Lower Precinct, Coventry CV1 1DX. (0203) 632086. Technics, Pioneer, Kenwood, AR, Akai, Aiwa, Panasonic, Toshiba, Wharfedale, KEF. Demo facilities. Access, Visa, Amex, Lombard Tricity credit charge. 9.00-6.00 Mon-Sat

WILTSHIRE

AUDIO T, 60 Fleet St, Swindon, Wiltshire, SN1 1RA. (0793) 538222, Fax (0793) 487260. Great hi-fi from Arcam, Audiolab, Cyrus, Denon, Linn, Merisian, Mission, Rotel, Sony, Yamaha, and many more. Tue-Sat 9.30-5.30, 3yr gntee on Hi-Fi. Free del & instal. 30 day upgrade scheme Home dems. PX. 2 dem rooms. A/V Dept **BADA**

PR SOUNDS, 58 Castle Street, Troutbridge, BA14 8AU. Tel 0225 777799. Also at Melksham & Devizes. Piuoneer, Technics, Kenwood, Denon, Marantz, B&W, Tannoy, JPW, Dual. Where mucic is a pleasure, personal service, no appointments necessary. Installations & much much more. Access/Visa £1000 instant credit. Open 9-6, 6 days.

WORCESTERSHIRE

NAAM HI FI VISION, 27 The Cross, Worcester, WR1 3PZ. Tel 0905 726375. Denon, Marantz, NAD, Musical Fidelity, Acoustic Research, Harman Kardon, Sony, Technics, Akai. Appts nec for demonstrations. Installation 7 days a week up till 9pm. Interest Free credit over £400. Open 9-5:30 Mon-Sat.

WEST MIDLANDS AUDIO, 158 Ombersley Road, Worcester WR3 7HA. (0905) 58046. Nakamichi, Naim, Rega, Absolute Sounds, Meridian, Arcam, Ion Systems, Roksan. 3 dem rooms for budget & high end audio. Appointments necessary. Free installation. Service Dept. Access, Visa, Amex, Diners, Lombard/Hitachi. Mon-Fri 9.30-8.30 by appt Sat 9-5.30.

YORKSHIRE (NORTH)

THE AUDIO CLINIC, 22 Lord Mayors Walk, York, Yorkshire, Y3 7HA. Tel: 0904 646309. Mission, Revox, Yamaha, JVC, Audio Inovations, Celestion, NAD, Musical Fidelity, Allison, Thorens. Noappts nec, Home trial facilities, Free Installation. Service Department. Access/Visa, Credit. Open 10-5:30 Mon-Sat.

SCARBOROUGH HI-FI CENTRE, 53 Dean Road, Scarborough, N. Yorks YO12 7SN. (0723) 374547. Aura, B&W, Mission, Quad, NAD, Oxford, Alphason, Rogers, Nakamichi, Ruark, Voyd. Dem room, appointment preferred. Home trial facilities. Free installation. Service dept. Access/Visa/Creditcharge/£1,000 instant credit/Amex/Diners. 10-6 Tues to Sat.

HARROGATE HI-FI CENTRE, 15 Commercial Street, Harrogate, N. Yorks HG1 1UB. (0423) 504274. Aura, B&W, Mission, Quad, NAD, Oxford, Alphason, Rogers, Nakamichi, Ruark, Voyd. Dem room, appointment preferred. Home trial facilities. Free installation. Service Department. Access/Visa/Creditcharge/£1,000 instant credit/Amex/Diners. 10-6 Tuesday to Saturday.

SOUND ORGANISATION YORK, 2b Gillygate, York YO3 7EQ. Tel: (0904) 627108. Linn, Meridian, Micromega, Naim, Rega, Roksan, Arcam, Mission, Denon, Epos, Rotel. 2 single speaker dem rooms. Appts. preferred. Home trial. Free installation. Service dept. Credit facilities on request. Access, Visa. 10am-5:30pm Tues-Sat. Sony dealer. Award nominated '86, '87, '88. **BADA**

VICKERS HI-FI, 24 Gillygate, York. (0904) 629659. Audiolab, Harman-Kardon, Marantz, Musical Fidelity, Pink Triangle, Quad, Systemdek, Tannoy, Technics, & lots more. 3 demonstration studios (2 by appointment) superb showrooms, 2 year guarantee on all hi-fi products. Appts as above, homertrial facilities, free installation, service department. Qualified and experienced staff, over 25 years experience. 12 months interest free credit. 10.30-5.30 Mon-Sat.

YORKSHIRE (SOUTH)

BARNSELY HI-FI CENTRE, 40-42 Sheffield Road, Barnsley, S. Yorks S70 1HP. (0226) 205549 Fax (0742) 467207. Arcam, Quad, Audiolab, Mission Cyrus, Technics, Denon, Tannoy, Nakamichi, Dual, Rotel. Purpose built demo room, no appts necessary, free install, service dept. Access, Visa, varying finance packages. Open 9.30-5.30, 5 days (closed Thurs)

HI-FI STUDIO, Sunnyfields, Doncaster. (0302) 781387. Heybrook, Monitor audio, Art Audio, TDL, Michell, Sugden, Acoustic Energy, Alphason, Teac, Dual. Listening room/demos. Home trial. Free installation. Licensed credit broker, 2yr guarantee on all equipment. Service available. Access, Visa. 10-8pm 6 days. Phone for further info. & FREE fact pack

YORKSHIRE (WEST)

AUDIO PROJECTS, 45 Headingley Lane, Leeds. (0532) 304565. A&R, Audiolab, Creek, Heybrook, Linn, Musical Fidelity, Naim, Quad, Rega, etc. Tues-Fri 9.30-6, Sat 2.30-5.30. **BADA**

AUDIOVISION (BRIGHOUSE) LTD, 5 Bethel Street, Brighouse, (1 mile from junction 25, M62) W. Yorks. HD6 1JR. Tel 0484 713996. Largest range of Technics Hi-Fi in Yorkshire. Aiwa separates, Castle, Tannoy and Mordaunt Short speakers. Panasonic NicaM TV's, VCR's and camcorders. Philips widescreen TV's, CD-Interactive Players. Dolby Pro-Logic Surround Systems. Audiovisual Reproduction Furniture. CD-Audio, CDI and DCC. Demo's. Free expert install. Panaserivce in-store service dept. Access, Visa, credit charge. Mon-Sat 9-5:30.

CLEARSTONE (Formerly Erricks), Rawson Square, Bradford, (Near John St Market). (0274) 309266. A&R, Linn, Quad, Exposure, Nakamichi, Mission, Denon, Kenwood. Private demo rooms, no appt nec, home trial facilities, free installation, service dept. Access, Visa, licenced credit broker. Mon-Sat 9-5.30 (Tue 10-5.30) **BADA**

DOUG BRADY HI-FI, The Forge Cottage, 19 Crossgate, Otley, West Yorkshire LS21 1AA. (0943) 467689. Naim, Arcam, Rotel, Pink Triangle, Meridian, Epos, Castle. Two dem rooms, free install, service. Access/Visa. Open 10-6pm Tues-Sat. **BADA**

ERIC WILEY, 85 Beancroft Rd, Castleford. (0977) 553066/556774. Arcam, Cyrus, Kenwood, Marantz, Mission, Pioneer (Reference Point), Quad, Rotel, Sony, Technics. Car Audio specialists. Demo facilities. No appts nec. Access, Visa. Lombard tricity credit charge. Mon-Sat 9-5.30, closed Wed.

HUDDERSFIELD HI-FI CENTRE, 4 Cross Church St, Huddersfield. (0484) 544668. B&W, Kenwood, Denon, Dual, Arcam, Musical Fidelity, Quad, Audio Lab, Philips, Mission, etc. Dem facilities - appointment reqd. Mon-Sat 9-5.30, Thurs 9-8. Closed Wed. Free installation, credit facilities. Access, Visa.

IMAGE HI-FI, 17 The Springs, Wakefield, WF1 1QE. (0924) 200272. Arcam, Linn, Meridian, Mission, Quad, Rotel, Etc. 2 Listening Rooms. Free Parking, DeL & Instal Mon-Sat 9:30 5:30 pm **BADA**

IMAGE HI-FI, 8-10 St Annes Road, Headingley, Leeds, L56 3NK (0532) 789374. Arcam, Linn, Meridian, Mission, Quad, Rotel, Etc. 3 Listening Rooms. Free Dem & Instal. Mon-Sat 9:30 - 6:00pm **BADA**

Northern Ireland

ARMAGH

LYRIC HI-FI, 84 Bridge Street, Portadown, Armagh, N. Ireland. (0762) 358 059. Linn, Naim, Rega, Arcam, Denon, Rotel, Musical Fidelity, Revox, Mission, Akai, Panasonic, etc. Mon-Sat 10am-6pm **BADA**

BELFAST

LYRIC HI-FI, 163 Stranmills Road, Belfast. (0232) 381 296. Linn, Naim, Rega, Arcam, Denon, Rotel, Musical Fidelity, Revox, Mission etc. Mon-Sat 10-6, Late night Thurs. **BADA**

HI-FI EXPERIENCE, 47-49 Fountain Str, Belfast BT1 5EB. (0232) 249117. Quad, Musical Fidelity, Denon, NAD, Rotel, Pioneer, Kenwood, Mission, Tannoy, B&W. No appts necessary home trial facilities, free install, service dept. Credit facilities available. Open 9-5.30, late night Thurs 9pm

COUNTY DOWN

ASTON AUDIO, Unit 8, Kings Road Shopping Centre, Kings Road, Belfast Tel: 0232 402220. Akai, Technics, JVC, Mitsubishi, Samsung, Toshiba, Panasonic, and many more. Demos available, Open Mon-Fir 10-8pm Sat 10-5pm

LONDONDERRY

ZEUS AUDIO, 23a Kingsgate Str, Colrairie, BT52 4LB. (0265) 56634. Marantz, Mission Cyrus, Aiwa, Akia, Alphason, Sony, Pink Tri, Celestion, Rotel. Open Mon-Sat 10-5.30, Closed Thurs. **BADA** 10-5pm.

The Choice Dealer Directory

Ireland

DUBLIN

LAFAYETTE HI-FI, 50 Wellington Quay, Dublin, Tel: 353177 0443. Technics, Denon, Marantz, Sony, Pioneer, Aiwa, Cyrus, Mission, Cerwin Vega. No appts nec, Free Install. Unique trade in service. Credit Cards welcome. Open 10-6 6 days a week.

Scotland

EDINBURGH

BILL HUTCHINSON Ltd, 43 Clarke St, Edinburgh. (031) 667 2877. AR, Aiwa, Denon, Dual, JVC, Mission, Mordaunt-Short, Omar, Technics, Yamaha etc. Dem facilities. Mon-Sat 10-6. Free installation, instant credit. Access, Visa. Service dept.

GLASGOW

BILL HUTCHINSON Ltd, 43 Hope Street, Glasgow, (041) 248 2857. A.R., Aiwa, Denon, Dual, JVC, Mission, Mordaunt-Short, Omar, Technics, Yamaha etc. Dem facilities. Mon-Sat 10-6. Free installation, instant credit. Access, Visa. Service dept.

STEREO STEREO, 278 St. Vincent St, Glasgow G2 5RL. (041) 248 4079. Linn, Naim, Rega, Arcam, Creek, Epos, Castle, Shahinian, Denon and Sehring etc. Closed Tuesdays Mon-Sat 10-6

GRAMPIAN

HOLBURN HI FI Ltd, 441 Holburn St, Aberdeen (0224) 585713. Arcam, Audiolab, B&W, Celestion, Denon, Dual, Epos, Heybrook, ION, Kenwood, Linn, Creek, Marantz, Meridian, Mission Cyrus, M.S., NAD, Nakamichi, Pioneer, QED, Quad, Revox, Rogers, Rotel, Ruark, Tannoy, Technics, Wharfedale, Yamaha. 9.30-5.30 Mon-Sat.

TAYSIDE

J.D. BROWN, 28-36 Castle St, Dundee DD1 9NZ. (0382) 26591. Rotel, Denon, Pioneer, Technics, Aiwa, Mission, Castle, Mordaunt-Short, Celestion, Bose, Infinity. All equipment ready for demonstration. No appt nec, free installation, service dept. Mon-Sat 9-5.30. All demonstration systems wired through a demonstration comparator. Licensed credit broker, Access, Visa. Monday-Saturday 9.00 am-5.30

Wales

CLWYD

ELECTRO TRADER, 19 Colwyn Crescent, Rhos On Sea, Colwyn Bay, Clwyd North Wales LL28 4RN. (0492) 548932. Rotel, Yamaha, Harman Kardon, Teac, Alphason, Heco, Infinity, JBL, Musical Fidelity, Tannoy, Rotel, Michi etc. Dem room. Appts preferred. Home trial. Free installation. Access, Visa. Open 9.30-1.00, 2.00-5.30 Mon-Sat.

ACTON GATE AUDIO, 4 Ruabon Rd, Wrexham, North Wales, Tel: 0978 364 500, Arcam, B&W, Marantz, Mission, NAD, Quad, Rega, Rotel, Tannoy, Yamaha, etc, Dem Facilities, A.V. on dem, Mail Order. No appts nec, home trial fac, Free install, Service Dept. Access, Visa. 9.30-5.30 closed Weds PM

SOUTH GLAMORGAN

AUDIO EXCELLENCE, 134 Crwys Road, Cardiff. (0222) 228565. Great Hi Fi carefully selected and demonstrated by friendly, enthusiastic staff. Closed Mon.

WEST GLAMORGAN

AUDIO EXCELLENCE, 9 High St, Swansea. (0792) 474608. Great Hi-Fi carefully selected and demonstrated by friendly, enthusiastic staff. Closed Mon.

GWYNEDD

I&H GRIFFITHS & SONS, 313 High St, Bangor LL57 1YA. (0248) 370655. Yamaha, Tannoy, Teac, Goodmans, Wharfedale. Demos available, no appts nec, home trial facilities, free installation, service dept. Access, Visa, Lombard credit charge. Mon-Sat 9-5.30, Wed 9-1. Audio Visual Specialists.

Advertiser's Index

Absolute Sounds	46	Path	42
Alchemist Products	50	Philips	16,17,19
Ambient Stands	126	Pioneer	6,7,9
Arcam	34,35	PJ Hi-Fi	32
Audio South	92	Proac	44
Bose	30	Quantum Audio	104
Chord Company	80	Radlett Audio	92
Cornflake Shop	74	Room Acoustic Services	126
Dealer Directory	127-131	Rotel	IBC
Dealer Guide	122-125	Sennheiser	56
Doug Brady	72	Spaldings	78
Grahams	72	Steve Boxshall Audio	104
IPL Acoustics	92	T&R Industries	78
Jordan Watts	92	The Listening Rooms	64
Kamla	48	Tube Technology	32
Linn	22,23	Twenty 20	126
Mike Manning Audio	50	University Audio	80
Mission	IBC	Wollation Audio	78,80
MPI	IFC	Yamaha	14
Oxford Audio Consultants	102		

Hi-Fi Choice

mail order offers

The Purifier £16.90 per pair

The Purifier is a ferrite cable clamp designed to reduce RF induced noise in audio, video and computer systems.

The clamps will accept single or multiple cables of up to half an inch diameter and can be used on both signal and mains cables. The main benefit is a general cleansing of a system's sound allowing finer resolution of low level detail.

They can be particularly beneficial for digital interconnections.

Nagaoka Anti-Static Record Sleeves no.102 £6.99

Packs of 50 plastic record sleeves that can be used on their own or inserted into an existing card or paper sleeve.

The sleeves keep records dust free and eliminate static, but are of course hampered if the record isn't cleaned before it's stored. No great sound quality claims but in these days of disappearing vinyl it pays to take care of what you've got, after all there may never be a format to beat it!

Mk 10 Carbon Fibre Brush with Velvet Pad £9.99

The carbon fibres efficiently remove dirt from the record grooves, which is then collected by an integral felt pad. This can be easily cleaned with the supplied tool after use.

System Cleaning Kit 1 £15.99

Everything needed for maintaining a hi-fi system, all contained in one handsome wallet pack.

Stylus cleaner, auto reverse wet tape head cleaner and cleaning fluid, manual CD cleaner and cleaning fluid and a carbon fibre record cleaning brush.

Milty Work Mat £7.99

The Milty Work Mat is a large rubber mat that has been designed to support records, Laser Discs and CDs when they are being cleaned. It's covered in 1mm long tentacles which gently grip the disc during cleaning. The nature of the material ensures that no static is induced and dirt falls between the tentacles. It's a real boon to disc cleaning and makes using cleaning brushes and solutions completely painless.

Technics Auto Compact Disc Cleaner £39.95

The Technics *RP-CL300* is a powered wet/dry CD cleaner that can be run off batteries or the

Our Mail Order Section this month features, among the old favourites such as Furukawa interconnects, some great new accessories to help improve the performance of your system. We've been reviewing some new and interesting products and have selected some that we thought you should know about.

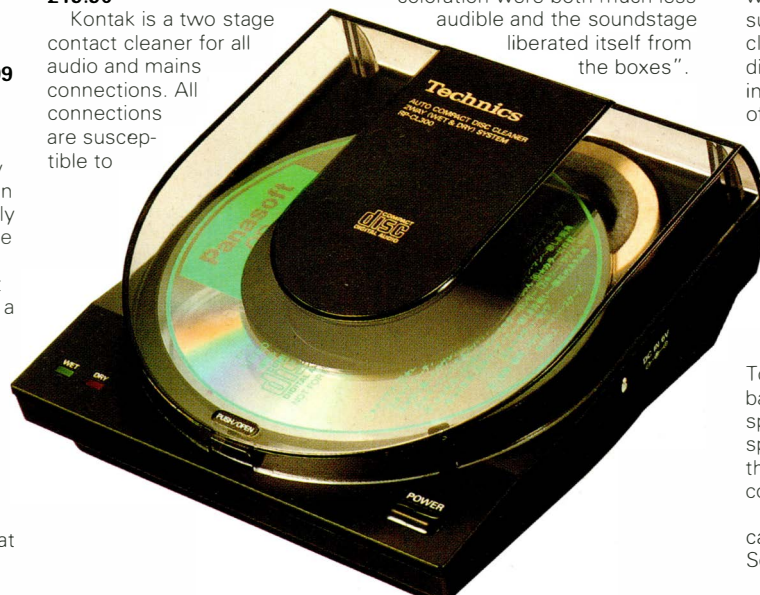


mains. It works by rotating the disc and applying the wet cleaner first (cleaning solution is supplied), then reversing the direction of rotation and dry cleaning the disc. The whole process takes just 40 seconds and a set of batteries should clean 80 discs

Kontak cleaning solution £19.90

Kontak is a two stage contact cleaner for all audio and mains connections. All connections are susceptible to

oxidisation and dirt which impairs electron flow and thus affects sound quality. Here's what PM had to say when he tried some out; "The effect on the power amps was so astonishing I had to do the whole system. By the time I was finished it was utterly transformed. Timing and coherence were back with a vengeance; surface noise and coloration were both much less audible and the soundstage liberated itself from the boxes".



Newnes Audio and Hi-fi Engineer's pocket book (second edition) £10.95

This useful little book covers a wide range of audio topics with concise explanations to clarify the information.

It covers everything from turntables and cartridges to DCC and DAT with as much technical information as the mere mortal could wish for.

If you really want to know what makes your CD player tick and aren't afraid of the odd wiring diagram or equation this is the book for you.

The Art of Digital Audio - John Watkinson (revised reprint) £49.50

This book describes all of the essential theory of digital audio, and a good deal of practice, but it is not a history book. Nor is it a conventional textbook, largely because such things have to choose a target audience and stick to that academic level.

The need for understanding in digital audio is too wide and the subject is too interdisciplinary for that. As you can imagine this is a comprehensive tome that covers all aspects of digital technology including disc drives, rotary and stationary head recorders and even interconnects. It is a must for anyone wanting to get fully acquainted with the subject.

Audio Technica CD lens cleaner AT-6078 £16.95

The focusing assembly for the laser head of a CD player is a very delicate affair and yet it requires cleaning from time to time.

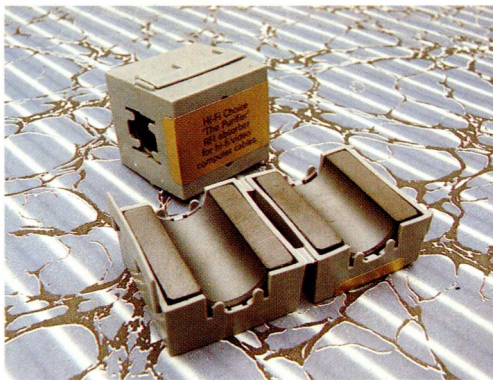
Rather than fumbling about with cotton buds we would suggest you employ an A-T lens cleaner. This is a standard size disc with eight tiny brushes set into it. To use, just apply a drop of cleaning fluid on one of the brushes, place the disc in your player and press play.

Ten seconds later, hey presto, a clean laser assembly, and cleaner sound from your CDs as a result.

Gold plated 4mm banana plugs £7.95

Top quality solderless gold plated banana plugs for use with speaker cables. Simply push the speaker cable into the body of the plug and tighten for a perfect connection.

This Furukawa plug accepts cables up to 4mm in diameter. Sold in packs of four.



Top left: A selection of accessories from the Last range. Top right: The Hi-Fi Choice Purifier. Left: Furukawa banana plugs.

strength cleaner and the preservative for just £34.95. We have also secured a limited number of trial samples of all three products which are available at only £21.95 but as stocks are limited we must restrict this offer to one sample kit per reader.

Last SF-500 Stylus Treatment
£13.95

As the stylus is the point at which the music enters the replay system it is essential that it is kept clean. Last SF-400 will remove even the most stubborn deposits, yet, when used correctly, will not damage even the most delicate of stylus assemblies.

As well as products to protect and clean your record collection, Last also makes a range of products intended to perform the same service on your Compact Discs.

The SF-600 CD Cleaner and protection kit consists of a special CD cleaner/polish — to remove dirt, scratches and finger prints from CDs — as well as protective shields, an applicator, an application base and a brush. The cleaner/polish is also available separately.

CD cleaner and protection kit
Cleaner only
£17.95
£13.95

application can keep records sounding 'brand new' for 200 plays or more.

Last SF-300 All Purpose Record Cleaner
£15.95

The one to use to for day to day cleaning after your records have been cleaned and protected with SF-100 and SF-200.

In order to let you try out the Last record cleaning and protection system we have negotiated a special price to enable you to purchase a full size bottle of both the extra



This month we are pleased to introduce the Last range of cleaning and protection fluids and accessories.

Last SF-100 Extra Strength Record Cleaner
£19.95

Last SF-100 is designed to remove the compounds left over from the pressing process. Use for a first cleaning of new records as well as to revitalise older vinyl.

Last SF-200 Record Preservative
£21.95

Without going too deeply into the technical details, Last SF-200 is absorbed into the surface of the vinyl and stabilises the vinyl to prevent gouging and fracturing of the groove wall that can occur during playback. A single

Improve the sound of your hi-fi system for a mere £15

Ever wondered why some people get taken seriously in hi-fi shops while others are given the run around? Wonder no more. The answer to all your hi-fi problems is the Hi-Fi Choice sweatshirt. Tastefully printed in red and black on grey, as well as being this year's most crucial fashion accessory, it will also readily identify you as a reader of Britain's fastest growing hi-fi magazine. You'll almost certainly be taken more seriously and end up with a better system — and all for a mere £15. We can supply the shirts in two different sizes — Large and Extra Large.



Furukawa cables

We have a variety of interconnects and speaker cables on offer, all sourced from respected Japanese specialist Furukawa and all of which were rated as either Recommended or Best Buys in our comprehensive cable surveys in July and August. For those of you interested in reading more about these cables to both loudspeaker cables and interconnects are available from our back issues department. We are able to supply a variety of lengths, please see the order form for prices.

Speaker cables
Furukawa FS-2T14

Cheapest of Furukawa's Evencap range, this PCOCC cables was rated a Best Buy because of its "natural sense of dynamics and scale".



Furukawa FS-2T20P

Consisting of some 80 PCOCC strands 20P has been praised for its "lively and engaging presentation" and was considered to be "taut, detailed and well controlled".



Furukawa FS-2T35P

Similar to 20P, but with 140 strands arranged in seven bundles, this cable was rated "a real corker".



Digital Interconnects

Furukawa FV-1010

75ohm PCOCC digital interconnect which earned Recommendation for its good sense of depth and quality of construction.



Furukawa FO-1110

Voted a "must for 'optical only' transports" 1110 employs a PMMA fibre. Glass and multi glass versions, the FO-1210 and FO-1310 respectively, are also available and both merited Hi-Fi Choice Recommendation.



Analogue Interconnects

Furukawa FD-1010

One of Furukawa's 'unbalanced' coaxial range, manufactured from PCOCC and intended for use between the analogue output of a CD player and the preamplifier.



Audiophile Recordings

We are pleased to be able to offer a selection of records from the world famous Reference label. Guaranteed to get the very best from your system these recordings have been selected for the merits of the performance as well as their outstanding sound quality.

Prof Johnson's Astounding Sound Show: Sampler.

Orchestral Fanfare - Red Norvo Quintet - Cal Arts Ensemble - Richard Morris - Organ - Susan Mc Donald, Harp - Kronos Quartet - David Rosenthal, Tubulung.

A perennial audiophile favourite, this sampler of Prof Johnson's early work shows what Reference can do with a wide variety of musical and sonic experiences.

Includes the only known recording of an unusual tuned mallet instrument, the Tubulung. Guaranteed to give your playback system a royal wringing out!

Copland: *Appalachian Spring Suite, Eight poems by Emily Dickinson.* Keith Clark/Pacific Symphony Orchestra, Marni Nixon, Soprano (in the poems).

Music by America's best loved composer, *The Appalachian Spring Suite* is presented in its original version for 13 instruments. Also included is the world premiere recording of Copland's orchestration of eight of his Emily Dickinson songs.

This recording was a Grammy Award nominee in 1987. The CD version also contains *An Outdoor Overture*.

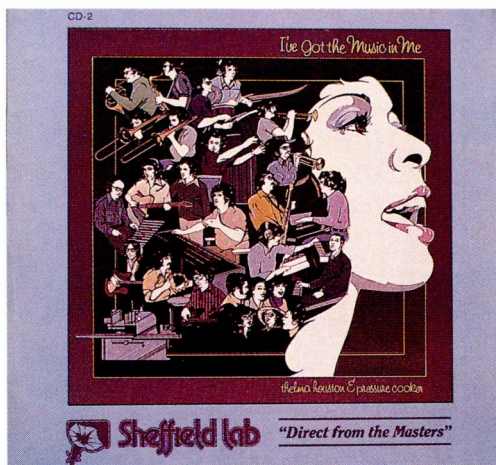
Walker & Garson: *Reflections. Portrait of a friend - Love - First song - Ethereal - Yearnings - Pied piper - The park - Magic spell - You're one of a kind - Reflections - Reason.*

Jim Walker on flute and Mike Garson on piano from the jazz group 'Free Flight' offer something peaceful and soothing for those quiet moments. Surpassingly natural sound.

Helicon Ensemble: *Vivaldi/Bach Vivaldi: Sinfonia in C-Trio Sonata in G minor - Double Concerto in E-Flat. Bach: Trio Sonata in C - Double Concerto in D minor.* (Compact Disc also contains *Prelude in C*)

Albert Fuller conducts from the harpsichord a varied original instrument ensemble in works featuring two solo violins, including the great *Double Concerto* by Bach and three rare, ingratiating works by Vivaldi.

Featured solo artists are Japp



Schroeder, Stanley Richie and Linda Quan.

Recorded at the John Harnes Centre for the Performing Arts in Englewood, New Jersey. CD also has Bach's *Prelude in C*.

Walton: *Facade Suite.*

Walton: *Facade Suite - Strauss/Hasnrohr: Till Eulenspiegel - Scriabin/Elliott: Waltz in A-Flat - Neilsen: Serenata in Vano.* Chicago Pro Musica.

An instrumental from Walton's whimsical *Facade* in the composer's original scoring makes a perfect vehicle for these brilliant musicians. A chamber version of *Till Eulenspiegel* and the seldom heard pieces of Scriabin and Neilsen complete this engaging programme.

Tafel Music: *Popular Masterworks of the Baroque.*

Pachelbel: *Canon & Gigue.*

Handel: *suite from 'Water Music'* **Purcell:** *air from Suite no. 3 in D and Suite from 'The Moor's Revenge'.* **Vivaldi:** *Concerto op. 10-2, 'La Notte'.*

Canada's finest original-instrument Baroque ensemble plays familiar favourites with outstanding scholarship and musical panache. Note the Pachelbel *Canon* with its seldom heard companion piece, both to the composer's instrumentation. Strings, oboes, recorder and harpsichord offer delightful music recorded in a vaulted ceiling stone church.

Stravinsky: *L'Histoire. Stravinsky: L'Histoire du soldat suite. Blackwood: Capriccio Espagnol.* Chicago Pro Musica.

Stravinsky's landmark composition for a mixed ensemble of seven. Grammy winning performances.

Respighi: *Church Windows.* Keith Clark, Pacific Symphony Orchestra.

This grandiose work, scored for full symphony orchestra, pipe organ and tam-tam, has at last been given its due, musically and sonically, in this celebrated recording. *Church Windows* quite literally pushes to the theoretical limit the dynamic range it is possible to reproduce at home.

The CD also contains Respighi's rare mini concerto *Poema Autunnale* with the violinist Ruggiero Ricci.

Marni Nixon: *Marni Nixon sings Gershwin. Summertime - Let's call the whole thing off - Someone to watch over me - I've got a crush on you - But not for me - The real American folk song - Nice work if you can get it - Embraceable you.*

Marni Nixon's impeccable intonation and diction bring a welcome elegance to these songs which are perhaps too often jazzed up. By beautifully singing what Gershwin wrote, stylishly accompanied by Lincoln Mayorga's piano, Miss Nixon brings new insights to these immortal songs.

Eileen Farrell: *Torch Songs. Stormy weather - Round Midnight - The end of a love affair - Black coffee - When your lover has gone - Don't explain - Something Cool - and more.*

C O P L A N D

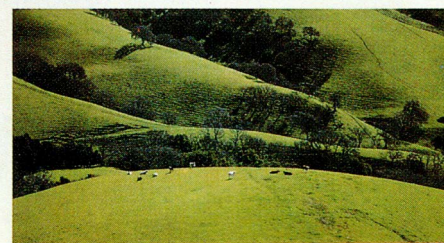
APPALACHIAN SPRING SUITE

ORIGINAL VERSION FOR THIRTEEN INSTRUMENTS

EIGHT POEMS OF EMILY DICKINSON

ORCHESTRATED BY THE COMPOSER - FIRST RECORDING - MARNI NIXON, SOP. AND

AN OUTDOOR OVERTURE



KEITH CLARK · PACIFIC SYMPHONY ORCHESTRA



A PROF. JOHNSON DIGITAL MASTER RECORDING

The album Farrell fans have been waiting for. America's great blues diva makes these songs of lost love her own.

Smoky night club arrangements set the stage for some unforgettable singing

Dick Hyam: *Dick Hyam Plays Fats Waller. Ain't misbehavin' - Keepin' out of mischief now - African ripples - Honeysuckle rose - Willow tree - Stealin' apples - I've got a feeling I'm falling - Handful of keys - My fate is in your hands - Jitterbug waltz - Squeeze me.*

The world's first direct-to-CD on RR-33DCD. A technological and musical triumph, a true landmark in recording history. RR-33DCD (listed as Ref CD87 on the order form) is available as a deluxe numbered limited edition.

Encoded on the highly sophisticated, computerised Boesendorfer reproducing piano, Hyman's performances were played back for Prof Johnson's microphones, and the digitised signal was transmitted via microwave to the compact disc master as the music was being played.

No recording tape of any kind was used, nor was the digital bitstream corrupted at any stage by copying manipulation or editing.

The digits generated at the recording session are the very digits on the finished Compact Disc. Also on ordinary CD and LP.

Michael Garson: *Serendipity. Lady - Autumn leaves - I should care - Spirit of play - Trio blues -*

My romance

With illustrious sidemen Stanley Clarke (bass). Gary Herbig (sax), Peter Sparague (guitar) and fellow Free Flight members Jim Walker and Jim Lacefield, Michael Garson has put together a tasty program of exciting mainstream acoustic jazz. Recorded by Prof Johnson in a real concert space, *Serendipity* represents an alternative, non-studio approach to jazz recording. A long standing favourite for audio demo, the CD contains two extra tracks.

Star of Wonder:

Silent night - Nativity carol - We three kings - We'll Dress the house - Come all ye faithful - Deck the hall -

Festive music for the holiday season by an outstanding professional chorus, recorded in San Francisco's St Ignatius Church.

The spine tingling acoustics are ideal for this program and *Star of Wonder* contains the full range of Christmas music: imaginative arrangements of traditional carols, renaissance motets and dramatic 20th century compositions.

The CD contains three extra tracks.

Berlioz: *Fantastique. Symphonie Fantastique.* Varujan Kojian, The Utah Symphony Orchestra.

This is widely considered to be the recording of this magical work. The Utah Symphony Orchestra, playing in Salt Lake City's Symphonic Hall, gives a world class performance, and the excellent recording captures it in its entirety.

The CD contains two versions of the explosive finale, one with standard orchestral bells, and another with digitally recorded church bells.

The 2-disc 45RPM LP set contains two copies of *March To The Scaffold* and *Dreams Of A Witches Sabbath*.

Nojima: *Nojima plays Liszt. Sonata in B minor - Mephisto Waltz - La Campanella - Harmonies du Soir - Feux Follets.*

The recipient of more rave reviews than any piano recording in recent memory, this is truly one for the history books.

Japan's most celebrated concert pianist won the Silver Medal at the Van Cliburn competition. Connoisseurs of great piano playing will treasure this recording, which has also been acclaimed for its outstanding sonic realism.

Chicago Pro Musica: *Weill, Varese, Bowles and Martinu. Threepenny Opera suite - Octandre - Music for a farce - La Revue de Cuisine.*

Chicago Pro Musica gives brilliant performances of four magnificent 20th Century works. Kurt Weill's pungent suite for wind, brass and percussion is the centrepiece.

Featuring the first stereo recording of a rare piece by Paul Bowles, best known as the author of *The Sheltering Sky* but also a distinguished composer for the stage.

Martinu's Parisian ballet from the 1920s contains the steamiest of tangos and a mad Charleston.

Eileen Farrell: *Rogers & Hart. I could write a book - I wish I were in love again - Wait till I see him - I didn't know what time it was - Love me tonight - Nobody's heart - It never entered my mind - Mountain greenery - Sing for your supper - Can't you do a friend a favour - Lover - My heart stood still - Little girl blue - You're nearer.*

A wide ranging survey including many great standards and more than a few rarities. Farrell's affinity for the songs of this era is undisputed.

Beautifully sung as her earlier pop recordings were, these new performances reveal an added dimension to the Farrell art - total involvement with the lyrics. And what lyrics! A must for admirers of Lorenz Hart.

Nojima: *Nojima Plays Ravel. Miroirs: Noctuelles - Oiseaux tristes - Une baroque sur l'océan - Alborada del gracioso - La valse des cloches - Gaspard de la Nuit: Odine - Le gibet - Scarbo.*

Here is the eagerly awaited sequel to Nojima's first American recording, featuring some of his most renowned specialties.

Gaspard de la Nuit is the pianist's Everest, attempted by only a few. *The Miroirs* are a distillation of Ravel's impressionist style, requiring a totally different technique. The Nojima performances are incandescent.

Opus 3 test record 1: Depth of image.

Produced with the idea of analysing hi-fi systems and their ability to reproduce depth of image. This is Opus 3's best selling recording. It contains the work of a broad cross section of the label's recording artists.

Opus 3 test record 2: Timbre.

Timbre or tonal accuracy is a crucial area of performance for audio equipment, this disc is composed of tracks designed to show up the timbral strengths of the components its played through. A good recording of interesting and diverse music.

Opus 3 test record 3: Dynamics.

Another compilation on the Swedish Opus 3 label, with musical extracts carefully chosen

to illustrate what is meant by musical dynamics with comprehensive liner notes to show you what you should be listening for. How good is your hi-fi system?

Opus 3 test record 4: Depth of image, Timbre, Dynamics.

In this fourth recording in the test series Opus has linked together the three concepts as a basis for completely evaluating audio equipment. Test record 4 like the first three contains a selection of illustrated music from our catalogue - mostly from the more recent recordings.

Thelma Houston & Pressure Cooker: *I've got the music in me.*

I've got the music in me - To know you is to love you - Don't misunderstand - Got to get you into my life - plus four instrumental tracks.

One of Sheffield Labs' most famous recordings. The original direct cut has been out of print for many years and is now highly collectable - but the recording sessions were of course taped, and this issue will still blow your socks off!

Eileen Farrell: *Sings Arlen. Let's fall in love - Out of this world - I wonder what became of me - I've got the world on a string - Like a straw in the wind - Down with love - Happiness is a thing called Joe - A woman's prerogative - Come rain or come shine - Little drops of rain - Over the rainbow - When the sun comes out - As long as I live - My shining hour - Last night when we were young.*

Farrell worked often with Harold Arlen, and has long been identified with his music: it was an Arlen tune that gave the title to the first of four albums of pop songs she made in the sixties, *I've got a right to sing the blues*.

This definitive new collection is graced with music notes and personal remembrances by Gene Lees.

Jim Brock: *Tropic affair Pass a grill - Ladies of the Clabash - Tropic affair - Anya - Quo qui's groove - Side walk - Palm palm girls - O vazio.*

Vibrant, steamy and sensual, this contemporary instrumental jazz contains more than a touch of the tropics.

Renowned percussionist Jim Brock has recorded and toured with such diverse musical talents as Dave Valentin, Janis Ian and Scott Cossu.

Brock's dynamic ten-piece band, production by legendary Don Dixon, and prof. Johnson's magical live to two-track studio sonics result in a soundstage of such three-dimensionality, you can step inside the music. Enjoy

a vacation without leaving home with tropic affair!

Eileen Farrell: *Sings Johnny Mercer Skylark - I remember you - Early Autumn - Laura - I thought about you - Too marvelous for words - and more.*

Arranged by Manny Albam and Loonis McGlohan, this album includes rarities and favourites from the vast catalogue of America's most poetic and prolific lyricist.

Eileen Farrell: *It's over I get the blues when it rains - How about me? - Easy to remember - Gone with the wind - I remember April - And more memorable tear jerkers.*

Arranged and conducted by Robert Farnon, this album gives Farrell the opportunity to demonstrate her considerable skills, in touching songs of lost love. These great laments respond eloquently to the lush Farnon treatment.

NEW RELEASES

Robert Farnon conducts the Royal Philharmonic Orchestra:

Film music and other works *Suite from Captain Horatio Hornblower - Lake in the woods - Canadian impressions - A la Claire fontaine - and more.*

The Royal Philharmonic Orchestra, conducted by the composer, Robert Farnon at the Town hall, Watford.

The recording session that *Hi-Fi Choice* contributor Richard Black wrote about in the February issue (103), produced by the legendary Prof Keith Johnson using both analogue and digital tape recorders to produce the finest results for LP and CD.

This has the traditional Reference Recordings virtues of wide bandwidth and dynamic range and an unusual degree of clarity, due in no small part to the simplicity of the recording equipment.

Malcolm Arnold: *Conducts the London Philharmonic Orchestra.*

A Sussex overture - Bechus - Dandi Pratt - The smoke - Anniversary overture - The fair field - Flourish for orchestra - The Commonwealth Christmas overture.

On this very latest Reference recording the London Philharmonic Orchestra is conducted by the composer, Malcolm Arnold, at the Town hall, Watford.

This Keith Johnson production includes first recordings of Britain's leading living composer's lesser known works.

Record and CD PriceTable

Prof Johnson's Sound Show:

Ref RR-7 (LP only) (£18.50)

Berlioz: *Fantastique*

Ref RR-11 (double) (£24.99)

Ref RR-11CD (£18.50)

Tafel Musik: *Baroque*

Ref RR-13 (£18.50)

Ref RR-13CD (£18.50)

Respighi: *Church Windows*

Ref RR-15 (£18.50)

Ref RR-15CD (£18.50)

Stravinsky: *L'Histoire*

Ref RR-17 (£18.50)

Ref RR-17CD (£18.50)

Copland: *Apalacian Spring*

Ref RR-22 (£18.50)

Ref RR-22CD (£18.50)

Helicon Ensemble: *Vivaldi*

Ref RR-23 (£18.50)

Ref RR-23CD (£18.50)

Nojima Plays Liszt:

Ref RR-25 (£18.50)

Ref RR-25CD (£18.50)

Nojima Plays Ravel:

Ref RR-35 (£18.50)

Ref RR-35CD (£18.50)

Mike Garson: *Serendipity*

Ref RR-20 (£18.50)

Ref RR-20CD (£18.50)

Walker & Garson: *Reflections*

Ref RR-18 (LP only) (£18.50)

Marni Nixon: *Marni sings...*

Ref RR-19 (£18.50)

Ref RR-19CD (£18.50)

Star of wonder:

Ref RR-21 (£18.50)

Ref RR-21CD (£18.50)

Chicago Pro Musica: *Weill*

Ref RR-29 (£18.50)

Ref RR-29CD (£18.50)

Eileen Farrell: *Torch Songs*

Ref RR-34CD (£18.50)

Dick Hyams Plays Fats Waller:

Ref RR-33 (£18.50)

Ref RR-33CD (£18.50)

Ref RR-33DCD (£29.99)

Opus 3 test record 1

Ref OP-7900CD (£17.99)

Ref OP-7900LP (£17.99)

Opus 3 test record 2

Ref OP-8000LP (LP only) (£17.99)

Opus 3 test record 3

Ref OP-8300CD (£17.99)

Ref OP-8300LP (£17.99)

Opus 3 test record 4

Ref OP-9200CD (£18.50)

Ref OP-9200LP (£18.50)

Thelma Houston: *Music in me*

Ref CD-2 (£18.50)

Eileen Farrell: *Sings Arlen*

Ref RR-30 (£18.50)

Ref RR-30CD (£18.50)

Jim Brock: *Tropic Affair*

Ref RR-31 (£18.50)

Ref RR-31CD (£18.50)

Eileen Farrell: *Sings Johnny Mercer*

Ref RR-44CD (£18.50)

Eileen Farrell: *It's Over*

Ref RR-46CD (£18.50)

Malcolm Arnold/RPO:

Ref RR-48 (£18.50)

Ref RR-48CD (£18.50)

Robert Farnon/RPO

Ref RR-47 (£18.50)

Ref RR-47CD (£18.50)

William Walton: *Facade Suite*

Ref RR-19 (£18.50)

Ref RR-19CD (£18.50)

Reference Jazz Sampler

Ref CD94 (CD only) (£12.99)

Reference Classical Sampler

Ref RR-S1CD (CD only) (£12.99)

Choice Offers Order Form

Accessories

Please indicate which items you require by ticking the appropriate box.

<input type="checkbox"/> JE8A	Mk 10 Carbon Fibre Brush with Velvet Pad	£9.99
<input type="checkbox"/> JE9A	System Hi-Fi Cleaning Kit 1	£15.99
<input type="checkbox"/> JE14A	The Purifier	£16.90
<input type="checkbox"/> JE15A	Anti-Static Record Sleeves	£6.99
<input type="checkbox"/> JE16A	Milty Work Mat	£7.99
<input type="checkbox"/> JE17A	Kontak Cleaning Solution	£19.90
<input type="checkbox"/> JE18A	Newnes Audio and Hi-fi Engineer's pocket book	£10.95
<input type="checkbox"/> JE19A	The Art of Digital Audio	£49.50
<input type="checkbox"/> JE20A	Technics Auto CD cleaner	£39.95
<input type="checkbox"/> JE21A	Audio Technica CD lens cleaner	£16.95
<input type="checkbox"/> JE24A	Gold plated 4mm banana plugs	£7.95
<input type="checkbox"/> JE25A	Last SF-100 extra strength record cleaner	£19.95
<input type="checkbox"/> JE26A	Last SF-200 record preservative	£21.95
<input type="checkbox"/> JE27A	Last SF-300 record cleaner	£15.95
<input type="checkbox"/> JE28A	Last SF-500 stylus treatment	£13.95
<input type="checkbox"/> JE29A	Last SF-600 CD clean and protect	£17.95
<input type="checkbox"/> JE30A	Last cleaner only	£13.95
<input type="checkbox"/> JE31A	Trial pack, SF-100 and 200 (full size)	£34.95
<input type="checkbox"/> JE32A	Trial pack, SF-100, 200 and 300	£21.95

Furukawa Price Table

Please circle the cables you require.

Interconnects - RCA to RCA

	0.5m	1.0m	1.5m	2.0m
FV1010 (each)	50.00	55.00	57.50	60.00
FD1010 (pair)	85.00	92.50	97.50	NA
Fibre optics - TOSLINK				
FO1110 (each)	NA	45.00	50.00	NA

Speaker cables

Please state termination required, solderless, gold plated banana plugs, spades or pins or any combination. All prices are per pair.

	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m
FS2T14	52.00	57.75	63.50	69.25	75.00	80.75	86.50
FS2T20P	65.00	74.00	83.00	92.00	101.00	110.00	119.00
FS2T35P	95.00	111.50	128.00	144.50	161.00	177.50	194.00

Yes! Please send me Hi-Fi Choice sweatshirts at a mere £14.99 each.
Please tick size required Large XLarge

Please complete the coupon in BLOCK CAPITALS and send with correct payment to:
DENNIS DIRECT, PO BOX 2505, ALCESTER, B50 4JU

Total number of items ordered Total for order £.....
Please add £1.50 per order to cover postage.

I enclose my cheque/postal order made payable to Dennis Direct

Or please charge my Visa Mastercard (Access)

Credit card number Expiry Date

Signature Name.....

Address

..... Postcode

All prices include VAT. Offer applies to UK only. Items subject to availability, please allow 28 days for delivery.
Dennis Direct is a subsidiary of Dennis Publishing Limited.



Michi

**Rotel's definitive statement of a yet
higher order of musical performance -
the evolution of Rotel's balanced
design philosophy.**

Phone or fax Rotel UK for brochures on these
new models and a nationwide dealer list.

ROTEL UK, Gamepath Ltd., 25 Heathfield, Stacey Bushes,
Milton Keynes, MK12 6HR
Tel (0908) 317707 Fax (0908) 322704

ROTEL *hi-fi*
Ask someone who knows...

because people like music



MISSION CYRUS GROUP, HUNTINGDON, CAMBS. PE18 6ED. PHONE 0480-451777.