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Hi-Fi WORLD

MARCH 1995 £2.00

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TRANSPORT AND DAC**

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CD PLAYER**

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**B&W'S NEW
KEVLAR P4
LOUDSPEAKERS**

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This Month's World



- Four years ago on a dark, snow covered airfield near Dunstable, Hi-fi World struggled into commercial life. But now we are established, and looking forward to '95 with great optimism! Turn to page 28 for four years of World history.
- Arcam have once again shown us what they do best - mixing advanced technology and keen pricing in their new, improved Alpha 5+ CD player. If you find CD sound sharp or sterile, you simply must try this one!
- DPA Digital have been brushing up their CD range too. A few years ago they decided to improve on the special CD silicon chips produced by Philips. The affordable new Enlightenment drive and convertor bring their endeavours to a wider market - see page 19.
- Radio has more variety than ever. On page 26 you'll find something great to listen with - an off-air broadcast monitor tuner from the States. Okay, at £1350 it's hardly a NAD402 or Troughline, but it is remote controlled - nice for the idle rich!
- Philips have been busy improving their DCC digital tape system and lowering its cost. Despite all the scepticism, it's now thoroughly impressive to listen to. On page 36, we put the latest model through its paces.

Regular readers may well be asking what this new introduction to the magazine is about. In a nutshell, although we have many engineers on Hi-Fi World, we feel that technicalities have little to do with the enjoyment of music that hi-fi should bring. So we are re-arranging the magazine. Expect even more changes next month in the April 1995 issue. We'll continue to comprehensively test all products but tech. talk will be moved to its own area - in the back! Those of you who like the nitty gritty won't be disappointed though, since we are not reducing our involvement at this level. The DIY Supplement in particular will appeal to all those with wayward soldering irons.

Noel Keywood,
Editor

See us at the Bristol Show

Feb. Fri. 24th, 11am-6pm, Sat. 25th, 10am-6pm, Sun. 26th, 10am-5pm

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THIS MONTH'S REVIEWS

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AUDIONOTE SORO SE & E SPEAKERS 21

Audionote's new single ended amplifier is the latest release from the Sussex valve specialist. Noel Keywood and David Price agree that it works best with the matching E loudspeakers.



PIONEER A103 44

After the success of its bigger brothers, Pioneer must have high expectations for their new entry-level amp. David Price gives it a critical listen.

AUDIOVALVE LC8/PPP30 58

This £2000 valve pre-power combination from Germany is for lovers of all things lavish and opulent. David Price finds out whether it sounds as good as it promises.

COMPACT DISC

DPA ENLIGHTENMENT DAC & TRANSPORT 18

Music lovers should have high hopes for DPA's new CD combination. Dominic Baker finds the sound very much to his taste.



ARCAM ALPHA 5+ 32

Mid-price CD players are getting better and better. Dominic Baker auditions the latest incarnation of Arcam's evergreen contender.

YAMAHA CD-X480 52

Yamaha's entry-level player has been tweaked by UK engineers, promising performance with fine build quality. Dominic Todd takes a listen.

LOUDSPEAKERS

B&W P4 13

These floorstanding loudspeakers are as pretty as they come, and their high quality Kevlar drivers promise excellent sound. David Price tries them out.



MAGNEPLANAR MG 0.6 SE 42

Loudspeaker lovers will be familiar with Magneplanar's illustrious past. Eric Braithwaite auditions these well known panel speakers from the States.

TURNTABLE

ORTOFON MC15 SUPER II 50

Ortofon have put their name back at the top when it comes to moving coil cartridges. Noel Keywood checks out their latest contender.

SYSTEM

DENON DF-10 57

Denon have made something of a name for themselves with their good sounding miniature separates. Dominic Baker auditions their latest component system.



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FANFARE FT-1 26

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MUSIC

Our guide to some of the best new releases.

ROCK RECORD OF THE MONTH:

The Stone Roses: The Second Coming

CLASSICAL RECORD OF THE MONTH:

Oxford Pro Musica Singers, conductor: Michael Smedley: John Tavener. Arvo Part, Henryk Gorecki.

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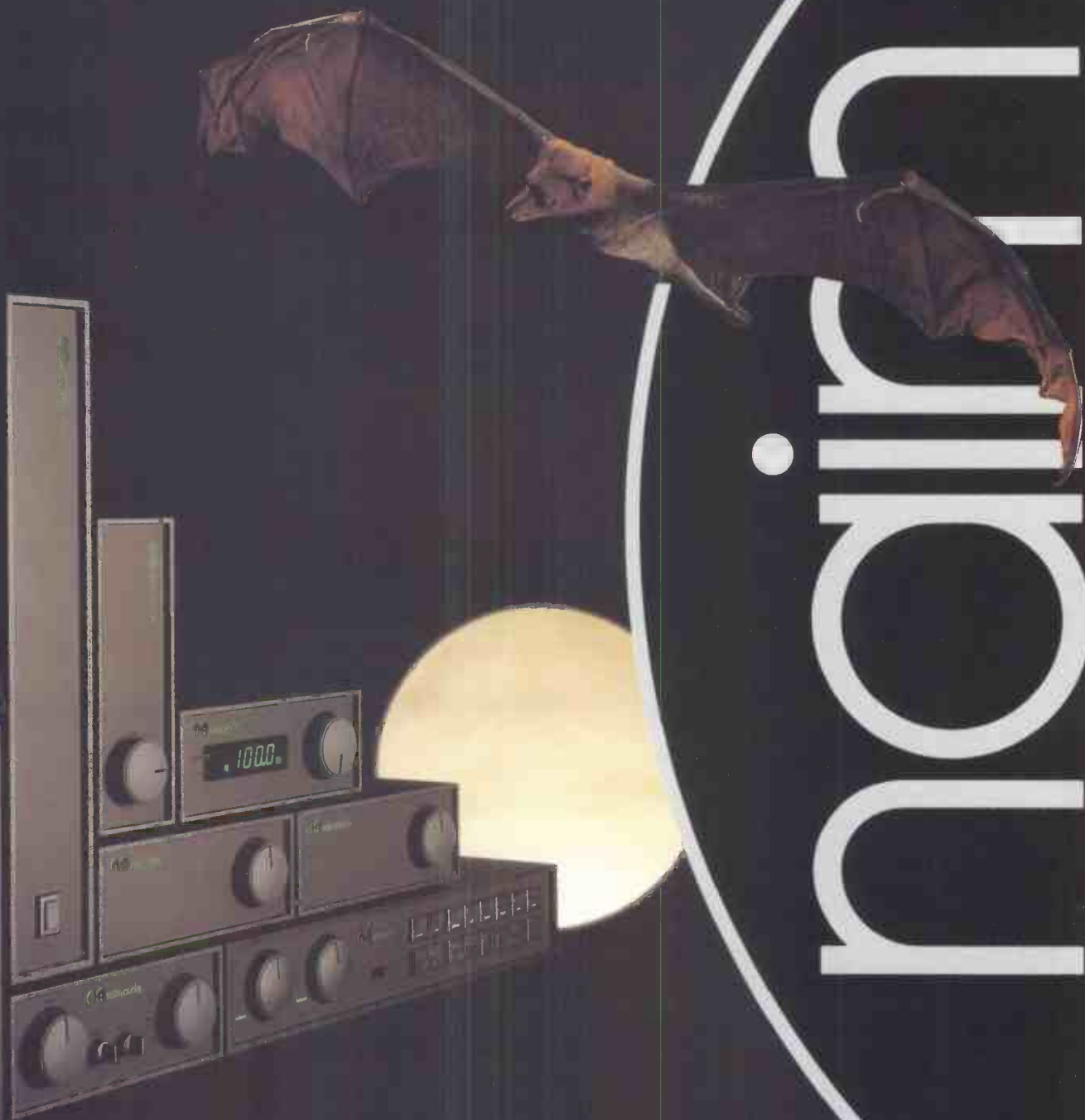
CLASSICAL 93

COMPETITION

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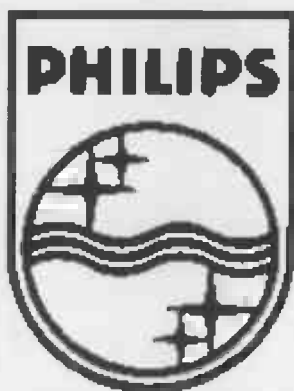
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PHILIPS REVEAL DETAILS OF NEW CD!

“ULTRA HIGH QUALITY AUDIO” A POSSIBILITY

Philips and Sony recently released early details of their new High Density Compact Disc, officially titled Multimedia Compact Disc. It's identical in size to the current CD but has five times the capacity at 3.7 Gigabytes. By any standards that's massive - and there's more to come. In conjunction with the giant U.S. chemical company 3M (Minnesota Mining and Minerals), a dual layer disc is being researched, capable of holding no less than 7.4 Gigabytes.

Pressure for a high capacity disc is coming from the film and video world, which needs vast storage capacity if movies with soundtracks are to be distributed on CD. Currently, relatively bulky 12 inch LaserDiscs are needed for this purpose. A 3.7 Gb CD will hold 2 hours 15 minutes of video with numerous tracks of audio, as well as subtitles. This they say gives slightly better quality than a videotape, although it doesn't have recording ability.



One of the great benefits of CD to industry is its low production cost: it's simply and quickly stamped out, whereas video tapes must be tediously recorded by banks of recorders. Interestingly, Philips mention this in their press release, pointing out that current CD production plants can make the new disc and that it will cost the same to make as today's CDs (50p-£1, according to quantity). This is "a major advantage to consumers, media manufacturers as well as for the hardware and software industry", Philips tell us (the "advantage" being low cost).

The other market Philips and Sony would like to dominate is computer memory in the form of read-only databases for computers, known as CD-ROM.

CD production is a high volume business. Manufacturers are interested in quantity to keep their factories busy, not usage. Here, music forms easily the largest sector, music CD sales amounting to billions of units worldwide. But regarding this, the press release states only that "Philips and Sony imagine further applications . . . such as . . . ultra high quality audio".

At present no new digital music standard has been agreed; in fact, to date it hasn't even been discussed. Our investigations revealed that Philips have canvassed music companies such as EMI, Virgin, Decca, Sony and Polygram for their views, but have got no further.

We're told that players will be on the market within two years, initially priced around £800 due mainly to the expense of 6 Megabytes of on-board error correction RAM. However, prices are expected to fall to around £300-£400 within a few years.

trade winds

trade winds

trade winds

trade winds

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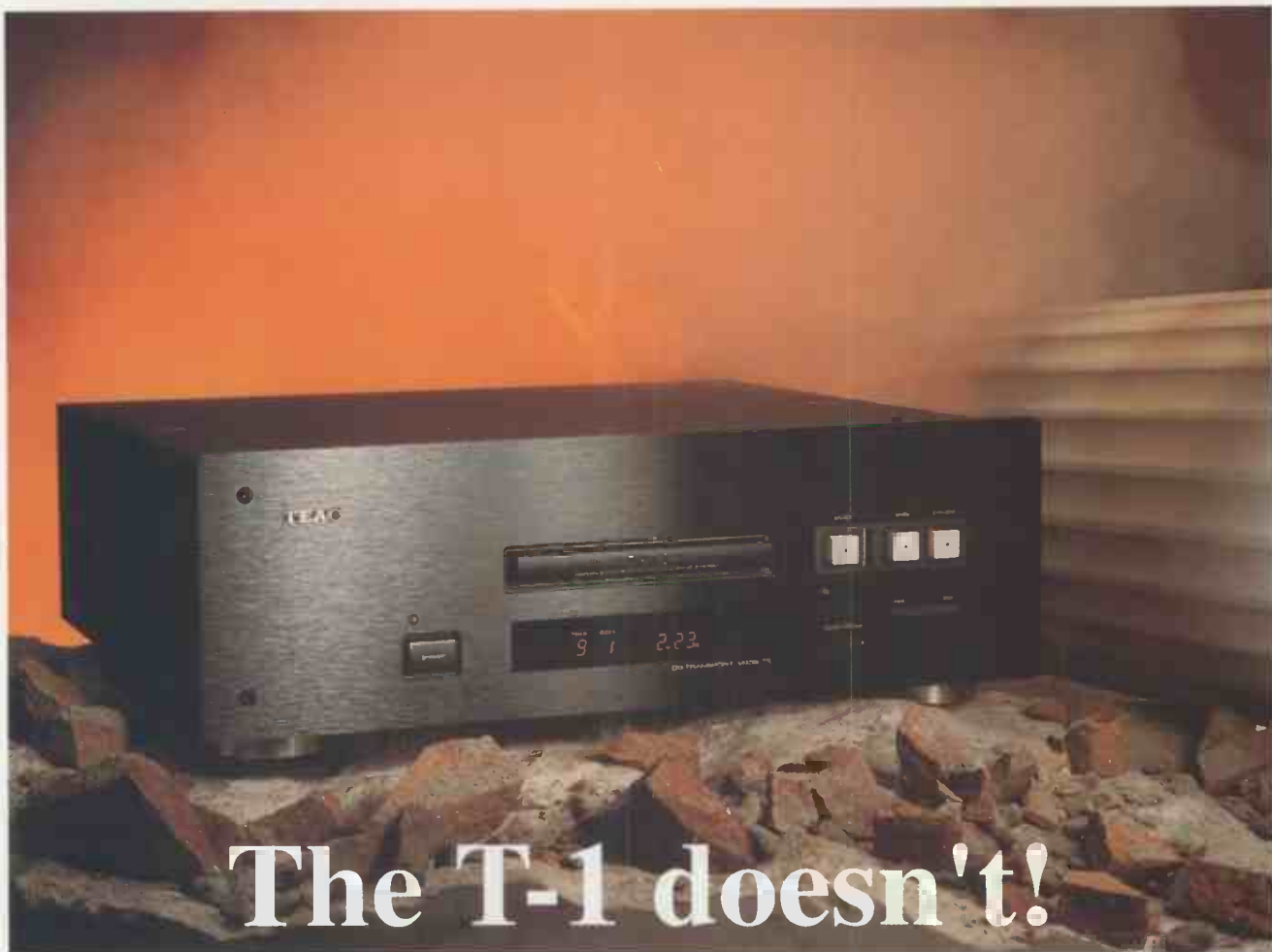
trade winds

trade winds

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trade winds

POMPEII ROCKS



The T-1 doesn't!

Even in the shaky surroundings of old Pompeii the New TEAC T-1 CD Transport would still have delivered the goods.

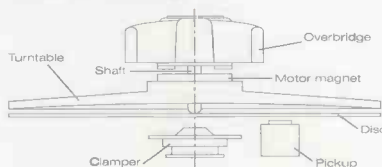
The T-1 places the acclaimed vibration-free VRDS mechanism within reach of those looking for the cost effective path to CD upgrades.

What sets the VRDS mechanism apart from standard CD players is its ability to reduce the vibration induced in the spinning disc.

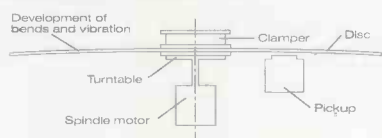
As the diagram on the right shows, a normal CD transport of the type used in budget and high end players alike, only clamps the CD at its centre.

As the disc itself is rotating at high speed it oscillates and vibrates making it difficult for the the pickup lens to track the minute pits on the CD surface with the necessary accuracy.

VRDS Mechanism



Standard CD Mechanism



Much of the information available may be read incorrectly or in a corrupt form, contributing greatly to distortion within the signal that is fed to the DAC.

The VRDS mechanism significantly reduces this effect by clamping the whole width of the disc thus reducing the vibration that causes jitter.

This all adds up to a Transport that does the job of retrieving information better than any other comparable drive on the market, providing your DAC with the most accurate signal possible.

Because the T-1 does give you one of the best mechanisms in the world, you can buy in confidence knowing that you have the perfect source for any DAC upgrade, now or in the future.

If it was available to the ancient Romans they would probably still be using it now - in spite of earthquakes!

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WD1 8YA TEL: 0923 819630 FAX: 0923 236290

MARANTZ MOVE UPMARKET

One of the disappointments of recent years is that the major Japanese manufacturers have discontinued selling their top-end products in the UK, doubtless due to the recession. As Japanese 'super-fi' is so beautifully made, British audiophiles have missed out on some of the most appetising products available.

Marantz were one of the first to buck the trend with the introduction of the £1200 CD-10 Compact Disc player a couple of years ago. Now, the 'Reference' CD-16 is with us, retailing for £1399. Continuing the time-honoured Nipponese tradition of building top players like battleships, the 13kg CD-16 sports a weighty copper shielded chassis and Philips' top metal die-cast transport mechanism, the CDM-4MD. The converter is the respected bitstream DAC7 in double differential mode.

The SE version of the Marantz CD63 is now in the shops. The fact that almost every Marantz product appears in "Special Edition" guise begs the question, "what's so special about them?" Well, the standard CD63, itself an update of their last SE player, has received additional internal chassis bracing, Oxygen Free Copper (OFC) transformer windings, copper plated amplifier modules in the output stage, as well as the obligatory front panel "Special Edition" legend.

To signpost the CD63SE's exclusivity, its price is £100 up on the cooking version at £349.90, throwing it into the fray of the fiercely competitive Japanese players at this price point. In the coming months look out for the most insightful CD63SE review in Hi-fi World, as well as an extensive feature on Japanese super-fi.



Marantz Hi-Fi UK. Ltd.,
Kingsbridge House,
Padbury Oaks,
575-583 Bath Rd.,
Longford,
Middlesex. UB7 0EH
Tel: 0753 680868

ORELLE UPGRADE

A new DAC has arrived from the Orelle stable. At £379 the DA-188 employs an 18bit chipset, is direct coupled for powerful bass and uses a non-magnetic aluminium chassis. It has the usual optical and coaxial digital inputs, and gold plated sockets.

Orelle Hi-Fi

Unit 11/12, I-Mex House,
6 Wadsworth Rd,
Perivale,
Middlesex. UB6 7JJ
Tel: 081 810 9388



AUDIO INNOVATIONS STAGE AN ENTRY

Vinyl addicts will be interested to hear that Audio Innovations have introduced a new valve phono stage. At 250x295x95mm, the £299 P1 is fairly sizeable, thanks in part to its dual mono power supply, claimed to be generously specified. The phono equalisation section uses passive components and Audio Innovations describe the valve circuitry as "simple yet elegant". This contributes to a sound which they describe as "truly exceptional". The P1 is configured for Moving Magnet cartridges only. If you've got a low output Moving Coil, Audio Innovations recommend the further purchase of their own T1 transformer.

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DIGITAL BROADCASTING TO START THIS SEPTEMBER

The BBC are introducing their first Digital Audio Broadcasts (DAB) during September of this year, starting in London. By September 1998 they hope to provide 60% of the UK with digital radio coverage, we were told, bringing the claimed benefits of digital transmission to Radios 1, 2, 3, 4 and 5.

A BBC technical information officer explained that DAB was conceived to give better results with the whip aerials used by portable and car radios. It also eliminated the need to re-tune when moving from one transmitter area to another in a car. They claim it gives CD-quality sound via radio, with no increase in hiss in poor reception areas.

These first DAB broadcasts will be on Band III around 226MHz and will run in conjunction with conventional FM radio transmissions on Band II (88-108MHz) for the foreseeable future. The London service will be transmitted from Crystal Palace in South London, Alexander Palace in North London, Reigate and Wrotham.

DAB eliminates the need for BBC stations to be broadcast on different frequencies across the country and is very economic in its use of band space, as well as being totally resistant to fading and hiss. The radio signal is either received perfectly or the radio goes dead! It is an extremely complex transmission system about which we will say little here, but expect a full explanation from us soon.

Developed by the EEC under Eureka Project 147, it will be adopted Europe wide and seems to be in the forefront of radio transmission technology. DAB basically "compresses" digital audio data down to a low data rate, using a system similar to that adopted by Philips in DCC. It actually mixes together (multiplexes) five programmes digitally and transmits them all at low data rate on no fewer than 1500 carriers, spaced just 1kHz apart, occupying around 2MHz of band space in all.

If this sounds a little complex, you'd be right - and here we are keeping it simple. Most of the work is done digitally in complex Digital Signal Processing (DSP) chips. The receiver is in effect fix-tuned, all five BBC stations coming in on one data stream, to be sorted out in the digital domain. It will however step up and down the band between blocks of stations.

It's still early days for DAB. No radio receivers are available at present; an evaluation board will be made available to industry soon, we have been told. Because the system either works perfectly or fails, music compression in the form of Optimod is not needed and a BBC spokesman confirmed that it may well not be used for Radio 3 (as at present) or even the other programmes. Users can apply their own compression to reduce dynamic range so quiet passages are not lost in noisy environments.

Conventional analogue broadcasts will continue into the future, although pressure will in due course appear to end them, because DAB frees the air waves, making room for more TV and radio stations.

By offering high quality sound, consistently low hiss, resistance to fading and no need for re-tuning on the move, DAB appears to have great potential. We'll only be able to find out when the first radios come through, in around a year's time, a Philips spokesman told us.

IS VINYL'S FATE SEVENTY-EIGHT?

78s are back! A group of music lovers in Nottingham are adamant that the 78 is worth keeping. The Historic Masters series of 78rpm discs was born from the feeling that CD reissues

of classic 78 recordings are a pale shadow of the originals. With this in mind, EMI were commissioned to produce a series of vintage recordings using the original manual presses that had been lying idle in their vaults since the early 1960s.

Historic Masters discs are pressed from stampers by hand onto vinyl, as opposed to shellac, the original medium. Apart from this, they're authentic in every respect, requiring a range of diamond styli to track the differing groove sizes - steel needles aren't allowed due to their propensity to destroy vinyl!

78s were cut at differing speeds, from the high 50s to mid 90s RPM, but it's reckoned that a Garrard 301/401 with its variable speed should play just about anything mastered after 1929! Furthermore, to enjoy these classic recordings you'll need a preamp with variable phono impedance and equalisation characteristics (soon to be available from Quad), so the AUX input won't suffice!

Historic Masters
S.Henig,
10 Yealand Drive,
Lancaster LA1 4EW.
Tel/fax: 0524 69624

WHARFEDALE'S BABY SHARPENS UP

Wharfedale, whose Diamond model dominated the world of budget small loudspeakers in the 1980s, have further updated



their baby. The new £109.95 Diamond 6R features a new refined fibre-cone bass driver, and the crossover has been upgraded giving what Wharfedale describe as "a more open mid-band sound". Sensitivity remains quite good for a mini at 87dB and the cabinet size remains a diminutive 270x167x223mm. We await with interest to see if the Diamond can regain its hold on the cut-throat mini-monitor market.

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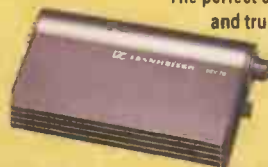
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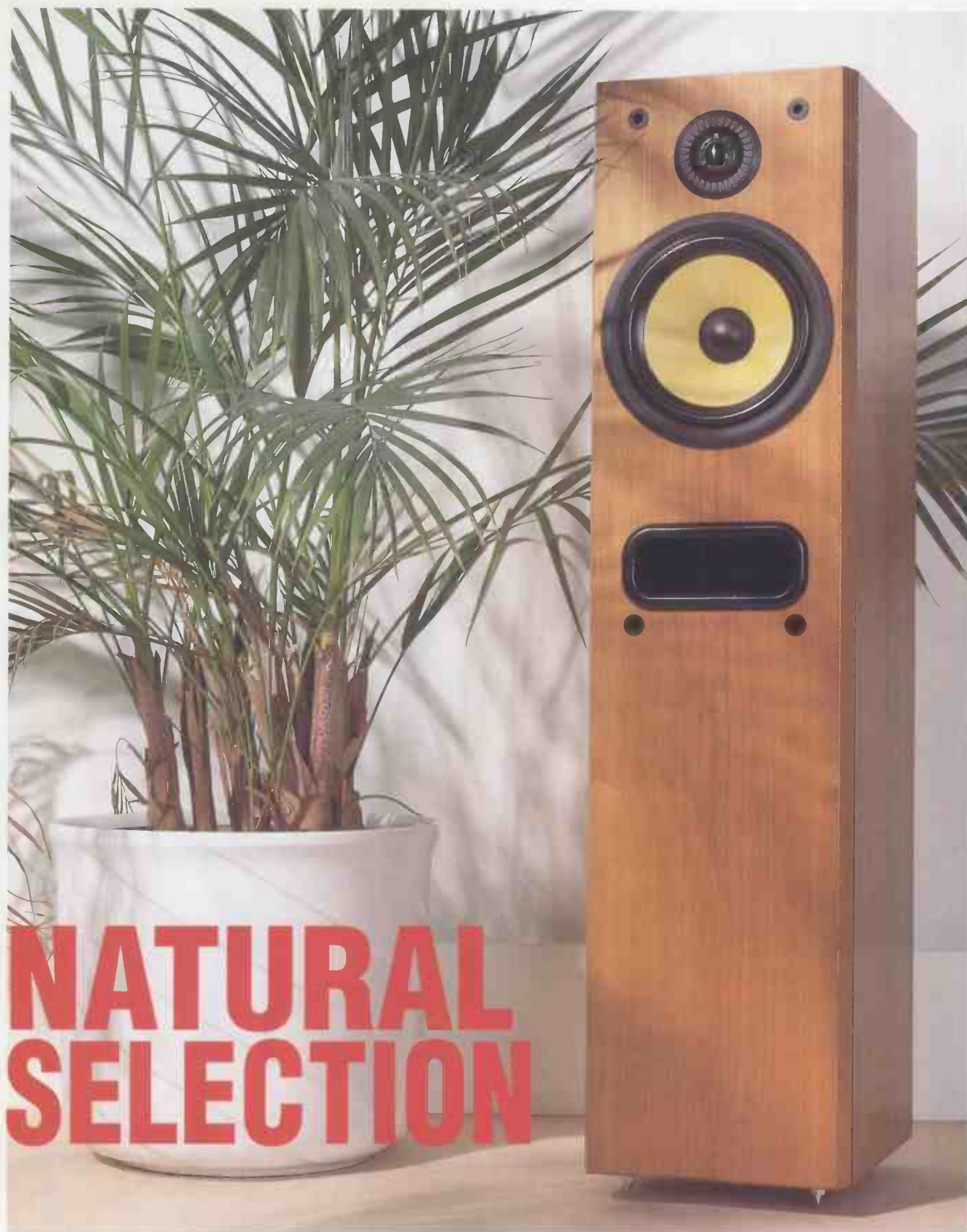


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NATURAL SELECTION

B&W's new P4 loudspeakers are finished in exotic real wood veneers. David Price auditions these handsome new £600 floorstanders.

Over the last few years floorstanding loudspeakers have become very fashionable. Not only do they look impressive, but they offer the tantalising promise denied to

mini-monitor users - real, deep bass. So the new B&W P4s join a competitive sector of the market. Priced at £599.95, they're not cheap, but there's the bonus of not having to lavish £150 or so on a

pair of decent stands.

The P4s are available in a choice of three real wood veneers, Rosenut, Black Ash and Cherry. The Cherry wood review samples looked so well turned out that I almost expected them to sound good before I'd plugged them in! Standing tall and slim, they're very much in the modern idiom of loudspeaker design. Their 810mm height makes them true floorstanders, needing just a set of four adjustable spikes for best results. B&W

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offer a set of plinths for £59.95, but for aesthetic rather than sonic reasons.

Featuring B&W's patented Kevlar mid-bass driver in its 165mm form and a fluid cooled metal dome tweeter, sensitivity is good. Most amplifiers, including tube designs, will be able to drive them to reasonable levels, but you won't be able to get seismic volume levels from your Stereo 20!

A hard rap of the knuckles against the side of the 'speaker produced a dull thud, testifying to their solid build quality. A look round the back shows the same high standards of finish, with good quality gold plated bi-wireable binding posts.

The P4s were auditioned with our Garrard turntable through our own valve phono preamp (watch this space!), and a Pink Triangle Cardinal/Da Capo CD combo. Amplification was provided by World Audio Design's new Single Ended K5881 PSE - a

beguiling valve design of modest power, and Denon's PMA450SE - an impressive sounding solid-state design with power in abundance.

As the Ortofon hit the groove of Jamiroquai's 'When You Gonna Learn', these speakers impressed me with a rhythmic foot tapping presentation, really getting into the groove. Harboured a continuing admiration for Linn's now-defunct Kans' ability to go for rhythms like a homing pigeon, I felt naturally endeared to the B&Ws. They sounded open and musical, imaging well and filling the room with a soundstage that belied their size. The song's opening strings had impressive texture, both full-bodied and fast. Jay Kay's vocals were handled well, projected way to the front of the mix and tightly located forward to the front of the speakers. Even with the album's slightly murky recording quality, the grain of his voice was manifest, projected strongly and clearly.

Whilst the P4s impressed with a clean midrange and great imaging, as I shifted my attention to things elsewhere, I got some unwelcome surprises. Cymbals were dry, fuzzy and often strident. Open hi-hats struck hard sounded sharp and crisp, but decayed into a metallic fuzz. Closed hats just sounded sandpaper. It soon became obvious this was contributing to the perceived speed of the P4s. Combined with a clean midrange, strong treble projection gave the impression of a highly agile sounding speaker, but treble quality was poor.

Bass was good with reservations - tunes were played deftly, but were accompanied by some cabinet boom. Staying with Jamiroquai, percussive bass guitar high up the fretboard sounded

supple, conveying the notes, phrasing and rhythm of the playing. But there was a tendency to boom regardless of what was being played. At the same time, low bass lacked gravity and dynamic power - I couldn't really tell whether the bass drum was being slammed or just brushed. As volume was wound up, many of these gripes faded. The P4s were happiest at high volumes. The soundstage took on larger proportions and imaged superbly, a characteristic for which Kevlar drivers are renowned. But the K5881 PSE, being

single-ended, wasn't designed to drive a 'speaker like this to very high volumes, so I swapped over to a Denon PMA450SE.

With more power the soundstage grew in size, if not subtlety, and the B&Ws seemed to come together. With less bass to contend with they seemed happier, the amp's forward

presentation injecting extra life into proceedings. On ABC's 'Date Stamp', Martin Fry's voice was superbly separated and articulated. Rhythms came through with great clarity and really caught the feel of the track. Yet the bass boxiness remained and cymbals lacked space, weight and definition, as if the B&Ws were just routinely informing the listener

of their presence, but not their importance.

On Malcolm McLaren's 'House of The Blue Danube', the B&Ws dived in with great spirit and tenacity, but dried up the treble and rendered triangles and tambourines splashy. They captured Bootsy Collins' bass sequencing superbly, managing near-holographic imaging, but seemed to lose some low level detail.

With jazz, where a 'speaker's ability to convey the recorded acoustic of the venue is essential, the P4s just weren't up to the job. Even with Dick Hyman's 'Age of Swing', a breathtakingly airy HDCD recording, the dry treble meant they couldn't capture the atmosphere of the concert hall.

The sound of the P4s means that potential purchasers must hear them in the context of their own systems. I found that their treble failings could be 'flattered' away by vinyl and a smooth but powerful sounding amplifier. They really need brute force to get them to fill a room with sound.

The type of music you use will be the clincher. If it's jazz or classical, you may well do better to look in the direction of Castle Chesters or Mission 752s. If you're a rock lover who wants a clean, speedy sound, the B&Ws might just be for you ●

“The B&Ws dived in with great spirit and tenacity, but dried up the treble and rendered triangles and tambourines splashy.”

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MEASURED PERFORMANCE

B&W's new P4s use a folded reflex port to give them deep bass for their size, as can be seen in our response plot below. Bass rises towards low frequencies, which tends to give a firm and powerful bottom end.

The rest of the response curve is smooth, but it rises up from the midrange to give a gentle boost around 5kHz. This rise towards the treble will not only help to push detail forwards out of the box, but is likely to add brightness to the sound.

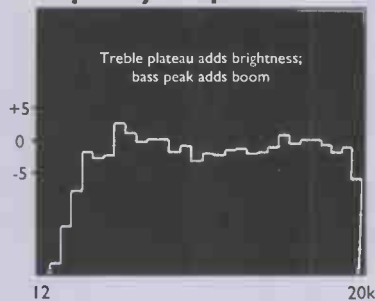
The light Kevlar bass/mid-driver B&W use makes the P4s sensitive too; I measured a healthy 87.5dB at 1m from a nominal watt (2.83V) pink noise signal. This is usefully above average, so the P4s will go reasonably loud with few watts. Overall impedance indicates an easy load too, measuring 8.6Ω.

The impedance curve isn't the smoothest, dipping down to 5Ω at 200Hz and again above 5kHz. The strong peak in the midrange indicates a reactive load, but modern transistor amplifiers or valve amplifiers with feedback should have little problem with this.

Overall, the B&W P4s measure well,

with a smooth response and higher than average sensitivity. I'd recommend amplifiers capable of supplying around 40watts or more for best results. **DB**

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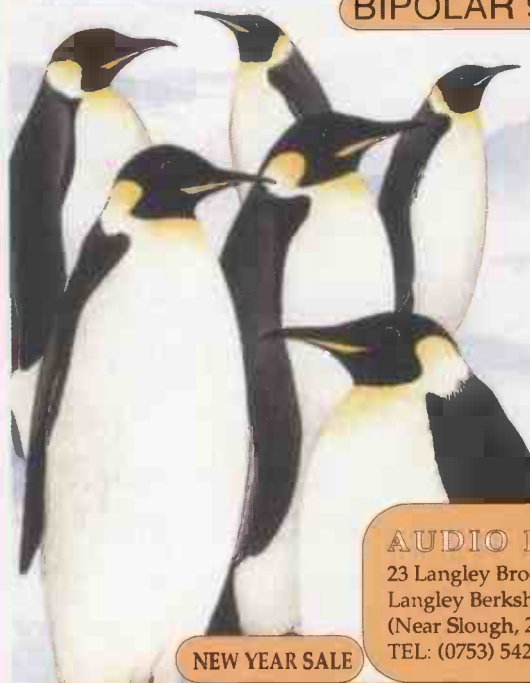
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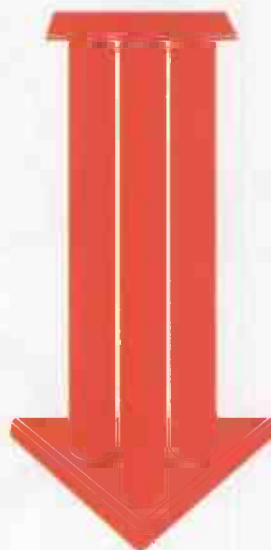
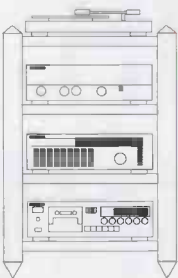
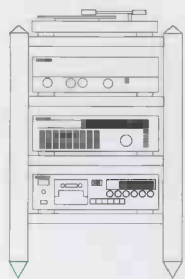


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LOOKING FOR ENLIGHTENMENT

Dominic Baker checks out DPA's new Enlightenment drive and CD convertor. Here's high-end at a great price.

Regular readers still drooling over DPA's £6000 gold plated PDM1024 CD convertor, reviewed in the July '94 issue, will be pleased to know that DPA's new Enlightenment Drive transport and DAC is another one of their discrete convertor designs. But this time, it's more affordable at £795, as is the Enlightenment Drive transport at £695.

The latter is an enormous improvement on the ugly looking TI

transport which it replaces. It's smaller, slimmer and better proportioned, if a touch lightweight in construction. Gone are the horrible ZX81-style buttons, replaced with the more positive type found on DPA's preamplifier. There are optical and electrical coaxial digital outputs, plus an optical input for Deltran sync connection to DPA DACs.

Used in conjunction with the Enlightenment DAC, this is one of the most advanced two-box CD players

around. The DAC uses a special discrete convertor designed by DPA's founder and designer Rob Watts. This is implemented with neat surface-mount components, giving the convertor a very professional and elegant look under the cover. It too has both optical and electrical coaxial inputs.

In a conventional two-box CD player system, the transport sends a stream of digital data to the convertor which locks on to perform the digital-to-analogue conversion. This can introduce high rate time smear called jitter, where the DAC is never precisely in sync with the incoming data.

DPA's Deltran sync-locking system

eliminates this; the DAC sends a signal to the transport to tell it precisely when to send the data. In sonic terms, sync-locked converters tend to sound a little smoother and more natural through the midrange, so this is a worthwhile feature, one that DPA have been using for several years now.

I connected up the Enlightenment and left it to settle overnight. Next day was a sunny one, bright and warm, crisp with frost - like the sound from this combination. It has a very lively presentation, pushing the music forwards and giving it a bouncy and musical touch, each note crisply produced. The sound is very solid too, giving good depth to instruments and power and body to vocalists.

I listened to the Enlightenment Drive and DAC over the Christmas holiday period, in a system comprising a DPA preamplifier feeding a 300B valve amplifier and Spendor SP7/1s, and I must say it was one of the most enjoyable periods I've spent listening for a long time. The system just seemed to gel - in every area. Bass was powerful and taut, the characterful reverberation of the bass strings on Frank Black's *Sir Rockaby* well captured, the thwack of each plucked note punching out to give a thoroughly rhythmic rendition of this track, and in fact the whole album.

Higher frequencies were remarkably solid too, giving a freshness and defined attack to cymbals and a vivid upper harmonic structure to strings allowing them to grow and echo within the acoustic of the surroundings. This found favour with many of the 'back to roots' acoustic style tracks bands currently favour, such as Counting Crows, Oasis and REM. On albums such as these where the music is produced by guitars, drums, and the increasingly popular Hammond organ and tabla, for example, rather than electronic gadgets, the DPA really shines, describing the shape and texture of the sounds they produce well.

With the sync-lock off a slight graininess could be detected on Sheryl Crow's full bodied voice, treble having a slight splashiness that could take the edge off hard hitting cymbals. Strangely this area of the Enlightenment's performance didn't improve when sync-locking was on, and the midrange only became a little better. It was enough of an improvement to make the Enlightenment Drive transport a better partner than other similarly priced transports - but only just.

The electronic attack of Senses's thrash metal rap 'States of Mind' from the immensely powerful *Stacked Up* album couldn't have been more violent. The Enlightenment has the force and guts to

churn this stuff out all day long.

Yet I suspect that the Enlightenment is aimed at the more discerning listener, where tonal colour, acoustic space and atmosphere and the ability to place an image within a believable sound stage are prime considerations. Whatever your taste though, this is definitely one combination that should feature high up on anyone's short list.

NOEL SAYS

I found it startlingly good. From the first few bars of Wagner's *Tannhauser* it became apparent that orchestral sections had great body and life. The performances of the musicians seemed almost tangible, such was the degree of insight and expression this convertor offers. Imagine it like this: it's common enough to hear a cold representation of an orchestra, coming over as an outline with little in the way of colour, detail or dimensionality.

That seems acceptable, recorded music being what it is - until you hear the Enlightenment. The wonderfully agitated violins in *Tannhauser* sounded like a swarm of angry bees, those Wagnerian horns blasted out with power and richness, plucked double basses grumbled complainingly in the background. A strong sense of life and animation was brought to the performance of the *Philharmonia*; I found it captivating.

But could I hear the distortion? I believe so. Violins in particular are an acid test for converters (as well as tweeters) and they seemed higher pitched and more edgy and stringy - even screechy - on the Enlightenment than usual.

Perhaps the Enlightenment might not be deemed especially suited to violin, but even here I found that whilst string tone was slightly lightened and coarsened, instrumental timbre was deliciously captured, not to mention the degree of body and clarity that was sufficient to isolate a soloist from an orchestral melee!

On rock, this convertor offers a really solid, lifelike sound with great bass and vividly realistic imaging. Overall it comes across as bright, open and unusually clear, as opposed to warm or soft. DPA's own one-bit convertor in the Enlightenment delivers real performance. Thoroughly recommended. **NK**

Enlightenment Drive £695
Enlightenment DAC £795
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Wales. CF3 0EF
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“Whatever your taste, this is definitely one combination that should feature high up on anyone's short list.”

MEASURED PERFORMANCE

This is DPA Digital's most affordable discrete CD convertor, using their in-house designed dx32 one-bit digital-to-analogue convertor. Treble lifts above 10kHz, reaching +0.2dB just before 20kHz. Although subtle, I'd expect this to reveal itself in subjective tests as bright or clear treble.

This treble lift wouldn't be so concerning if distortion were lower. Like DPA's 1024 convertor, distortion was higher than average at all levels. At -30dB you can see from the plot that not only is harmonic distortion around five times higher than the best, but there's also a lot of non-harmonic distortion which in conjunction with the rising response, may reveal itself as treble sharpness. However, as with the 1024, the benefits of DPA's discrete design may far outweigh this.

The high distortion at -60dB corresponds to a low 97.6dB dynamic range (EIAJ test), but elsewhere everything measured well. Output was spot on Philips' 2V standard. **DB**

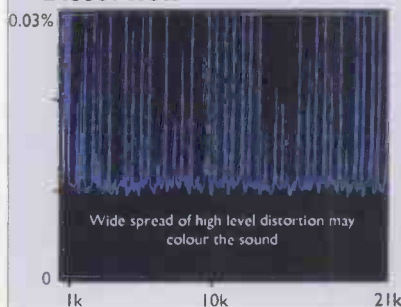
TEST RESULTS

Frequency response	4Hz-21.5kHz	
Distortion (%)		
-6dB	0.02	0.02
-30dB	0.043	0.049
-60dB	1.70	1.73
-90dB	73.7	70.1
-90dB dithered	49.8	52.1
Separation (dB)	left	right
1kHz	98	77
20kHz	78	75
Noise	-99dB	
with emphasis	-101dB	
Dynamic range	97.6dB	
Output	2V	

Frequency Response



Distortion



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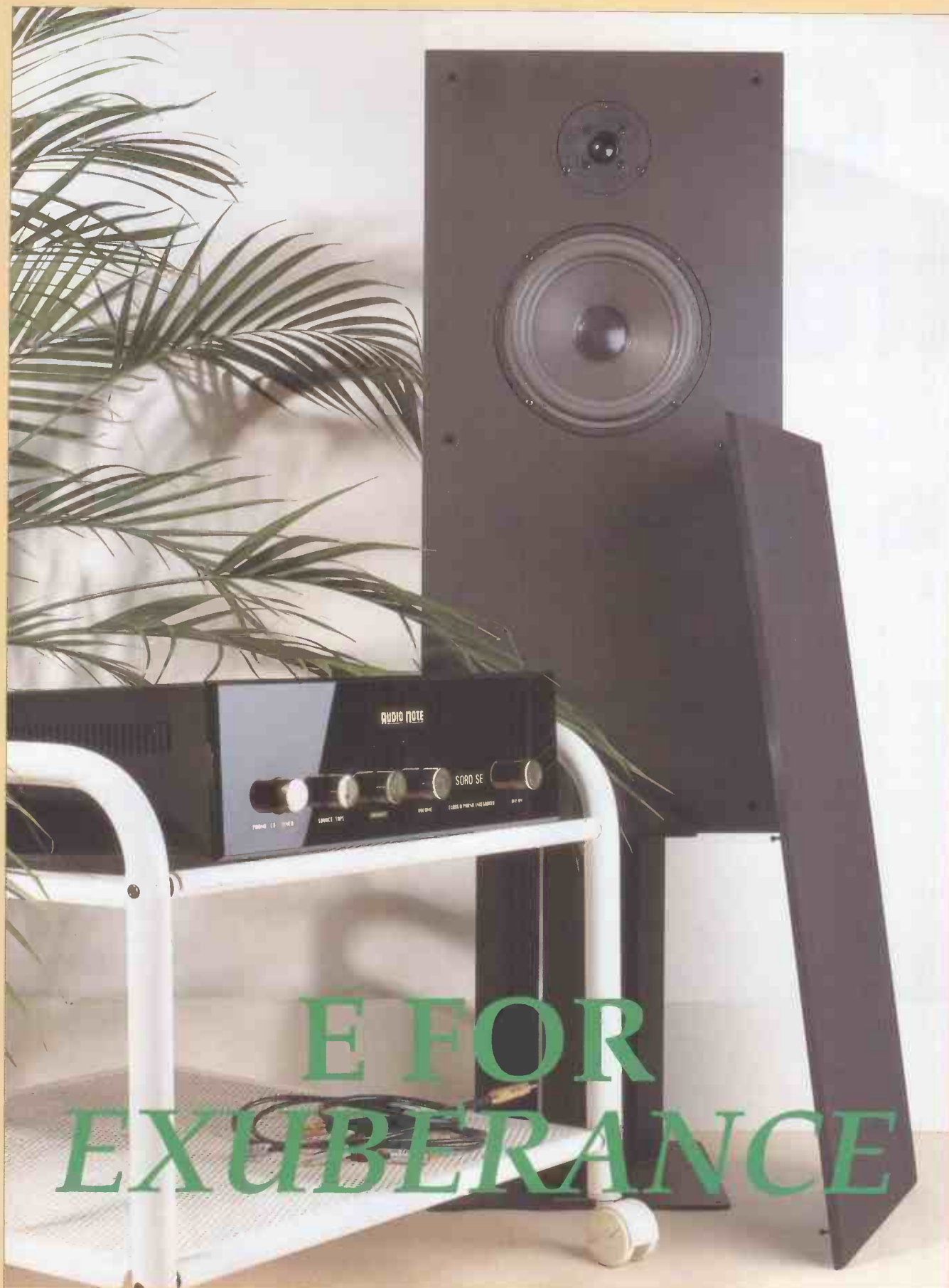
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E FOR EXUBERANCE

Do Audionote's exuberant, valve-friendly E loudspeakers sound good? We audition them with the partnering SORO amplifier.

According to the grapevine Audionote E 'speakers are great for specialist valve amplifiers, so I listened to them on their own at length. I had an unusually on/off affair with them.

They have great strengths and great weaknesses in my view and, as with any product of this nature, you can love them or hate them.

I should explain that the Es have a

large, wide cabinet (790x360x270mm hxxxd) that needs to sit on low stands, 8-10in off the floor, which is visually intrusive, mainly because of its width. The two drive units are an 8 inch bass/

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midrange unit and a soft dome tweeter, reflex loading being used with the port near to the floor.

Partnering them for this review was the SORO, a single-ended valve amplifier of limited output, using parallel 6L6GC beam-tetrodes to produce 12watts per channel under test. It has a valve phono stage of very high sensitivity that can cope with any moving magnet cartridge and many high output moving coils too, without too much hiss. Although all this sounds a bit radical, the package tries to be conventional, having an input selector (CD, tuner, phono and aux), balance control, tape monitor switch and rotary power switch, all mounted on a black fascia attached to a black enclosed box.

The SORO is a specialised amplifier which I found to be very load sensitive. Whilst I liked the sweet sound of the OTO, tested in our August 1994 issue, I found SORO was less attractive in this respect. It seemed unhappy with many conventional loudspeakers; I detected coarseness and muddle. Unhappy about the SORO and in two minds about the E loudspeakers, I asked David to add his opinions.

I used the SORO with Heybrook Sextets, KEF Reference Series 2s, TDL RTL4s and Audionote Es. It didn't sound happy with much other than the Es. David checked it with the KEFs and reviewed it using the Es.

The Audionote Es were reviewed by me in a large room and with solid state and valve amplifiers. David adds his comments about them using the SORO, but in our own medium sized listening room (16ft x 12ft). So there's a fairly complex review coming up, but this is hi-fi! We've tried to use appropriate contexts for these items to work in. **NK**

AUDIONOTE SORO SE

The SORO is an amplifier that looks like it means business, but with KEF Reference Series 2 loudspeakers, a high efficiency but heavy load design, the sound was quite

depressing. Blondie's 'Hanging on the Telephone', a vintage new-wave track that normally radiates power and energy through any system, sounded thoroughly underwhelming. Debbie's killer voice was anaemic and drained, the soundstage small and the musicians within played with suppressed emotion. The explosive drumming that made Blondie such a good

live band was delivered mundanely with no spirit or precision. The machine-gun drum rolls sounded laboured or just plain arthritic.

It was clear that the SORO was having problems driving the KEFs. So I switched to the super-sensitive Audionote E 'speakers and was amazed at the difference. The Es instantly impressed - being much lighter in the bass, they obviated the SORO's low frequency problems, and injected some spice into the treble. They sounded so fast that I wondered if I was listening to the same amp - it was soon clear that we had an extreme example of synergy on our hands. The SORO sounded so much happier, at last finding its feet and getting to grips with rhythms and dynamics.

This amplifier sounded musical, forthright and fun, investing all types of music with spirited character. But as the session progressed the allure of the Audionote Es diminished. They were having trouble with low level detail - there wasn't any. Regardless of studio, music, or players, everything was rendered shouty and unsubtle. There was little feel for the acoustics of the studio or even the individual instruments - everything was homogenised in the pursuit of making the music sound 'impressive'.

Bass guitar on Corduroy's 'High

MEASURED PERFORMANCE - SORO

Being single-ended (SE), the SORO has little power, measuring out at 12watts into four or eight ohms. Run within its limits though, it was reasonably linear as SEs go, producing around 0.2% distortion at 1 watt output, 1kHz or 10kHz. The harmonic structure was 2nd only in the midband, but 2nd and 3rd at 10kHz, both being reasonably innocuous. Close to clip though, the SORO produces third harmonic only, which has a sharpening effect, so it must be used with sensitive speakers to avoid this region of operation.

The CD input was extremely sensitive, needing just 120mV for full output, but overload was infinite, since the signal runs to the volume control direct, as is common and sensible. Noise was low at -91dB, and hum low too at just less than 1mV on both channels (1mV is a good, low target figure to aim for with valve amps). Frequency response rolled off above 15kHz, which will give a soft or warm sound, bandwidth measuring 15Hz-15kHz within 1dB limits.

The phono stage is both MM and MC, something only valves can offer. It has a very low input sensitivity of 0.17mV, but a high overload ceiling of 60mV (1% distortion). Hiss was low-ish at -60dB. A little hiss will be heard with low output MCs, but not with high output designs (e.g. Ortofon Supremes), and certainly not with any MM, making the Soro very flexible in its cartridge matching. Bandwidth measured 15Hz-15kHz (-1dB), just like CD

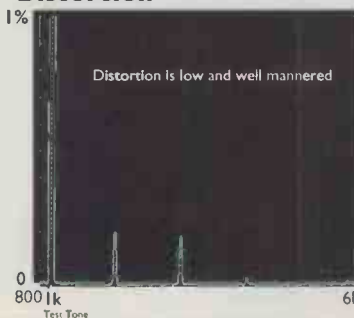
and separation was good at 60dB.

The SORO measured well all round. It has a very good phono stage in particular, but limited power output like most SEs. It must be used with sensitive speakers and not driven too hard. **NK**

TEST RESULTS

Power	12watts
CD/tuner/aux.	
Frequency response	7Hz-15kHz
Separation	65dB
Noise	-91dB
Distortion	0.15%
Sensitivity	120mV
Disc	
Frequency response	15Hz-15kHz
Separation	60dB
Noise	-60dB
Distortion	0.2%
Sensitivity	0.17mV
Overload	60mV

Distortion



GETTING TO THE SHOW

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Sound & Vision '95

Havoc' was a case in point. On a good system it positively drives the song, but through the Audionote combination it sounded pallid and incidental, playing tunes very reluctantly indeed.

Other gripes centred around the harshness of the speakers, which moved from being a distraction on LP to a discomfort with CD. Strings could sound wiry and brass rasped in an uncouth fashion. This, combined with a lack of space and ambience, means that your purchase of the combination should be conditional on auditioning it in your own home, with your source playing your favourite music. **DP**

AUDIONOTE E

Widely quoted amongst valve aficionados as 'speakers to be reckoned with, I was keen to hear the Audionote Es. Initially, I wasn't especially impressed, but in the end I found them enjoyable, in some ways quite impressive, even if their flaws had to be consciously disregarded at times.

Apart from their looming presence, the Es have an obvious boxiness and, perhaps as a direct result, a box-bound sound. Familiar with modern 'speakers that tend to project sound forward onto a well focussed sound stage - and a lover of this quality too - I wasn't overjoyed to hear what almost amounted to two channel mono from the Es: the sound comes from left and right, without much in the middle - and what is there is poorly focussed. Much of this was due to diffraction effects caused by the wide

baffle and a tweeter mounted in a recess - two bad ideas.

The giant, resonant cabinet has a beautifully placed and tuned 'boom', finely controlled not to overhang or even frustrate bass fundamentals, which played well, yet spot on to bring enormity to



drum kits and kettle drums. Orchestras and rock bands alike luxuriated in this power: from Wagner to Holst, Steve Earle to Grace Jones. Drums possessed explosive power, but the Es stayed

controlled, they didn't grumble or rumble as so many bass heavy speakers do.

Essentially faithful, I couldn't say the Es were in any way unbalanced tonally. They played everything, missing not a note from anywhere across the scale. However, at the same time they do have some peculiar, at times irritating colourations. At no time did I feel they were either especially clear, and free from muddle, yet you could accuse me of being churlish about this. Whilst violins sounded a little thin and screechy at times, the might of an orchestra was conveyed beautifully. It was odd how the Es veered from being superb to almost disgraceful! The thud of the box on Grace Jones' 'Fame' made listening difficult for me, yet the opening thunder of Steve Earle's 'Copperhead Road' was all I could have wanted and more, reverberating around the room, his choked Gibson rortier than ever.

Where I expected embarrassment, these speakers would come out shining, as if to try and fool me just when I thought I had their mettle. Eddie Reader's vocals hung nicely somewhere between the speakers, sounding quite natural and fairly clear too - a surprise. There was always a slightly distant perspective though: the sound came out from the

boxes and then into the room. Strings in the lower registers sounded smooth enough, but when massed and in full flight they could screech and provoke the box into an accompanying background thrum.

In spite of their idiosyncrasies, the Es offer great pace and a balanced and truthful sound; lovers of driving rock will find them powerful and speedy with just a few watts. They offer a monumental sound from a 25watt amplifier and when I used 45 valve watts, even reined right back I was well blasted. **NK**

CONCLUSION

The Audionote SORO needs to be auditioned very carefully. We were underwhelmed by it. The E loudspeakers are a mixed bag. They are extremely sensitive, needing very little power to go really loud - just a few watts will do. They are an easy load too, so for valve amps the Es are an appropriate choice (and for transistor amps too of course). If you want an enormous, fast sound from a few watts, the Es haven't got much competition ●

MEASURED PERFORMANCE - E

The Audionote Es, formerly Snell before Audionote took over the UK operation, are aimed primarily at users of high quality valve amplifiers. This demands they are sensitive but have a specific and constant impedance. The Audionote Es succeed here, having an above average sensitivity of 91dB and an impedance that averages out at 9Ω - close to the ideal 8Ω figure.

But for low or zero feedback amplifiers the shape of the impedance curve is also important; the loudspeaker's frequency response will tend to follow this curve. Here the Es are not the smoothest I've measured and the rise in the midrange will raise the response in this area.

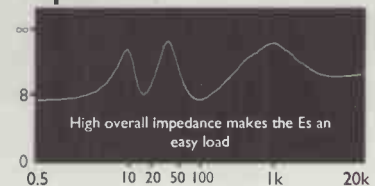
The frequency response shown is the result you would expect with a normal solid-state amplifier or a valve amp with output pentodes and feedback. There is a wide dip through the midrange that will reduce vocal projection and sense of detail. However, looking at the frequency response and impedance curve together, it can be seen that the dip through the mid will be filled in with a low or zero feedback amplifier, so the AN-Es will sound flattest, or most balanced, with a feedbackless amplifier.

These speakers are an interesting piece of engineering, being especially suitable for the low power, low or zero feedback amplifiers, which is no bad thing as such amplifiers can produce superb subjective results. **DB**

Frequency Response



Impedance



Audionote SORO SE phono £1999
Audionote E standard £1450
Audionote Ltd.,
Unit 1, Block C,
Hove Business Centre,
Fonthill Rd., Hove,
E. Sussex. BN3 6HA
Tel: 0273 220511

It's not unusual to find a one-product hi-fi manufacturer, but it's strange to find one whose only product is that most disregarded of all hi-fi components, a tuner. The £1350 Fanfare FT-1 is a case in point.

Belying its name, this American tuner arrived in an inauspicious plain brown box. Admittedly, opening up the glossy ring-binder instruction manual, there's a faint sound of trumpets being blown from far away in Buffalo, New York. The FT-1 proudly proclaims itself 'Reference Quality'. In the absence of a list of the 5000 US radio stations that use it, I wouldn't argue with this. Certainly, it's one of the rare tuners to provide balanced output sockets as well as standard phono ones (low and high output), with a composite output for studio use. Since Marv Southcott, president of Fanfare, is ex-Dynalab, the

pedigree suggests this is more than mere optimism.

Apart from its broadcast monitor standard pretensions, it offers a substantial steel case, remote control and a fairly rarified price in comparison to the home-based British competition.

In some sonic respects, the FT-1 brings home the beef, or at least a tasty slice of buffalo steak. At high-end prices one's looking for more than routine off-air sound. Like all high-end gear (in this neck of the woods the Quad FM4 is the cheapest of the breed) one is listening for tiny vocal nuances such as the difference between palatal and glottal sounds from a singer.

A fair array of jazz vocalists on Jazz FM provided just that, with a remarkably strong and firm bass line as well. In this respect, the FT-1 is worth its weight in salt beef, with a clear, tight

and very well defined bottom end extension. It produced near-CD quality here, double basses full of the distinctive twang of strings, with or without buzz according to the key and the fingering, just as they'd be heard live.

Acoustic instruments on Abdullah Ibrahim's 'African Marketplace' were splendid. Adding to the essential feeling of 'liveness' was the clarity it brought to vocals, with the eery sensation that a listener could almost trace the singers' tongues flicking back and forth as they enunciated their vowels. So much so that Radio 4 had to be hurriedly skipped past via the remote to avoid Lloyd Grossman, memorably described once as suffering from 'irritable vowel syndrome', before this listener's pinnae became inflamed.

Listening to news broadcasts, a series of reports tempted more speculation than a tuner usually engenders as to which reporter might have been carrying either a portable Nagra (few) or a Sony Professional Walkman (probably the majority). A mark of high-end serious tuner sound is its ability to keep background noises behind, but of a piece, with the reporter's voice. For R4 drama, or R3 concert-hall broadcasts, this translated into a very healthy continuum of ambience and orchestral space, placing the FT-1 on a par with both the Audiolab 8000T and the Rotel Michi.

However, a Beethoven concert from Birmingham's Symphony Hall had

Cue **FANFARE!**

Eric Braithwaite listens to one of the best kept radio secrets in the US, the Fanfare FT-1 tuner.

Now it's in Britain.



its disappointments. Not a fan of Harmoncourt at the best of times, the top end was somewhat compressed and the flow of the music had a mild sense of constriction. Obviously this is partly compression to which the Fanfare gives no quarter, but switching to the FM4 did give the music a marginally freer flow. More satisfying in absolute sonic terms, though not to all listeners, was Birtwistle's 'Triumph of Time' later the same evening, marking a distinct improvement over a Mahler recording which had been miked in Berlin. And it showed - not to the Berliners' advantage, a muddier perspective all round.

Like the Audiolab 8000T, the Fanfare is far from kind to certain types of music. Radio 3 has some odd programming these days. In this listening period, someone from Disco Inferno was explaining their use of "a bag of 200 samples" and a track 'Elephant' "inspired" by Saint-Saens' 'Carnival of the Animals'. (Ah! So that was why it was on R3!). Nothing, certainly not the

Fanfare, could prevent the drum machine and the sample from being turgid and uninspired. Yet the Fanfare made the elephant seem a touch more

“ Couch potatoes looking for a fully remote-controlled tuner with a serious audiophile pedigree should give it more than passing consideration. ”

flat-footed than the FM4. Note definition however was very precise. "It doesn't matter if the bass guitar is out

of tune", said Disco Inferno. Oh yes it does - if they'd listened via the Fanfare, they'd have found themselves transported to one of the hotter parts of Dante's Inferno, instead of a sweaty disco!

Whether it's sweaty disco or Symphony Hall, the Fanfare comes up to scratch, especially via its balanced output. Admittedly, price competition on this side of the Atlantic is tough but couch potatoes looking for a fully remote-controlled tuner with a serious audiophile pedigree should give it more than passing consideration. Worth a quick blast from the lads of Kneller Hall, certainly, if not the full Pomp and Circumstance Coronation spectacular ●

Fanfare FT-1 £1350
RT Services,
118 Mendip Heights,
Didcot,
Oxon. OX11 7TG
Tel: 01235-813058

MEASURED PERFORMANCE

In Dx (radio speak for long distance) mode the fanfare works much like a conventional domestic tuner; in normal mode (Dx off) it acts as a broadcast monitor, demanding a very good aerial. So normal is best considered abnormal, as it were.

With Dx off for best quality, measurement showed this tuner needed no less than three times as much signal (3mV) as usual from the aerial to give optimum performance. That puts it on par with a Leak Troughline. The difference is that selecting Dx restores 'normal' working by switching in extra IF gain, allowing the tuner to hit full quieting with just 0.8mV, a low value. Unfortunately, hiss sank to -70dB minimum, whereas good modern tuners can manage -72dB to -78dB. All the same, the Fanfare is quiet enough, just a very slight hiss being audible on long Radio 3 silences.

Because the stereo channels automatically blend together as signal level decreases, a technique favoured by Linn and Naim also, the Fanfare cannot provide a conventional stereo sensitivity figure, but since there was no useful stereo (i.e. less than 20dB separation) below 160µV from the aerial, this is effectively its stereo limit. The mono sensitivity was very high at around 0.8µV. Quite obviously, the Fanfare has been designed to give good long distance reception in mono, and best fidelity in stereo from a very strong aerial signal. This is a sensible and flexible arrangement, lessening the number of stages in 'monitor' mode. It's one reason why the Leak Troughline sounds so good - it is simple but measures well.

The Fanfare, like the Leak, also has a good measured audio performance, with

little distortion, a wide flat frequency response (see analysis) and wide channel separation. Good filtering suppressed unwanted pilot tone and sub-carrier outputs well.

The signal strength LED display hit maximum at 0.8mV (no Dx) and 80µV (Dx), neither level equating to best tuner performance. The first four LEDs lit with comparatively weak signals. Considering this tuner demands use of a good aerial in non-Dx mode, the display wasn't ideal; it should read to 3mV or even higher.

Much as the display was a little misleading, in best Japanese tradition, so was the fact that the Stereo legend stayed on even when auto channel blending had forced the tuner to deliver mono. Both facets of these niggles ideally need attention.

Selectivity (alternate channel) was very high at 80dB in Wide or normal IF mode, Dx in or out. Only with closer station spacing of 0.2-0.3MHz did Narrow offer any useful improvement, this performance being much like that of Japanese tuners.

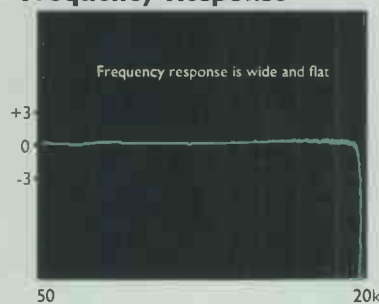
The Fanfare can be used as a high quality conventional tuner with Dx switched in, or it can act as a true broadcast monitor, where it must be used with an extremely good aerial or in an area of very high signal strength, close to a transmitter, for best results. In either mode, it measures very well all round. **NK**

TUNER TEST RESULTS

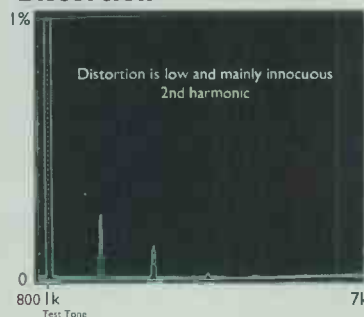
Frequency response	3Hz-16kHz
Stereo separation	43dB
Distortion (50% mod.)	0.2%
Hiss (CCIR)	-70dB

Signal for minimum hiss	0.8/3mV
Selectivity (at 0.4MHz)	80dB
Sensitivity	
mono	0.8µV
stereo	n/a
signal strength meter (µV)	
LED No.	1 2 3 4 5
Dx	0.2 0.8 6 20 80
Dx out	1 16 63 160 800

Frequency Response



Distortion





FOUR YEARS OF WORLD HISTORY

Hi-Fi World is in its fourth year. Noel Keywood, editor, talks about tobogganing, publishing and tarantulas.

It was a dark, bleak snow covered airfield near Dunstable, Bedfordshire, and Kelly was practising for the Lombard Rally in our hard pressed Range Rover. Well, that's how it seemed. I was wondering how well Range Rovers behave like toboggans when sliding along on their roofs. Luckily, we reached the row of Nissan huts first, for which I was thankful, being a nervous flyer. Inside, the first issue of Hi-Fi World, dated March 1991, was being readied for despatch around Britain. The fact that I thought I may never see another issue again - let alone a fourth anniversary - was down to Kelly's driving, not to what I thought about our first issue.

It's gratifying that after four years 'World continues to thrive, with steadily

increasing sales. Over this time others have fallen by the wayside, Audiophile being the latest to disappear. Haymarket Publishing, owners of Audiophile and What Hi-Fi? have reduced their commitment to a contracting hi-fi market, happy in the fact that What Hi-Fi? is a clear market leader with a circulation in Britain more than double that of Hi-Fi News, Hi-Fi Choice and ourselves, taken individually. To some extent, that reflects the nature of the British marketplace, which is a lot different from many others, as I'll explain later. It is likely that soon, with its rising circulation, 'World will move up to No.2 position behind What Hi-Fi? Magazine publishing isn't hi-fi, that's for sure. I'd be safer in a 6ft square cage with

half a dozen tarantulas, or even in the Range with Kelly driving, than sharing a room with a bunch of publishers. It's a fiercely competitive dog-eat-dog business



Hi-fi enthusiast Richard Kelly (right) helped out in the early days. Eric Braithwaite (left) joined later and still contributes.

that, these days, is largely the domain of the big boys, like Dennis Publishing who produce Hi-Fi Choice, Home Entertainment and many computer titles, Link House who publish Hi-Fi News, Haymarket Publishing who produce What Hi-Fi?, as well as Autocar, What Car? and other car titles. It's into this, er, indelicate area of commerce, that 'World was launched.

Hi-Fi World is an independent magazine happy to concern itself solely with hi-fi and music. Our expansion isn't, for example, into other areas of magazine publishing, such as Audio-Visual (AV), but into other areas of hi-fi, such as valve amplifier and speaker kits.

So much for where we found ourselves going, in publishing terms, in our fourth year. But where is hi-fi going, at least, in Britain? The brutal truth is that sales of 'separates' - hi-fi in other words - are in steady decline (-10% per annum). We seem to be moving into a midi-system world (+10% per annum). I find it difficult to see any good underlying reason for this. Separates have never been so inexpensive, nor so good, so why is their popularity waning? I suspect it is the sheer strength of advertising, marketing and exposure midi-systems receive in Britain that's responsible for increasing sales. These days you can buy "a hi-fi", since that's what they are called, for £600 on the High Street. It comes in one cardboard pack, all neatly matched and has "everything", making it seem a bargain.

By contrast, real hi-fi is not widely advertised, not visible in the High Street and seems, to the uninitiated, difficult or unapproachable technically. All the same, with music sales steadily rising in Britain, ultimately there must be a market for good hi-fi; there's no underlying reason why it should not sell. Hi-fi sales are much stronger in Germany, Japan and the East. Limited disposable income is a problem Britons have. Also, an unusually strong interest in home computers doubtless vies for the attentions of people's pockets.

Against this background, why is Hi-Fi World doing well after four years? Traditionally, hi-fi mags have been too impenetrable; World tries not to be. In fact, we plan to make World easier to read, except in the Supplement, where Andy, Dominic and myself - all engineers but also music lovers - will sometimes go for it! Just bear in mind though that we remain the only magazine with advanced in-house testing, an excellent in-house listening room and a multiplicity of experienced staff listeners available to assess a product, to ensure breadth of view and accuracy of assessment. We have unmatched expertise, helped by valuable experience gained designing our loudspeaker and amplifier kits

Another reason is that we like to cover affordable products, being prepared to stray into esoterica only if it can be justified by sound quality. Personally, I feel that a lot of really expensive hi-fi is idiosyncratic and poor value - or just poor. We look for simplicity and elegance of design, not for misguided complexity and gratuitous expense.

Covering the affordable means vintage, second-hand and anything else that can be cranked into action to produce a good sound. And that is the key to it - good sound. I've yet to hear a tuner that sounds better than a Leak Troughline, although the NAD402 gets very close. This demonstrates just how bizarre hi-fi can get; an old valve Fifties tuner (but which



Powerful marketing has seen midi-system sales increase by 10% this year.

measures very well) sets the standard and a new, well sorted budget design ranks second to it. That is why 'World listens to all hi-fi, even vintage (after fixing it!) and we keep an open mind. There are some real bargains out there and some great musical experiences to be had, and happily large amounts of wonga aren't necessarily involved, although experience with a soldering iron often helps.

That sentiment brings into the picture the last reason World is doing well - our DIY Supplements have become popular and recognised world-wide. DIY holds the promise of getting a great sound at a reasonable price, free from unwanted constraints. The Supplement is a lot of work for us, but in its fourth year Hi-Fi World produced more designs and kits than ever and regular readers will have noticed that the Supplement is becoming increasingly common. We're not short of kits to test, books to review, huge volumes of queries to answer and our own ideas and designs to develop and publish, even if we do have problems trying to keep our kit sub-contractors to magazine schedules!

Next year though, expect to see some super new designs coming through. Last March I wrote enthusiastically about our single-ended 300B amplifier, but we shelved it (temporarily) for reasons of expense. We've been listening to our readers and now realise that price is a serious restraint. Maplin's valve amp. gave me cause to think too; poorly presented with a crude alloy chassis, difficult to make as a result and with transformers smaller than we'd be prepared to use, it still sounded good - at a very low price. But this is the wonder of valves.

So we've had a rethink. The extensive experience we have all gained in designing and manufacturing over this last year is going to be channelled into a range of kits that offer great sound at less cost.

Whilst the fourth year of Hi-Fi World went well, the fifth year will see an easier to read magazine and some new, exciting and very affordable projects. I do hope you enjoy it all even more. Thanks for reading ●



Hi-Fi World exhibited at Live '94 last year, the UK's largest consumer electronics show.

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Arcam's new Alpha 5+ CD player now has a discrete clock for better timing.

Dominic Baker takes a listen.

It was gratifying to feel the heavy, chunky build of the Alpha 5+ as I slid it out of its box. The case is the same as that of the budget Alpha One: slim and elegant too. The front panel is a rigid plastic moulding, which I personally prefer to the brushed alloy Arcam commonly use. The matt plastic finish is less revealing of finger marks and scratches, retaining an attractive appearance even after heavy use.

A new discrete-clock oscillator in the Alpha 5+ reduces jitter to give higher performance than that of its predecessor. This is the main innovation behind the upgrade. Fortunately, Arcam have made this improvement an option available to owners of the preceding Alpha 5 model for £99.90, a policy that improves brand loyalty.

On the back panel the Alpha 5+ has just three standard nickel phono sockets, two for audio out and one for digital connection to an outboard convertor - there's no optical output.

In use I found the Alpha 5+ was fast and slick in action. The drawer slides rapidly and smoothly in and out, and track access speed is up with the best. The display is clear and simple, showing track number and elapsed time simultaneously and can be turned off: press DISPLAY and it gently fades out.

The remote control echoes the basic commands on the player's front panel, as well as providing extra features such as a numerical key pad for direct track access and scan which plays the first 10 seconds of each track.

Without further ado, let me walk you through the sound of the new Alpha 5+. Starting my listening with Soundgarden's 'Superunknown', the Alpha 5+ really got its teeth into Black Hole Sun. This player is blessed with surprisingly deep and powerful bass, adding real weight to bass drum and underpinning the whole track.

Synthesised piano notes on Bjork's 'Crying' had terrific force behind them, notes punching out from the loudspeakers into the room. Again, with the more upbeat tempo of 'Big Time Sensuality' the lower octaves were scaled competently, the impact captured well, thundering out to roll forwards across the stage. The bright, sharp bite of the cymbals was crystal clear, floating above the hectic structure of instruments and airy vocals below.



the sound stage wide and deep whilst holding image detail firmly in position. The Alpha 5+ did admirably well here. Whilst lacking the depth perspective that vinyl and the very best digital convertors are capable, the Alpha created a wide stage with a good acoustic around performers, holding a clear central image in between the 'speakers. Here the Alpha 5+ is certainly ahead of its class, giving a spacious sound with good body in the midband.

A good classical recording of Locatelli's 'Sei Introduttioni Teatrali, Opus 4' confirmed this; violins were pure in tone and full, with just the slightest rasp to high strings. They were well positioned and separated out clearly from surrounding instruments. Piano had real weight behind every note too, as well as a soft decay that gave it a strong sense of realism.

“ In sound quality it is firmly ahead of highly featured Japanese machines. ”

Arcam's original Alpha CD player was well liked for its sweet and gentle treble quality, something of a rarity in its day - and not so common even today. Much of this character has been preserved in the new Alpha 5+; the sweet treble is still there, although a little splashier and not quite as soft as the original. We used to recommend the old Alpha as a tonic for bright systems; the new Alpha 5+ wouldn't be quite so effective. On the other hand, it has a more neutral balance better suited to up-market and neutral systems.

Is the new Alpha 5+ convincing enough to stop you at the beginning of the path that leads toward two-box esoterica? Does it offer useful improvement over mass market Japanese players? In my opinion the answer is yes - and no. In sound quality it is firmly ahead of highly featured Japanese machines. And at around half the cost of a basic independent transport and convertor system, it's also great value and has to be worth an audition, even if it doesn't quite have the tidiness and polished civility of a good two-box player ●

Arcam Alpha 5+
A&R Cambridge Ltd,
Pembroke Avenue,
Denny Industrial Centre,
Waterbeach,
Cambridge
CB5 9PB
Tel: 0223 861550

£469.90

The lively acoustic of Counting Crows' 'Omaha' was successfully captured and allowed to flourish in the capable hands of the Alpha 5+. Its taut, muscular bass added substance to the otherwise light and open atmosphere of this recording, giving it greater body and a sense of solidity. A good, solid bass performance can make all the difference to CD, turning the barren and stark sound of this medium into a more enjoyable and richer presentation.

One area where all CD players score well with a good recording is their ability to clearly focus a piece of music. You rarely hear a player that could be described as muggy. But only the very best players manage to pull off the trick of combining this with the ability to spread

MEASURED PERFORMANCE

Measuring the Alpha 5+ reminded me of the original Alpha CD player. It had treble roll-off, which was partly responsible for the sweet sound that made it so popular.

The new player is very similar, but just before the treble roll-off, which starts gently from 7kHz upwards, there is a subtle lift around 3kHz. This helps project detail forwards and should give the 5+ an exciting balance. There's some bass lift too, which should give some little prominence to bass lines.

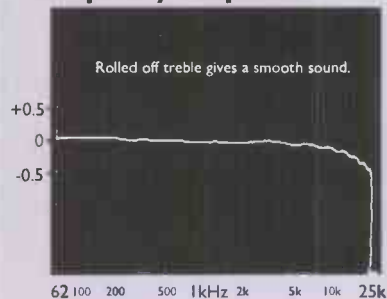
The Alpha 5+ exhibits strong distortion though. At -30dB, a level chosen to represent a typical music signal, distortion levels were fifteen times higher than the best; the wide spread of harmonics can clearly be seen in the distortion analysis below.

High distortion at -60dB corresponds to an unimpressive 101.5dB of dynamic range. Output was high at 2.36V, which gives a little extra headroom when using a passive preamp. Noise was curiously high at -92dB, but still low enough to be inaudible in practice. **DB**

TEST RESULTS

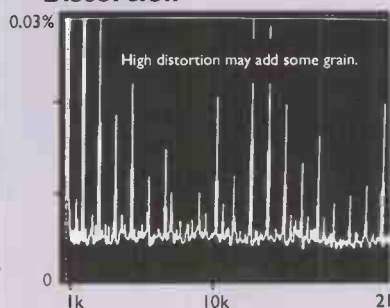
Frequency response	4Hz-20.75kHz	
Distortion (%)		
-6dB	0.009	0.009
-30dB	0.10	0.09
-60dB	1.01	0.90
-90dB	49.3	44.5
-90dB dithered	16.3	14.8
Separation (dB)	left	right
1kHz	93	96
20kHz	93	96
Noise	92dB	
with emphasis	92dB	
Dynamic range	101.5dB	
Output	2.36V	

Frequency Response



62 100 200 500 1kHz 2k 5k 10k 25k

Distortion





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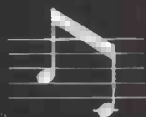
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CARY

Audio Design

Philips have slashed DCC prices to make their digital tape system more attractive. Decks were priced at around £500; the new DCC 951 tested here will sell at just £280. Tape prices, blank and prerecorded, have been reined back too, if not by so much, making Digital Compact Cassette altogether more affordable. So how good is Philips' new recorder? Have they compromised quality to lower price? We reviewed the first models; here's an in-depth review of the latest (and we're impressed!).

But it wasn't the styling that impressed us. Philips are running two style ranges, one being from the 'Japanese black box' school, the second using the Bauhausian grey finish seen here, complete with elephant feet. The bluff outline of this deck may look at little elephantine too, one on a weight watchers diet. But the transport was positively sprightly - an elephant in a four minute mile in fact.

Controls operated with precision and the fluorescent display is of good quality, if not an attractive colour.

This deck loads tapes on a tray, CD-style. As soon as you've placed a tape on the tray and closed it with the OPEN/CLOSE button, the deck reports

"READING" and then presents you with the title of the tape. If it's a digital tape you can simply search for the song you want by name. On Metallica's eponymously titled album, if you want to hear 'Enter Sandman', just press the forward or backward search keys until "SANDMAN" comes up on the display, and after ten seconds or so of whirring it will start playing.

Recording from the digital input is a piece of cake. After inserting a blank tape, pressing REC SELECT / PAUSE puts the machine into pause mode and sets the record beacon flashing, during which time you can press the button again to select between digital or analogue sources. If it's digital, all you have to do is press RECORD and you're off. Recording analogue sources required setting levels with a digital (as opposed to bargraph) display. It took a little while to think in this way, but as soon as I realised that "-3dB" is OK and "OVER" is not, progress was swift.

For the test, the Philips and a Nakamichi were both used to make a recording of 'Wait a Minute' by The James Taylor Quartet, which was then compared against the analogue original.

SOUND QUALITY

As the DCC951 found itself sitting atop our reference Nakamichi cassette deck it faced pretty strong competition, but this time allowances could be made for its lower (hardware if not software) cost. The tests were devised in the following way. First, we wanted to see how it would perform as a conventional cassette deck, recording an LP, perhaps with the intention of making a compilation tape. This was then compared with the Nakamichi doing the same job:

Second, the DCC951 made a direct digital copy of a CD (using an Audiolab 8000CDM transport), which was compared to the Nakamichi recording an analogue signal from the Audiolab transport and PT Da Capo converter.

Initial impressions of the DCC951 were good. I've used a good quality DAT machine for years and am no stranger to the way digital tape can render analogue sound dry and antiseptic. But the Philips simply wouldn't entertain the possibility, giving a surprisingly warm and fulsome rendition. The bass was particularly well rounded and lacked the sense of sterility so common with digital. There was no trace of hardness higher up the frequency



Tomorrow's Tape?

Is Digital Compact Cassette good enough to be the tape of the future?

David Price thinks Philips' new 18 bit DCC951 recorder could be .

range - the drum kit was crisply captured and ride cymbals showed neither imprecision nor hardness.

Switching over to the Nakamichi proved interesting. The first thing that struck me was the hiss. Admittedly, I don't use Dolby in any of its incarnations, so I shouldn't be surprised by tape hiss however modest, but with DCC the problem didn't even arise.

“The DCC's overall performance was very close to the Nakamichi. A fine result.”

The second thing to surface was a sense of space and air in the recorded acoustic that the DCC had missed. It was not profound, but it was still noticeable. Further listening showed that the DCC was losing the very last ounce of fine detailing and atmospherics in the recording - a common problem with DAT. Indeed, at the very back of the mix, as DCC lost some of the recorded acoustic, it brought some instruments artificially forward. On the Nakamichi, leading edges of instruments came across better, conveying the full attack of bass guitar and drums, which in turn caught the song's groove better than the Philips, which tended to soften and flatten the accents on the beat.

Going back to DCC, the sound seemed a touch muddy, with a slightly more pedestrian approach to rhythms. Nevertheless, the DCC's overall performance was very close to the Nakamichi. A fine result.

As Ivan Jones' 'Hootchie Coo Chickie' CD was loaded into the Audiolab transport and digitally copied by the DCC951, I also made a recording on the Nakamichi from the Da Capo. Comparing the two recordings proved very interesting. The Philips was a tad warmer than the Da Capo, which came through as leaner, faster, tighter and more rhythmically articulate. Nevertheless, the Philips impressed with a fuller bass and a touch of lower midband bloom.

The recording made from the Nakamichi gave little away, faithfully conveying the Pink's sonic footprint with the tiniest of added warmth, which was not enough to bring the sound of the Philips and Pink DACs together. Again bass notes seemed to stop and start faster on the Nakamichi, and the Philips seemed to lose the minutiae of atmospheric detail in the recording. It became clear that what really mattered here wasn't actually the tape drives of either machine - they were both so good that the biggest difference lay in the respective DACs in the two signal paths.

With 16bit DCC prerecorded cassettes, the sound proved as good as anything I've heard from CD. On Jimi Hendrix's definitive rendition of 'All Along

the Watchtower', a tricky recording for CD which tends to shut in the soundstage, the DCC951 delivered an expansive acoustic. It conveyed the looseness of the playing, the rich timbre of bass guitar and grain of Jimi's voice in a compelling way, challenging my suspicions about the sonic damage I'd thought DCC's data compression would inflict.

Moving on to 18bit prerecorded tapes and the sound was even more impressive. With Decca's recording of Cecilia Bartoli and Andras Schiff playing Beethoven's 'Italian Songs', the Philips exhibited excellent dynamics and a beautifully seamless sound that caught the air and space of the hall, subjectively far superior to when it was recorded from either analogue or 16bit

CD. The fact that the Philips turned in a respectable performance playing back prerecorded analogue cassettes was further icing on the cake. Indeed, it wasn't too far behind the Nakamichi in this difficult area.

All in all, I was seriously impressed with the DCC951. It may lack the ultimate low level resolution of analogue, but it has a very sophisticated sound, an excellent onboard DAC and the usual gamut of facilities. With the designed-in versatility of the DCC medium, if Philips can get a wide range of 18bit prerecorded software on the shelves - and it's a big 'if' - the DCC951 will win many friends. At under £300 it is very hard to criticise. Analogue recorders at this price barely compete.

Philips DCC951 £280
Philips Consumer Electronics
City House, 420-430 London Road,
Croydon.
Surrey CR9 3QR.
081-689 2166

MEASURED PERFORMANCE

Digital tape systems generally measure well and the DCC951 was no exception. The limitations of the low internal data rate of the system are only revealed by a full level, full bandwidth music-like signal such as pink noise, as Philips acknowledge. Then, PASC fails to describe high frequencies fully, meaning there's some loss of high treble (above 10kHz). This is equivalent to saying that on something like an orchestral climax, the very highest frequencies only are suppressed, masking making this difficult or impossible to detect.

Frequency response has been engineered to have a slight treble roll off, probably attributable to the analogue output filtering of the system. This can help reduce digital 'glare' and hardness. Distortion measured a low 0.05% at -30dB signal level, comprising low order 'analogue like' harmonics, and there was little worsening of this figure at lower levels. Hiss measured a steady -90dB, coming not from the tape, but from the electronic circuits. Like earlier DCC recorders, the new DCC951 measures just like a good digital system, but it's interesting that normal measurements barely hint at the presence of the PASC data 'compression' (removal) system.

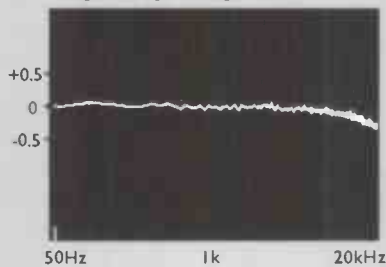
Analogue playback performance was very good, as it is meant to be with DCC. The DCC951 maintained this approach by possessing a flat analogue replay frequency response to 18kHz (-1dB) - a very high figure. Hiss in the replay amps was very low at -64dB and speed accuracy good at +0.4% fast, variations amounting to a respectable 0.1% total wow and flutter. So this deck will likely sound better than most others, except a Nakamichi, when playing ordinary musicassettes, thereby proving, in the common perception, that digital sound is best! **NK**

TEST RESULTS

REPLAY (prerecorded tapes)
 Frequency response (-2dB) 30Hz-18kHz
 Speed accuracy +0.4%
 Hiss (70uS, Dolby out) 64dB

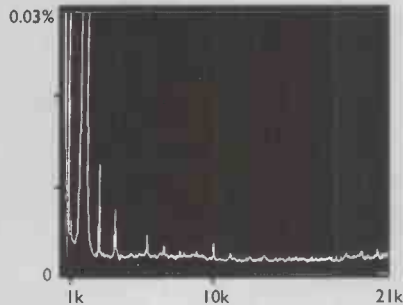
RECORDING (blank tapes)
 Frequency response 20Hz-20kHz
 Separation(1kHz) -90dB
 Distortion (315Hz) 0.05%
 Hiss (70uS, Dolby out) -90dB

Frequency Response



Slow treble roll-off.

Distortion



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Close your eyes and see how a 75 watts per channel amplifier with "real clout" can, at the same time, be "subtle and intriguing." For this is how Audiophile magazine regards Arcam's Delta 290 amplifier. Discover why the 290 is one of "Britain's Top Ten Best selling amplifiers" with a "weighty, well-judged, detailed sound," (in What Hi-Fi's view). Prove to yourself that "amplifiers of this calibre are certainly uncommon," as Hi-Fi Choice sees it. Finally, realise why Corey Greenberg of Stereophile magazine gushes "In the truest testimony to its easy superiority, the Arcam was the one I chose to listen to when I just wanted to listen to my fave recordings at night before I laid me down to sleep. To me, that sez it all." (Now that's *really* closing your eyes and seeing...)-Stereophile, July, 1994, Vol.17, No.7.

Next, witness the latest addition to the Arcam family, the Delta 290 power amplifier. Capable of operating in both stereo and dual-mono

modes (for bi-amping), the 290P gives any hi-fi or audio video system a whole new outlook, outperforming other power amplifiers costing twice as much.

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Just listen. Simply sample the experience that is the Delta 290 and 290P amplifiers.

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ARCAM

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DIGITAL DCC

WILL DCC MAKE IT?

**It's a difficult time for Philips' Digital Compact Cassette.
Will the system succeed?**

Technically, Digital Compact Cassette is impressive enough. Although it offers fine sound quality and ease of use, unfortunately for Philips this message doesn't seem to have reached consumers. We've found that more than a year after its launch, sales aren't exactly running away.

As a digital playback medium, buyers expect a lot from DCC, but aren't prepared to pay a price premium for it. And fierce competition by Sony has made sure Philips can't charge one without suffering the consequences. The Dolby S equipped Sony TC-K611S was launched as a clever £330 spoiler against the £500 DCC600 and, to some extent, it worked, Philips told us.

Indeed, a quick look through the hi-fi magazines shows that Philips' last range of DCC machines ended up in the discount shops at under £150. As this represented a great saving on the recommended retail price, they were snapped up very quickly. A spokesman for Richer Sounds intimated that whilst "not a whirlwind product", there's still a very strong market for DCC hardware "at the right price".

Therein lies the problem for the format. Whilst there's no particular consumer resistance to DCC per se, it has been pitched at the wrong price point up to now. Philips must have high hopes for their new range of keenly priced machines, aiming straight for the jugular vein of the cassette market, the big selling but sonically overrated Dolby S cassette decks.

How much luck they have may well depend upon other significant factors, however, especially interchangeability with car players and personals. DCC has a problem here: it can't record onto standard tapes. To skirt this hurdle Philips have been forced to make a combo-recorder able to record and play normal tapes as well as digital tapes!

If one of DCC's key features is its ability to play prerecorded software - and in the long term this may be very important in light of the popularity of prerecorded tapes in the past - Philips have to be more diligent

about supporting it. The big retailers in London aren't exactly overawed by prerecorded software sales. At Tower in Piccadilly, the manager confessed that they discontinued DCC last spring when it was selling less than one tape a month!

To further depress DCC fans (and Philips), Sony's Minidisc (MD) format seems to be taking off, with a current market share of 0.8% doubling every month. Interestingly, the Tower manager characterised MD buyers as being in their late twenties and early thirties with plenty of money to spend on 'the latest thing'.

HMV Oxford Street continue to support Philips' new format, where DCC sales were better than MiniDisc at launch, but are now being outsold by MD at a ratio of two to one.

Since the combined sales of both media amount to a paltry 0.1%, these new audio recording media are hardly setting the market alight. Sony are grabbing market simply through sheer weight of advertising, plus consistency of marketing. Perhaps because CD-I (CD Interactive, for computers) looks to be more lucrative for them, Philips took their eye off the ball with DCC and, perhaps shaken by its slide from view, have suddenly raced back to defend and promote it anew.

Abroad, the future is even less promising for DCC, MD having made

substantial inroads into the Japanese domestic market where, at launch, most hardware was of the portable variety, initially priced around 50,000 Yen (£200 at the time). Prerecorded MD software is now being sold in Odakyu OX stores (a kind of

Japanese 7-Eleven) and seems to be attracting Japan's key 'affluent teenager' market, with DAT doing very well in the audiophile and 'semi-professional' spheres. But even in this market, one that happily supports a multiplicity of formats, DCC isn't making much of an inroad. Much the same



An 18 bit mastering and duplication machine at Decca Studios in Kilburn.

situation exists in the USA, where DCC is hardly known and MD is doing as well as might be expected, which isn't that well, but it's early days.

The sad irony is that commercial success and sonic ability are two completely different things. DCC plays prerecorded software very well indeed, giving most CD players a run for their money with standard 16bit tapes, and 18bit software sounds even better. It's so good in fact that the poor DCC951 reviewed here found itself up against a £2500 Pink Triangle Cardinal / Da Capo, and as a recorder it faced the formidable £1500 Nakamichi ZX9!

The good news is that Philips have now sharpened up their software pricing. Prerecorded DCCs have price parity with CDs, and that includes chart CDs which go down to £10.99; even some mid-price titles are available. Blank tapes are also getting cheaper, almost on a par with costlier metal tapes at about £5 for a C90.

If Philips actively go out into the marketplace and persuade people that a Digital Compact Cassette machine suits their needs, instead of relying on the novelty appeal that got CD going a decade previously, they might just pull it off. Now, so late in the day, the only way they're going to do that is by making the software plentiful and affordable. Compared to engineering the decks in the first place, getting the software side right looks like a real challenge. Whether America and Japan ever become convinced about the medium remains open to question though. This looks like a real wild card in DCC's future ●

“ Whilst there's no particular consumer resistance to DCC per se, it has been pitched at the wrong price point up to now. ”



WOT NO TURNTABLES?

I recently read that one of your rivals (namely What Hi-Fi? magazine) is phasing-out turntable articles, with 1994 being the last year for an annual Turntable Award - oops, there goes another previous reader....

Attitudes such as What Hi-Fi?'s editorial staff really get on my nerves. The consideration behind such a decision is awesome - vinyl sales are low, Joe (mostly midi-system owning) Public is buying lots more CDs and tapes, therefore people don't want to listen to LPs - and it's flawed.

Personally speaking, my loyalty to vinyl is increasing with the reduction in High Street availability (only Virgin Megastore in Sheffield stocks vinyl - three shelves worth!). When you put a bit more effort into hunting something down, it is more satisfying to



Hi-Fi World will continue to feature vinyl in every issue - this is the Pro-Ject 6.1 SA which was one of our favourite turntables in '94.

World



own it in the end: something that I'm well aware of, being the proud owner of a Reservoir Dogs video. Speaking of which, does anybody know of a soundtrack to this film on vinyl? Just for the artwork on a gatefold sleeve, I'd go over 10% for that.

Needless to say, I am quite impressed with your run of turntable-based articles over the past few months. Keeping up such good form might

herald the unthinkable - taking out a subscription. In any case, thank you for lifting the gloom of a darkening future.

Of course, I'd be dead chuffed if you could publish a test of various high-end turntables at around the £1,000 price-tag e.g. Gyrodec vs. LP12 vs. PT Export vs. Townsend Rock III vs. Slate Audio Garrard 401, etc.

Lastly, before being a branded a vinyl nutter, I do own a CD player and find the

sound perfectly bearable, but not as good as my turntable (Arcam Alpha 5 vs. Systemdek 11XE AP).

Hope my thinly-veiled carrot-and donkey blackmail about the supertest works.

**Ian Johnson
Sheffield.**

It may well. We hope to maintain or even expand our vinyl coverage, encouraged

Letter of

HDCCD, HDCCD, SBM OR ANS?

After waiting 10 years for Compact Disc to bring its quality on a par with LP, I thought it was time to purchase a CD player.

Just as I was about to invest in the digital domain, I read in your September issue Noel suggesting CD quality could be upgraded by a move to HDCCD.

In October Dominic Baker commented on two improved CD systems - Sony's Super Bit Mapping and Philips' Adaptive Noise Shaping, as well as mentioning the new HDCCD re-coding system.

In November, your 'scoop' announcement suggested an agreement would be forthcoming between Sony and Philips with a standard upgraded CD format called HDCCD (High Density Compact Disc) - not to be confused

with HDCCD (High Definition Compatible Digital) from Pacific Microsonics.

The good news was that Pink Triangle would soon be bringing out an HDCCD compatible player - but which HDCCD? A couple of dealers I spoke to didn't know. They talked about High Definition CDs and High Density CDs.

Indeed in your January '95 issue Dominic discusses HDCCD (High Density Compatible Digital), HDCCD (High Definition Compatible Digital) and even HDCCD (High Definition Compact Disc).

Perhaps, therefore, you could HDCCD (Help Dispel Confusion Dominic) by informing us of HDCCD (How to Define Compatible Digital). Me - I think I'll STBV (Stick To Black Vinyl!) Is it April 1st yet?

**Brian Horswill
Pembrokeshire.**

I think the easiest place to start with all this is at the top. High Density CD, or HDCCD, is Philips and Sony's name for an uprated system that will use a different laser and smaller, more tightly packed 'grooves' to get around four times as much information onto a disc. It is unknown at present whether this extra storage space will be used to improve the audio quality of CDs though.

This system is intended for movies (a whole film could be stored on a single 5" disc, we are told), CDi discs and computer CD ROM discs. The new players required will be able to play the CDs we have now, but current CD players won't be able to read the new HDCCDs. The first players are expected to be available within the next two years at a price of around £800 an inside source revealed, with

Send your letters to Hi-Fi World Letter Page,

writes

from letters around the world on this subject (as always! - thanks).

The world owns billions of LPs in prized music collections - we're astonished that the hi-fi business (generally) should ignore this fact. Our surveys show that the average collection of Hi-Fi World readers totals no fewer than 400 LPs. These days, people want not just to

play them, but to preserve them too, so there's plenty of demand for good hardware. Ortofon of Denmark tell me that Britain is second only to Japan as a market for their cartridges, for example.

We are luxuriating in the sound of our latest all-valve MC/MM phono stage, which will appear in a DIY Supplement soon. In response to your letter What's editor, Rahiel Nasir, told us that only the

Turntable Award was going, not coverage in the magazine. **NK**

VALVE KNOWLEDGE

I for one, welcome the revival of valves. Maybe their inherent simplicity and the type of sound produced is just what many people are looking for. What concerns me is that much of the experience required to implement this technology has literally passed away. Luckily, the likes of Tim de Paravicini are there to add some stability to a 'relatively' inexperienced industry.

I am not for one minute suggesting that you need to be a veteran of two world wars before being capable of designing a valve amp. However, as a potential customer, I know how easy it can be to suffer at the hands of the sales and marketing men and women selling this week's "best thing since sliced bread".

The purpose of this letter is to request clarification of the

triode debate (assuming you agree there is one). I have read and heard many comments about reliability problems. The most recent being those of Mr Paravicini himself, in the HFN/RR review of the EAR 859.

This will be of particular interest to yourselves as users of relatively expensive triodes in the 300B design. I had recently considered purchasing your kit, but was concerned that the valves are not included within the package. I accept your reasoning that the wide range available allows customer choice, however most, if not all built up valve amps come with valves.

A set of four 300Bs can cost anything from £240 to £500 or more. That's a significant amount of money if valve life is to be measured in hundreds, rather than thousands of hours as suggested in the above review.

I note from previous

continued on page 47...

the Month

player prices falling to around £300-400 after seven years.

At the moment however, there are several systems that claim to improve the sound of standard 16-bit CDs without the need for any new hardware. Two of them are Sony's Super Bit Mapping (SBM) and Philips' Adaptive Noise Shaping (ANS). They are similar and, in effect, uprate the quality of music on disc by lessening noise and distortion. A disc recorded using SBM or ANS, which are part of the digital encoding scheme, can be played back on a conventional CD player. In our experience (of SBM) you do get a timbrally richer sound with smoother treble. The sound becomes less thin and sterile, less sharp end edgey too.

High Definition Compatible Digital (I'll call it HDCD™ as it's Pacific

Microsonics' trade mark) is more comprehensive in its action, demanding high quality analogue recording equipment and a special HDCD™ encoder. The disc carries buried information which can only be extracted by an HDCD™ equipped CD player. An HDCD™ disc can be played on a standard player but the improvement made by HDCD™ will then not be fully recreated. This is the system supported by Pink Triangle, with their HDCD™ equipped Da Capo convertor.

I hope this explains enough about the various systems to clarify the situation. Anyway, as you've won our LOTM (Letter Of The Month), and are STBV, (Sticking To Black Vinyl) I'll send you our SPCI (Silver Plated Copper Interconnects) as a prize.

DB

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

WIN HI-FI WORLD INTERCONNECT CABLES

OR PERFECT PITCH'S FRANCINSTIEN CD

ENHANCER

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



PLANE SPEAKING

Eric Braithwaite is thoroughly enamoured by the open sound of Magneplanar's MG 0.6 SE loudspeakers.

Wonderful sounding places, some hi-fi emanates from. All the way, as they say, folks, from White Bear Lake, Minnesota, we bring you the Magneplanar 0.6 planar/ribbon loudspeakers. If, as is all too likely, this lake is the habitat of seal fishing Eskimos, Indians and bears white, black or any other colour only in my imagination, Minnesotan readers are asked not to spoil the dream with anything as trivial as the truth. In honest-to-God truth, however, these Magneplanars really are chipper, delivering a very pleasant and endearingly chirpy sound right from the beginning.

The Magneplanar 0.6 is a combination of a planar diaphragm with a ribbon tweeter. The principles are not entirely dissimilar, with, in theory, concomitant benefits and a familial sound. At their best, citing here the Mag Audio full-range ribbon speakers, this kind of design can be very nearly as seamless as a full-range electrostatic. These 'Maggies' are, like Quad's ESL-63s, a dipole, radiating sound both to back and front. Like ESL-63s, they need a certain amount of care with positioning so that rear radiation is neither reflected nor absorbed too much.

The 0.6 model was described as 'elegant' by a discerning visitor, a painter, so my own similar view was borne out by someone more au fait with the plastic arts. Not that, apart from the diaphragm, there's much plastic. The smooth and shapely side-cheeks are made of real wood, oak in the case of the review pair. The least elegant part of the whole, it must be said, are the angle brackets which screw onto the rear of the speaker to allow a

backward tilt. Why, after spikes have been de rigueur for any self-respecting speaker in this country for a decade, American designs by and large ignore them, is a mystery. Perhaps their floors are more substantial and much flatter than my Victorian floorboards.

Tunefulness is the key word with panel speakers. These Maggies are no exception: whether it was a flute solo in Bach's B Minor Mass, courtesy of The Sixteen, on Art Blakey and the African Drum Ensemble's album or The Proclaimers' vocals, they had that 'sing along' quality. A tight, clean rhythm and lucid melodic lines marked out rock and jazz music and put the 0.6s up with the best cabinet designs and very nearly on a par with ESL-63s.

As the literature promised, when it came to The Waterboys' 'The Big Music', they sounded big. Pushed by 100 watts of power amplification, there should be no problem punching out enough volume of

sound - and sound stage - to suit most people. A strange instrument on the Blakey CD - a cross between comb and paper, a didgeridoo and a hippo sneezing - was more realistic (if that's the word) than I had ever heard before. More entertaining and striking, certainly.

Inevitably, not all is absolute perfection. When it comes down to classical music, a mild papery quality to upper-mid strings becomes evident if not intrusive. Without the clever annular ring structure of the Quads, the planar diaphragm is occasionally caught out. A horn solo in Harry Christopher's Bach wobbled disconcertingly, as though the diaphragm was having a little difficulty keeping up.

There was also a tendency for brass sections to be mildly compressed compared to ESLs or the BBC LS 5/12as, resulting in what a colleague graphically christened 'time-smear'. It took a little of the glitz and danceability off the Pesante in Bartok's Concerto for Orchestra on the RCA/Classic Recordings vinyl reissue. This reissue has a degree of 'metallic' sound to upper strings too, which the ribbon tweeter gave a sharper, almost unwelcome, cutting edge to.

Just that bit less pin-point in stereo imaging than either the Quads or 5/12as, the Magneplanars produced a very clear location of vocals, solo instruments and the components of multi-tracked rock, although orchestral tuttis were more diffuse. Though mid-range vocals had it, they failed to produce that ultimate 3-D holographic effect throughout the frequency range. But in the States, this speaker after all

costs a third of the price of a pair of ESLs and not much more than one of a pair of 5/12as, so that's not too much of a criticism.

Despite the dollar/pound translation, that the Magneplanar 0.6s remain highly competitive this side of the Atlantic speaks volumes. Could it be that those Euro-sceptics who want us out of the EU and more allied with the US are secretly hankering after cheaper Magneplanars? This is the second US product through my listening room in as many weeks that has made me wonder if joining the North American Free Trade Area might not be such a bad idea. Have a nice day!

“ Pushed by 100 watts of power amplification, there should be no problem punching out enough volume of sound - and sound stage - to suit most people. ”

Magneplanar MG 0.6 SE £1370
Audionord UK.,
118 Mendip Heights, Didcot,
Oxon. OX11 7TG
Tel: 01235 813058

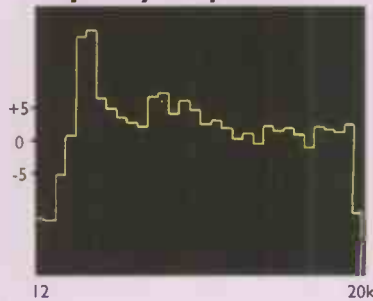
MEASURED PERFORMANCE

Before you jump to conclusions the frequency response below needs a little explaining. The MG 0.6 SEs are a dipole loudspeaker, so there's as much sound coming from behind them as in front - only it's out of phase. This means that the rear will cancel the front radiation, resulting in a falling bass response. The plot you see below was taken with the microphone right up against the loudspeaker, to show how smooth the midrange and treble are without suffering the reflections that come further back.

As you can see though, this has revealed a strong peak in the bass. In practice, much of this peak will have cancelled out at the listening position, giving a smooth bass. If this peak had not been engineered in, the MG 0.6 SEs would have probably suffered weak bass. So the peak is there to counteract the cancellation that occurs with a dipole loudspeaker.

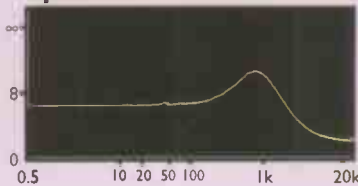
As far as driving the MG 0.6 SEs goes, you're going to need a powerful amplifier. With a sensitivity of just 82dB, measured at 1m with a nominal watt (2.83V) pink noise signal, they're going to need plenty of watts to go loud in any reasonable size room. Coupled to this, impedance is low at 5.2Ω overall and in the treble impedance falls to hit 2.5Ω at 20kHz. This makes a powerful solid state design a necessity. I'd recommend something with at least 100watts to ensure good results. **DB**

Frequency Response



Smooth mid-range and treble; peak in bass will cancel out in the far field.

Impedance



Impedance drops to 2.5 Ω at 20kHz.



ZERO-LOSS LEADER?

Are Pioneer top of the class again with their new budget A103 integrated amplifier?

David Price finds out.

Decent budget amplifiers aren't easy to get right. They have to work in all manner of systems, flattering the bad and showing off the good. They have to be reliable, easy to use and have showroom appeal to pull in would-be midi system buyers.

In 1979 NAD hit the jackpot with their classic 3020 integrated amp, which became the choice for anyone wanting real performance on a budget. Nowadays, the 310 continues their formula, but now Pioneer are pitching in with their new £130 A103.

The Pioneer certainly looks an attractive proposition. Tidily turned out in obligatory black, the neat front panel creates an impression of quality which unfortunately (and inevitably at this price) does not extend elsewhere, the rear panel showing worrying signs of

flex as interconnects were plugged in. Neither did the conspicuous absence of 4mm sockets augur well for the Pioneer's sonic abilities.

Nevertheless, hi-fi components live or die by what they do to the music they play, and so after a thorough warming up, the A103 took its place on the end of a Teac transport/Sonic Frontiers DAC, driving KEF Reference Series Two loudspeakers. A Denon PMA-450SE, almost twice the price of the Pioneer, served as a benchmark reference.

First impressions were distinctly favourable, the A-103 having a pleasant, warm tonal balance seemingly incapable of offending - an absolute prerequisite for a budget unit. Treble seemed free of grain and bass was warm but well extended and tuneful. On well-

recorded, sparsely arranged music such as Heidi Berry's 'Washington Square', the Pioneer proved to be quite seductive, giving an inviting sound with reasonable low level detail and a believable portrayal of the gentle percussive instruments.

The Pioneer handled Love's 'Maybe the People' with equal aplomb. Whilst showing signs of imprecision, the soft bass was nevertheless pleasantly rhythmic and the Pioneer didn't seem too shaken by the album's loosely played flamenco guitar arrangements. All-in-all, a good start for the A-103 which never gave away its humble budget origins.

However, on closer inspection a number of problems became apparent which came to mar the enjoyment of more demanding music. Whilst the

Pioneer displayed a degree of grace under pressure, switching to the Denon shed some light on just what was amiss. Back onto 'Washington Square', and the Denon instantly impressed, exhibiting a much faster sound with greater dynamic shading. Whilst it lost a degree of tonal richness that characterised the A-103, the Denon was able to communicate the stop-start of percussion and bass guitar far better, lending a greater pace to a song previously sounding lazy. 'Maybe the People' saw the Denon pushing far ahead. Suddenly Arthur Lea's voice was tightly positioned, placed between and slightly to the rear of the guitars and drum kit, sounding far more like a rhythmic instrument in its own right, as well as imparting far more of Lea's obvious emotion. Whilst it was clear that the Denon was streets ahead on 'hi-fi' aspects like control, detail and poise, it also managed to communicate on an emotional level in a far more convincing way.

Moving on to dance music, and as The Beloved's anthemic 'The Sun Rising' found itself in the CD player, the A-103 acquitted itself well. A nice sense of space around the hi-hats gave a satisfyingly airy feel to proceedings and the bass was well extended and surprisingly tuneful. Lead vocals were both smooth and silken; particularly appropriate for the feeling of calm evoked by the song. However, the Denon again gave a dramatically different rendition, cutting a swathe through what had seemed to be low

level 'mush' on the A-103, instantly revealing a host of atmospheric detail, seemingly more than just a function of the Denon's forward, bright sonic footprint. The Denon's portrayal of subtle timing information was far

“The Pioneer’s luxuriant presentation isn’t really sufficient compensation for its tendency to drag its feet in the rhythm department.”

superior, capturing the tendency of the Roland drum machine to wander slightly in and out of time, a characteristic for which it is famous. On the Pioneer, the hi-hats were less convincingly conveyed, tending to blur into one another, lending a pleasant but inaccurate sense of euphony to the proceedings.

The A103's sound was crystallised by 808 State's 'Ancodia'. On weaker

systems it gives the impression of being supremely badly recorded, populated with a lot of noise, probably a result of sloppy editing and re-mixing. However, the more control a system has, the better able it is to recover from these digital nasties. The A-103 struggled valiantly but ultimately failed, the warm gloss it lent to the track failing to conceal its rhythmic and dynamic shortcomings.

The sound was rendered sterile, its complex counterpoint of different drum patterns failing to get the foot tapping.

Considering its price, the A-103 performed respectably. However, at this level you have to ask yourself just what it is you can live without. The Pioneer's luxuriant presentation isn't really sufficient compensation for its tendency to drag its feet in the rhythm department, soften leading edges and blur intricate, but all-important timing information which more expensive budget amps capture. At its bargain basement £130 price-point, the Pioneer is thoroughly competent. But if you can't stretch to more expensive designs and want more music for your money there's always the NAD 310. Funny how some things never change ●

Pioneer A-103 £129.95

**Product Supplied by:
Hi-Way Hi-Fi Ltd.,
318 - 324 Edgware Road,
London W2 1DY
Tel: 071-723 5251**

MEASURED PERFORMANCE

Low powered perhaps, but at 36watts the A-103 actually has as much or more than today's low power/high quality designs and can benefit from the sensitive loudspeakers becoming available for them - price differences excepted. It even handles low loads quite well, delivering 50watts into 4Ω.

Frequency response stretched from 8Hz to 60kHz through the CD input and was similar through the RIAA equalised disc stage (MM only), running from 14Hz to 63kHz. Separation was wide through both inputs, but sensitivity on the low side, especially in the disc stage. Here, at 4.3mV for full output, a high-ish output MM cartridge is needed; a 'high output' moving coil wouldn't match, for example. In all other areas, however, the amplifier measured well, especially in the low levels of high frequency distortion it produced. Once upon a time, budget amps commonly sounded rough or gritty as a result of this, but these days they're rarely so wayward.

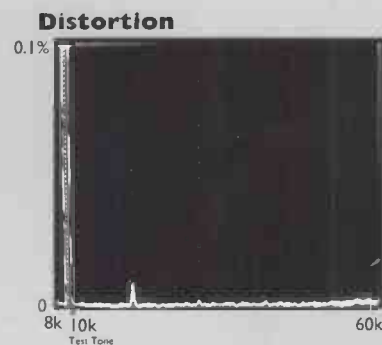
The tone controls were surprisingly well engineered, offering a useful fine adjustment characteristic, an absence of in-band peaking and operation usefully confined to frequencies of interest; there

was little out-of-band effect. Curiously, there was absolutely no d.c. offset at either speaker terminal, suggesting capacitor coupling. Looking inside, however, it wasn't possible to check this, most components being hidden. Pioneer also seem to now be building for internal inspection, since there were plenty of specious legends on the circuit boards, such as 'Wide Range Linear Circuit' and 'High Performance Preamp Amplifier'. **NK**

TEST RESULTS

Power	36watts
CD/tuner/aux.	
Frequency response	8Hz-60kHz
Separation	70dB
Noise	97dB
Distortion	0.01%
Sensitivity	270mV
dc offset	0/0mV
Disc (MM)	
Frequency response	14Hz-63kHz
Separation	65dB

Noise	-80dB
Distortion	0.015%
Sensitivity	4.3mV
Overload	150mV

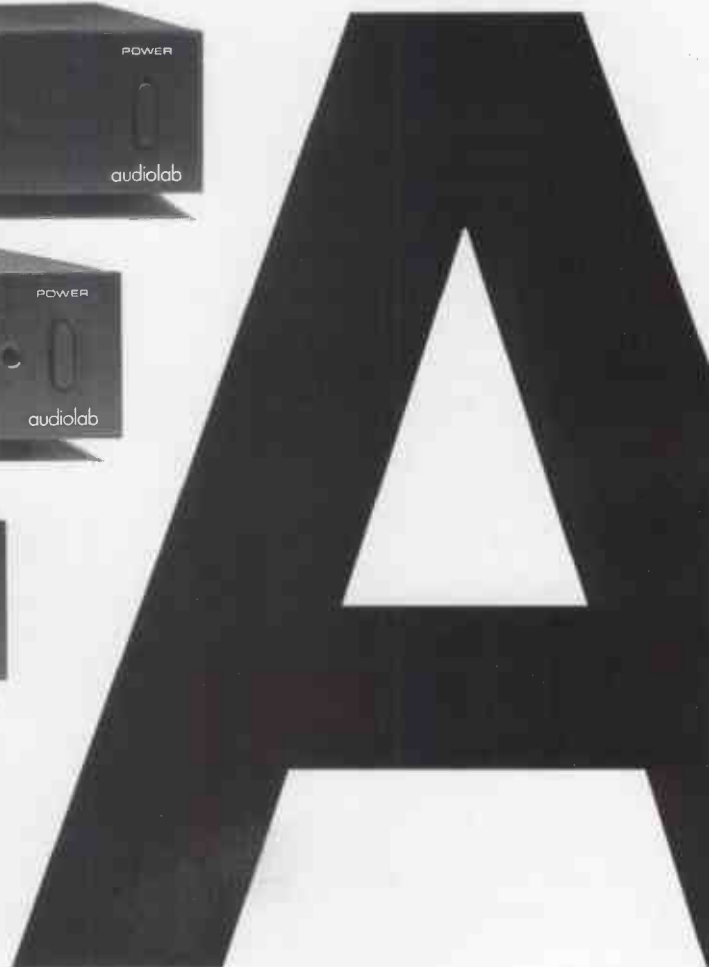


Low distortion, comprising innocuous 2nd harmonic

The new Audiolab 8000CDM Compact Disc Transport



The Audiolab product range:
8000A Integrated Amplifier
8000C Pre-amplifier
8000PPA Phono Pre-amplifier
8000P Stereo Power Amplifier
8000T FM/AM Tuner
8000M Monobloc Power Amplifier
8000DAC Digital-Analogue Convertor
8000CDM Compact Disc Transport



**THE BRITISH
HI-FI AWARDS 1994**
Audiolab 8000A
Best Integrated Amplifier
over £300
Audiolab 8000T
Best Tuner
Audiolab 8000DAC
Best Digital product

AUDIOLAB

.... continued from page 41

comments in your magazine, that you are one of Mr. Paravicini's many admirers. This furthers my confusion and makes me nervous about investing in this technology. It wouldn't surprise me if there were many others who like the musical capabilities, but are concerned about the lack of continuity in information. Could you help me further my understanding on this subject and remove the concerns which up to now restricted my listening to solid-state only. P.S. Would you consider your KLS1 design to be a reasonable match for a valve amp?

Russell Cockman
Bury St. Edmunds.

We have plenty of experience with the 300B valve and can

Watson of P.M. Components told me that they ship more than 1000 per month and have no problems with them.

Modern 300Bs are designed to take up to 600volts across the valve P.M. Components tell us, and whilst officially specified to dissipate 40watts on the anode, can in practice sink 55watts or so. Out of interest, we run our valves with 450volts across them and around 37watts anode dissipation.

Generally, the large, old valves, like 211 and 300B, specifically have reliability in their favour, due mainly to their large volume, electrode size and wide electrode spacings. It's fascinating to realise that pre-war, when such valves were the world's only amplifying devices, these

Audion 300B amplifiers and are perfectly happy with the reliability of 300Bs. They expect 5000 hours absolute minimum, they told us, pointing out that if anything does go wrong, it's nearly always within the first few hours, whilst the valve is under warranty. Thereafter, there's never a problem.

To be candid, whilst Tim is basically a good designer, he is also prone to behaving wildly. In the piece you read he sought to justify his use of a television regulator valve (PL509) that, worldwide, no one else chooses to use, by denigrating everyone else. The 300B was recognised and acknowledged sonically by the ever diligent Japanese, who've been building amps around it for years. Its use has since spread worldwide. If Tim is right, then the rest of the world would be wrong. Somehow, I don't think so.

NK

KITCHEN-FORGED

Following the demise of my Musical Fidelity Synthesis amp in my kitchen system (with a Nakamichi BX1 cassette deck) I substituted a cheap, inherited Rotel 813 integrated amp (circa 1983). Even with its myriad of controls set flat, it was a painful experience.

As dragging money out of my fist defeats most salesmen, the only solution seemed to me "Do Something Yourself."

Having already seen what a world of difference 'Duragliting' (and subsequently soldering) the internal signal wiring of a VCR can achieve, I carried out the following: a) soldered the leads from the cassette head itself to the PCB pins after snipping off the push-pin connector, b) soldered the wiring of the outgoing 'interconnect' to wiring previously feeding the phono-sockets, c) soldered the incoming interconnect cable directly to the Rotel's pre-amp PCB, thereby by-passing both sets of phono connections, d) stripped out all internal

'speaker wiring in the amp and soldered the 'speaker cable (£9 per 50ft reel from Tandy stores) directly to the output pins of the amp's main PCB (I removed its two 'speaker set facility and dedicated fuses in the 'speaker chain).

The improvements were far beyond anything I had anticipated. The detail was certainly there in abundance. This was the only area that I imagined might improve really noticeably, with perhaps a little bass weight. However, improvements in areas such as sweetness and transient control, more faithful tonal quality, the elimination of mush/grain I thought was an inherent part of much hi-fi, was exceptional. And last, but probably best, the sheer improvement in musicality.

I confess I simply don't understand how this last area can improve so dramatically as I previously imagined the 'tingle' factor was more dependent upon issues such as speed stability of platters/cassette drives, as well as getting the electronics right of course, which in this instance were unchanged.

By removing a few connections, I had a 'new system'. To ensure my hormones weren't getting unreasonably excited I imported my Nakamichi BX300 and M. Fid. P170 power amp into the kitchen for comparison, using the same interconnect and 'speaker cable types. Still superior? Yes, but the margin was now very small.

The conclusions that I draw from this exercise are: we have maligned producers (particularly of cassettes?) more than they might deserve. More importantly, more than 95% of the hardware around the country is suppressing a large percentage of the very expensive software we're buying and that the time and cost of installing £120 worth of new 'Whizzo' mains cable could be spent on eliminating, where feasible, the connections in the hi-fi chain.



Modern production 300B valves have a lifetime of around 10,000 hours when used in a well designed circuit.

assure you it is very reliable. Modern production valves of this type have a lifetime of around 10,000 hours - not 100 hours, which is a wild assertion. Precise life depends upon how hard the valve is run, which is why no one can be too specific, but Peter

properties were severely limiting. Nowadays, for audio, they are a distinct benefit. Wide electrode spacing makes for good linearity - crucial in audio amplification - as well as good reliability and excellent heat dissipation.

Alema make and ship

In my relatively limited experience, improvements in the very low level feeds (cartridge to phono pick-up for example) pay handsome dividends compared to any improvements to the high power (speaker) areas.

Has anyone ever looked inside a phono-socket? I estimate that the usual two thin strips of mild steel or tin actually touch the (gold!) plug for a total area of about 1/50th of a square inch. Ever examined the condition of tags, connectors, washers, nuts, etc. of a non-soldered 'speaker crossover? You'll probably find enough general manufacturing grease to lubricate the swing-arm suspension of a Norton Dominator.

Think the pins of your internal push connectors, are clean, do you? I'm not deriding the quality or effectiveness of high-end cabling. Indeed, it would probably take a particularly warm and succulent offer from Sue

Lawley to part me from my Deltec Black Slink twist pre and power amps, but I'd hope that what it's being asked to transmit wasn't being degraded to such an extent within the system.

**Peter Cuthbert
Orpington,
Kent.**

HELPING HANDS

Many thanks for advice and background info. concerning the Hi-Fi Answers monitors. I haven't told my wife yet, but I have decided to finish them. My father is busy trying to find all the various odd bits (sheets of formica, long-fibre wool, etc.), which hopefully have not disappeared into the mists of time

I will keep a record, take photos and keep you informed of progress. I'll try not to keep writing with queries - tempting though it is - I don't wish to have you dreading opening your postbag.

A piece of information you mind find useful. In the November issue one of your reader's asked about improving a Thorens turntable. Your reply referred to stick-on pads to help reduce resonance. Being someone who keeps things "just in case" (you should see the state of my garage) I can confirm that they were available from Halfords and cost £3.50 when I bought mine. They are Bostick Sound Deadening Pads and the packaging has the following information which may help your reader trace them: 10 self-adhesive pads 7.5x10.5, Bostick Ltd., Consumer Product Division, Leicester. LE4 6BW.

Thanks for your suggestion about the books on electronics from your library - Christmas is coming soon! With the latter in mind, my Mother-in-law suggested I might like some pyjamas. I can now provide her with a rather more useful alternative.

**Adrian Webber
Long Ashton,
Bristol.**

PRACTICAL EXPERIENCE

I am prompted by the letter from, and your replies to, A. Webber (published on pages 29 and 30 of the November Supplement) to let you have details of my experience in constructing, modifying and listening to a pair of R50 monitors.

Way back in 1971 I first heard a pair of the Bert Webb designed Cambridge R50s at Audio T (off Oxford Street, I recall) during one of my, then, infrequent visits to London. I already had one of the first batch of Stan Curtis' original, low profile P40 amplifiers and was keen to upgrade my speakers (Kef Concertos at the time). In the event, and principally due to their size, I did not purchase the R50s, but coveted them.

Over the years I have had a variety of equipment, much of which were vintage classics

and now much sought after - if only I'd kept it all. Today, my main system comprises the rare but excellent Chris Binns Cadence valve preamp and 60W monoblocks, with CD from a Trichord Clocked Mission PCMIII coupled to a Trichord Series One DAC with outboard PSU. It is all connected up with Argent Plus solid silver interconnects from Campaign Audio Design and tri-wired to much upgraded versions of the Hi-Fi Answers R50 type transmission line speakers, which each contain the 4 drive units you described.

After many years of planning, I too finally bit the bullet and decided to construct the best full range speaker and persuaded Mike at Wilmslow Audio (who has since formed The Speaker Company) to supply the baffles. I provided a CAD prepared, full size working drawing for the baffles to be cut on a computer driven machine from 25mm MDF to my specific dimensions, with full rebates to recess each drive unit. This provided perfect cut-outs, far superior to the option of a hand held router.

I spent an afternoon at the local Do-it-All supervising each cut for the remaining 20 panels of 18mm MDF and later pre-drilled every panel with pilot holes and countersinks to simplify assembly. All internal faces are lined with dedshete, plus profiled foam and the cavities are filled with the requisite Dr. Bailey long fibre wool. They are veneered and have a satin black spray finish.

Initially, I installed Wilmslow Audio's Concerto upgrade crossovers which came preassembled on a pcb. Later, I disassembled the components and hard wired them to increase separation between components and enable me to bi-wire.

Later still, following a particularly useful visit to the Chesterfield Show and a conversation with Bob from



David Constant from Solihull built a version of the Cambridge R50s. This side view shows the complex internal construction.

Wilmslow Audio, I decided to construct the optimum passive crossover for this system using audio grade components including Solen polypropylene capacitors and air cored inductors.

Each speaker is tri-wired through Michell gold binding posts and is close coupled to a separate plinth which is spiked to the floor. They are about 110 litres internal capacity and, curiously enough, weigh in at about 110lbs each - so I named them ALTAVOX 110 and had badges made by the local shoe repair/key cutting/nameplate shop and fixed them to each plinth. Visitors insist that they are a proprietary product!

How do they sound? Authentic to my ears. My musical appreciation is extremely diverse - from Mahler to Morrison (Van of course). So, from full orchestral dynamics to acoustic programme material (e.g. A Meeting by the River - Ry Cooder and VM Bhatt) I have never heard better yet.

What's next? Well I do have a dozen Deflex panels handy! Oh, and if only I had a couple of grand I would definitely buy an ATC 100 kit from Wilmslow Audio. Now there's another feature.

**David Constant
Solihull,
W. Midlands.**

GO WEST FOR RICHER SOUNDS

Through the pages of your magazine I would like to express my thanks to Alastair and his happy band of members who form the West of Scotland Hi-Fi Club for their time and patience, one night recently on their visit to our store. Alastair had approached us previously to book a night for the club to come into the store and use our demo room. Once a mutually acceptable date had been found, all that had to be done was for them to come in and listen!

With the demonstration



Hi-Fi World hopes to take delivery of a latest specification LP12 in the near future to enable us to answer owners' queries better.

facilities being relatively new to our stores, this was very much a pilot scheme for us. On the night we had two different systems set up representing two price points - the 'budget' set-up consisting: Cambridge Audio P25 11 amp, Sherwood CD501R, Gale Reference monitors, Atacama SE24 and Cable Talk 3, and a 'reference' system consisting an Audio Innovations Alto amp, Teac VRDS10 CD player, TDL RTL3 'speakers and Cable Talk 3 bi-wire cable.

Both systems proved successful. Anyway to cut a long story short, Alastair and his members provided us with some interesting thoughts and opinions and I hope the club enjoyed its visit. At the same time I'd would like to take this opportunity to extend a repeat invitation to the West of Scotland Hi-Fi Club (and for that matter any other similar clubs, or societies that may be lurking unknown out there!) sometime in the near future.

**Steven Scott
(on behalf of all staff)
Richer Sounds,
Glasgow.**

Great idea, especially in Scotland it seems to us, where there's plenty of

interest inadequately catered for, so Scots enthusiasts tell us. How about demonstrating different approaches too, especially good LP against CD, small speakers versus large, valves against solid-state and what have you. Not all of it you stock of course, but you never know, if Richer can take an interest in HDCD (as it has!), your boss, James Johnson Flint may eventually fall in love with valves. **NK**

DEFENDING THE LP12

Once again the letters page attempts to 'bash' the LP12 (Feb '95 issue). A Fons CQ30? reviewed in 1978 by FJ was better than the LP12. I've never heard a CQ30 but I expect that counts for little. Every time I pick up a magazine some bright spark has dug up a turntable that significantly out performs the LP12. What next? A Garrard SP25 mounted in a lump of concrete with an SME V?!

Come on guys - give the poor LP12 a chance. I've owned one since 1980 and its performance has been consistent from day one. Upgrades have followed as funds allow to bring it up to near current specification.

P.S. I suggest you listen to a modern LP12. You never know - you might like it.

**S. Chapman
Ilkeston,
Derby.**

Mr Turner's letter was printed for the useful and interesting information it contained for the owners and users of the Fons CQ30. There has been a dialogue regarding this turntable over the last few months in Hi-Fi World, and the fact that Mr Turner had a copy of a review where it was compared to the LP12 was just an interesting aside.

We are actually expecting to take delivery of a current spec. LP12 within the next few weeks - we recognise that a vast number of audiophiles across the world own an LP12, so we feel it would be valuable for us to have one permanently set-up and used to enable us to better answer your queries. We hope to be able to bring you a full review of the latest spec. LP12 in the next few months - we are having a little trouble setting the reference Garrard SP25 in concrete though - thanks for the idea! **DB**

... and it's super too

More information from [Ortofon's official website](http://www.ortofon.com)

MC15 Super II Moving Coil Cartridge www.ortofon.com

It's difficult to really understand a moving coil cartridge like this one. It's got one of the best measured performances I've ever come across, yet is a budget design priced at £109.95. It gets some things right like few other cartridges (and they're mainly Ortofon too), yet large amounts of wonga are not required. Perhaps by everyday standards its price is high, but by good moving coil standards it's a bargain. For sure, this is not a cartridge to be ignored by anyone looking for an entry level moving coil.

In keeping with its status, the MC15 Super II comes in a modest little plastic carton, packed with a booklet and spec sheet, plus a couple of short screws (7mm thread length) with nuts. The booklet says remarkably little in four languages and the spec. sheet says even less. Buyers are out on their own with this one, which might be daunting for first-timers in the MC camp.

First thing to remember with a moving coil like this one is that accidents are expensive. If the stylus gets damaged Ortofon replace the whole cartridge in an exchange scheme - cost £82.50. It has a flip down stylus guard that I leave down until the cartridge has been fitted, then remove completely, mainly to get a clear view of the stylus for accurate cueing.

Other points to bear in mind are the need for a good rigid arm and a quiet, high quality moving coil phono stage. With the MC15 Super II especially, mediocre solid-state preamp stages may well lead to disappointment, which would be a pity. I'll explain more fully later. The least expensive step-up device Ortofon offer is their T20 transformer, price £199.95. Moving coils are a world of their own, one with a fairly high entry cost.

This cartridge has a rigid one-piece black phenolic body that's easy enough to fix. Weighing 7gms, it will be compatible with all arms and I know from experience its short body fits all



headshells. Because moving coil cartridges can put a lot of energy into an arm, they should be bolted securely into a rigid structure, a Rega RB300 being fine. I used the cartridge in an SME312 12in arm on Bastin Maxplank plinth supporting a Garrard 401. Tracking force was set at 2.2gms, the quoted range being 2-2.4gms. The 15 Super II has a fine line stylus and, as modern moving coils go, low output. Beware of this since hiss can easily become a problem.

SOUND QUALITY

Having listened to MC10s and 15s over the years, I was strongly reminded of their sound by the new MC15 Super II. It has some very strong sonic characteristics, ones that produce a little ambivalence in me. This cartridge is analytical, and it could also be described as a bit remorseless and cold. Luckily, a remedial tonic was at hand, one I've never had the benefit of before. But first onto the cartridge itself, before I look at symbiotic matching.

A large majority of cartridges have an upper midrange suck-out in their frequency response characteristic; it results in a warm, full bodied sound. That, broadly speaking, is a strong part of the sound of LP, at least in simple tonal-balance terms. Any cartridge that runs flat where others do not has got to sound different from 'the norm', and even if the norm is technically wrong, it's the odd man out that seems errant, not vice-versa.

So I'm prepared to give the MC15 Super II some space on the matter of its - well - forthright presentation. It struck me as having a thin, almost reedy sound in essence, very upfront, strongly detailed and precise. It seemingly retrieves too much from the groove - scratchy groove noise seems ever present, especially on old records. Vocals are clear, hard etched and forward; sibilance and spitch, when it existed, was ejected strongly.

Whilst I wouldn't call treble quality sweet, it was clean and clear; the cartridge has a good stylus, if not of Goldring 1042 standards. The basic impression this cartridge gives isn't helped by its tight, dry bass delivery. I was surprised at the relative lack of boom and bloom to bass on Tracey Chapman's normally fulsome sounding 'Bridges'.

That's how the new MC15 Super II comes over if it's bolted into a fundamentally well balanced and revealing

system, fed by a good quality solid-state moving coil disc stage. However, out-of-the-ordinary products like this need careful treatment if they are to shine, and there's no doubt in my mind that the MC15 Super II is worth some effort in terms of system matching. It's fundamentally revealing and truthful, if it does come across as master tape-ish. The trick is to match it with good speakers of an opposite nature such that the two balance out - and there's no shortage of them. From Heybrook Quartets to Spendor SP3/1s, there are plenty of amenable sounding speakers that really enjoy the analytical and projectional properties of the MC15 Super II. Just be prepared for less-than-euphonic results with bright or brash speakers, which this cartridge does not match - unlike some other warm, full bodied MMs.

The final flourish a cartridge of such ability deserves was provided courtesy of EAR, in the form of their 834P valve phono preamp. With its raised bass,

smooth, sweet treble and superb openness, the 834P was a perfect match. It put the smack and power back into drums and percussion on Grace Jones' 'Bullshit', waved a wand over scratchy groove noise, causing it to melt away, yet supported all the strengths of the MC15 Super II as well, rather than disguising them.

Really, this Ortofon is a valve amp animal; it doesn't need or benefit from the attentions of transistors, with their own brash upper midband problems. The 834P is very quiet too - quiet enough to cope with the 15's low output without hiss becoming apparent.

The two are made for each other and the very good news is that neither is overly expensive (relatively speaking).

In the right system, Ortofon's new MC15 Super II can show itself to be masterful. Although not as intrinsically sweet and melodious as more expensive MC cartridges, it is dry, accurate and revealing. Partnered with items of an opposite persuasion, it achieves sonic balance and is deeply impressive - especially at the price. Definitely a sonic wonder; highly recommended ●

“ Out-of-the-ordinary products like this need careful treatment if they are to shine, and there's no doubt in my mind that the MC15 Super II is worth some effort in terms of system matching.”

MC15 Super II £109.95
T20 £199.95
replacement stylus £82.50 (new unit)

Ortofon
Chiltern St. Peter,
Bucks. SL9 9UG
Tel: 0753 889949

MEASURED PERFORMANCE

Ortofon are famed for their moving coil cartridges and this one, the latest version of the MC15, was a delight to measure. Technically unpretentious, the cartridge has, all the same, one of the flatest frequency responses I have seen. There's no significant upper midband droop or treble peak. As a result, it will sound brighter, more forward and revealing than most other cartridges, but it should also have smoother and more natural sounding treble.

In the past, MC cartridges have had mediocre or poor tracking. This drawback Ortofon have completely overcome: the new MC15 Super II is a fantastic tracker, clearing all test bands - even torture tracks.

With a vertical tracking angle of 25 degrees, very close to the standard of 22 degrees, distortion on vertical modulation was relatively low at 3% (second harmonic only). On lateral modulation distortion was about average at 1% (second harmonic). Although these figures sound high, as cartridges go they are fairly normal and, comprising predominantly second harmonic, such distortions are aurally innocuous.

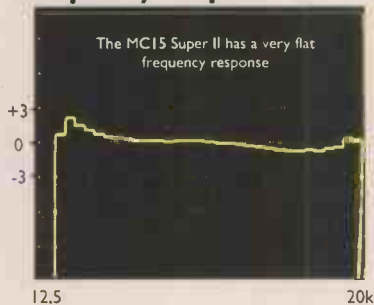
Channel separation was high at 27dB, but output quite low at 0.53mV at 5cms/sec rms. That's less than the new Supremes. This cartridge demands use of a quiet, high quality head amplifier.

The new MC15 Super II is a beautifully made cartridge, a wonderful example of the art. It measures unusually well. **NK**

TEST RESULTS

Tracking force	2.2gms
Weight	7gms
Vertical tracking angle	25degrees
Freq. response (+/-3dB)	20Hz-20 kHz
Channel separation	27dB
Tracking ability (300Hz)	
lateral	90µm
vertical	45µm
lateral (1kHz)	25cms/sec.
Distortion (45µm)	
lateral	1%
vertical	3%
Output (5cms/sec rms)	0.53mV
Channel imbalance	0dB

Frequency Response





MODESTLY APPOINTED

Yamaha's CDX-480 CD player continues the trend of skimping on features for the sake of sound quality.

Dominic Todd takes a listen.

Time was when budget CD players, especially those from distant oriental shores, would fall over themselves to cram as many features onto their front panels as possible. Nowadays it looks like the reverse is true, and the sudden deluge of "UK sound" Japanese players has shifted the mass market gaze onto what's actually inside. The new £199.95 Yamaha CDX-480 CD player is one such example. Tuned by British engineers to give a smooth, balanced quality, it's free from the graininess and artificiality often associated with lesser CD players.

But simply making a civilised budget player doesn't guarantee commercial success. This is where the big sales are and the competition is cut-throat. One of my favourite players at this price point has, until now, been the NAD 501. So it seemed fitting that I should have it on hand for comparisons, using amplification and 'speakers from a 'neutral' manufacturer. In this case I used the new Pro-ject 7 amplifier matched to some Celestion 5 loudspeakers, (as well as my own reference system) as a likely partnering system for either CD player.

The Yamaha certainly has the NAD licked when it comes to what car magazines like to call "showroom appeal". It's solidly built, smartly finished and slick in operation. By contrast the NAD, in John Major-grey livery, appears rather crude, though not without a certain charm. The Yamaha's specification can't really be faulted at the price either. Full remote control, display dimmer and direct track access are all handy features you won't find on the NAD. There's no digital output, but if

you're looking for this facility, a Philips based machine is normally the safest bet.

Listening to a live Bjork track, from her Debut album, illustrated a surprisingly large difference between the two players. The Yamaha was definitely smoother, yet this seemed to come at the expense of a flatter soundstage. Rather than vocals projecting out into the room, they hung back, level with the plane of the 'speakers. Bass was tight and well defined, but lacked extension, even when used with 'speakers capable of delivering powerful bass. Again the NAD did better, offering similar tautness but with noticeably more depth.

The 501 also made more of the "live" aspect of the recording. Despite being a little more ragged round the edges than the 480, it managed to get the foot tapping more of the time than the Yamaha did. Having said that, the CDX480 will make the best of whatever it's partnered with, allowing even the tiniest 'speakers and amps to sound smooth and refined.

With the next CD I used, I'd expected to favour the Yamaha's balance. The Wynton Marsalis Septet's album, *In This House on This Morning*, is swing based featuring prominent brass. The Yamaha captured the fine line between warmth and crispness of instruments such as Alto sax. It was the NAD that once again involved the listener more though. Neither had a particularly impressive piano timbre (always difficult to

reproduce accurately), but then there's not much else in this price range that could significantly improve. However, the Yamaha did sound fuller bodied than the NAD in this respect. Although not on a par with the NAD, space around the instruments was fair on the CDX480, and



Inside the CDX-480 construction is neat and simple.

it was this and the Yamaha's inferior timing that ultimately led to the NAD's greater overall appeal.

It was Robert Palmer's 'Ridin' High' that really exposed the CDX480. Immediate comparison with the NAD showed a contracted soundstage, in terms of both height and width. Detail wasn't exactly in abundance either. For example, although aware of cymbals on the

Yamaha, the NAD showed their true importance to the music. Their presence and decay, imparted by the 501, was missed completely by the Yamaha. The sound seemed thickened, slowing the pace of the album and reducing musical involvement. It didn't all go NAD's way though. Guitar and piano notes had better definition with the Yamaha, sounding substantially fuller bodied than the NAD. Indeed, all the Yamaha needed to do was give music more vibrance to hold the listener's attention.

So the Yamaha CDX480 has a lot going for it; good looks, a generous specification and fine build quality. In a world where there's always a new flavour of the month, the Yamaha will succeed with those after a handsomely finished, mature sounding source. It will suit listeners who prefer a laid back sound quality, or a system that needs a little refinement injected. If sound is your priority, though, the budget audiophile would still be advised to beat a path to

NAD's door ●

Yamaha CDX480 £199.95
Yamaha Electronics UK Ltd.,
Yamaha House,
200 Rickmansworth Road,
Watford,
Herts. WD1 7JS
Tel: 0923 233166

MEASURED PERFORMANCE

Yamaha's CDX-480 is a low distortion CD player. From high levels to low levels (-6dB to -60dB) distortion stayed low, nearly as low as the best. At -30dB, a level picked to represent a typical music signal, you can see from the plot below that distortion harmonics are all but invisible.

This should give the CDX-480 a clean sound, free from grit or sharpness. The frequency response will help in this respect too, starting to roll off gently above 10kHz, which should give a smooth sound free of gritiness. There is slight bass lift too, which will help to give the sound some body.

In every other area the CDX-480 measured competently. Dynamic range was wide, noise low, separation high and output within a whisker of Philips' 2V standard.

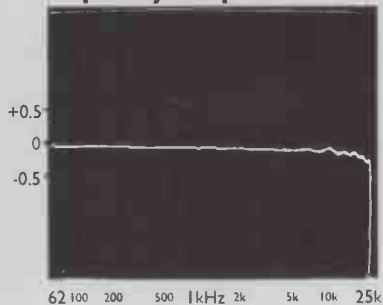
Yamaha have engineered a competent player in the CDX-480, one that I would expect to sound smooth and clean. **DB**

TEST RESULTS

Frequency response	4Hz-21kHz	
Distortion (%)		
-6dB	0.005	0.005
-30dB	0.01	0.01
-60dB	0.52	0.53
-90dB	24.0	23.9
-90dB dithered	8.9	9.3

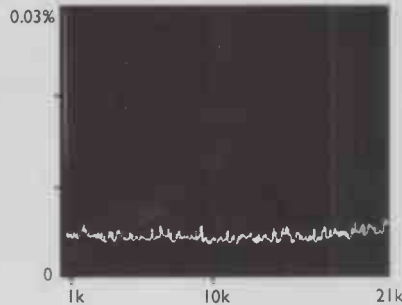
Separation (dB)	left	right
1kHz	117	112
20kHz	88	84
Noise	105dB	
with emphasis	105dB	
Dynamic range	106.6dB	
Output	1.96V	

Frequency Response



Gently rolled off treble should give a smooth sound

Distortion



Negligible distortion

HOW TO GET GOOD STEREO

In this first part of a two part feature, Noel Keywood describes how to position your loudspeakers for a good stereo sound stage and imaging.

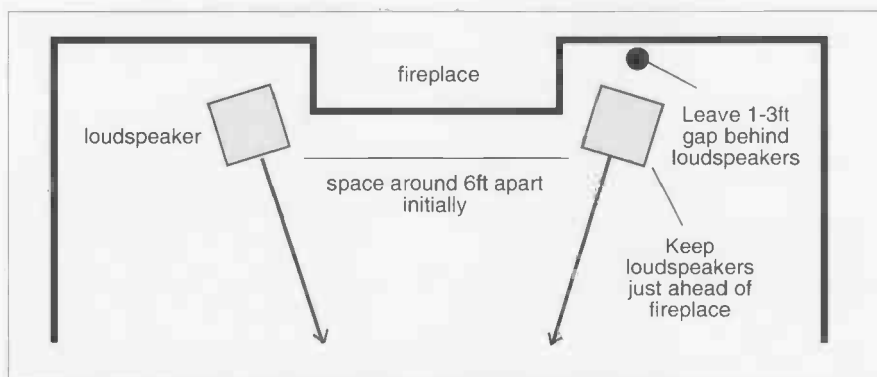
Realistic ping-pong wasn't the reason for inventing stereo, even if it was used by EMI in a 1957 test disc to demonstrate its wonders. They were onto an altogether better idea with another rivetting track entitled "Inside a Swimming Bath", which - probably by accident - was one of the first demonstrations of dimensionality from a system using just two loudspeakers.

Nearly forty years later EMI produced another test disc, this time on CD, showing that, with a little bit of aural trickery they call Sensaura, two channel stereo can bring that swimming pool right into the home. You've got to give them full marks for tenacity, even if few for

making singers almost tangible, is a good thing. We've gathered quite a lot of useful experience in exploiting the effect. Here are some tips on how to arrange your system to get the best from it in terms of dimensionality. I'm not talking about swimming pools here, so much as orchestras and rock bands.

WHAT TO AIM FOR

You can get a form of surround-sound in the car and in the home from 'wide imaging' speakers such as those made by Canon and Bose. Putting the loudspeakers on the floor at either end of the settee provides a similar experience, but this sort of effect merely gives diffuse stereo,



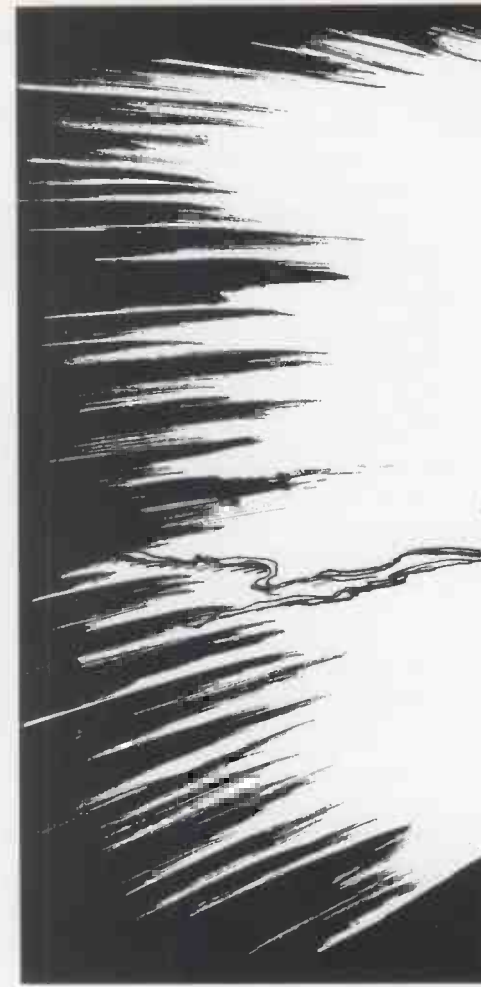
Keep the loudspeakers in front of the plane of any obstruction between them which may cause reflections and ruin good stereo.

programme content. But I've got to say I admire their efforts: both EMI and Chesky (Chesky Jazz Sampler Vol. 1, JD37) have now produced CDs to demonstrate the ability of a 2-D hi-fi system to produce 3-D effects. It is a trick, that's for sure, but then so are many things in hi-fi. The good bit is that it costs nothing, you simply need a well set up system. Then, even many conventional recordings can sound surprisingly spacious, filling the room with a performance.

This property of stereo isn't commonly discussed. But anything that basically comes free, doesn't clutter the home with more boxes - especially black ones - yet helps bring a performance alive,

where images have no specific position.

What I'm talking about is constructing a stage in front of you that extends both backward and forward or, in other words, an area on the rug in front of the fireplace on which musicians, or orchestral sections, seem to have definite position. This means bringing the performance 'out of

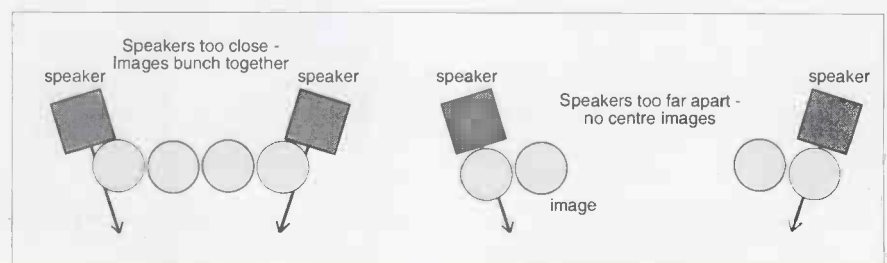


the box', as they do so well in Transylvania at dusk. The only frightening aspect of this exercise though is the way that good modern speakers, well set up, can seem to project lifelike images. The real trick is get this effect without the 'speakers taking over the home. It takes quite a lot of experiment and often a bit of handywork too, but in most cases it can be done.

DISTANCE APART

For pin-point imaging you must sit in front of loudspeakers, so they are roughly six feet apart and facing you. The distance of six feet is a good starting point, not a rule. Closer together and the stage will sound pinched and unrealistically small; further apart will often sound better but central images may not focus well - a 'hole in the middle' will appear.

In many homes, placing the speakers either side of the fireplace conveniently meets this requirement. But for a good soundstage they have to stand in front of the plane of any obstruction inbetween them, like a chimney breast. The





reflections this can cause will destroy imaging. Generally, the speakers should be kept away from the rear wall by at least a few feet; wall placement rarely gives good stereo. It often gives boomy upper bass too. With a bit of thought two loudspeakers can often be positioned well without becoming too dominant visually.

HEIGHT

The height of a 'speaker can also be important. The tweeter (that's the small unit that fires out treble) should be at approximately ear height, around 3ft in most armchairs. Floorstanders are usually dimensioned to correspond with this; mini-versions are (should be) engineered to sound right when listening a little from above.

If you ever see experts moving up and down in front of speakers whilst music is playing, they're not pretending to be turkey's, but are checking to see how the speaker changes its sound vertically. A good design will change little, making seating or speaker-stand height uncritical. If you want really good stereo, do spend a few minutes playing turkey in front of your speakers (when there's no one else around); it will reveal how good they are in this respect and whether they have an optimum listening height that provides good image definition in conjunction with a natural, full bodied sound.

INTER DRIVER PHASE

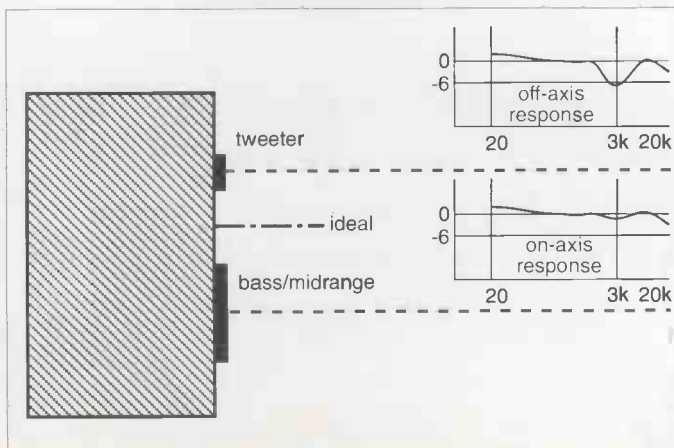
30% or so of the 'speakers we test suffer drive unit phase cancellation effects,

sounding anything from dull to sharp over a comparatively small range of heights. Generally, speakers that suffer from this sound best when listened to from below the axis of the tweeter. Ever since finding, during development of our kit speakers, that good inter drive unit phase correlation is essential for 'solid' sounding cymbals and a cohesive sound, we've become sensitive to this problem.

CONCLUSION

This is just the first part of getting good stereo from your loudspeakers - hopefully after experimenting with the suggestions above you'll already have heard an improvement. Next month I'll continue further still, building on what we have already discussed.

You can bring in the sound of a swimming pool if you like, but the inventors of stereo really had orchestras on their mind at the time. Rock bands didn't even exist on that 1957 test record. Instead they featured the Dagenham Girl Pipers with the Skye Boat Song. Stereo hasn't moved so far in forty years; thank heavens music has ●



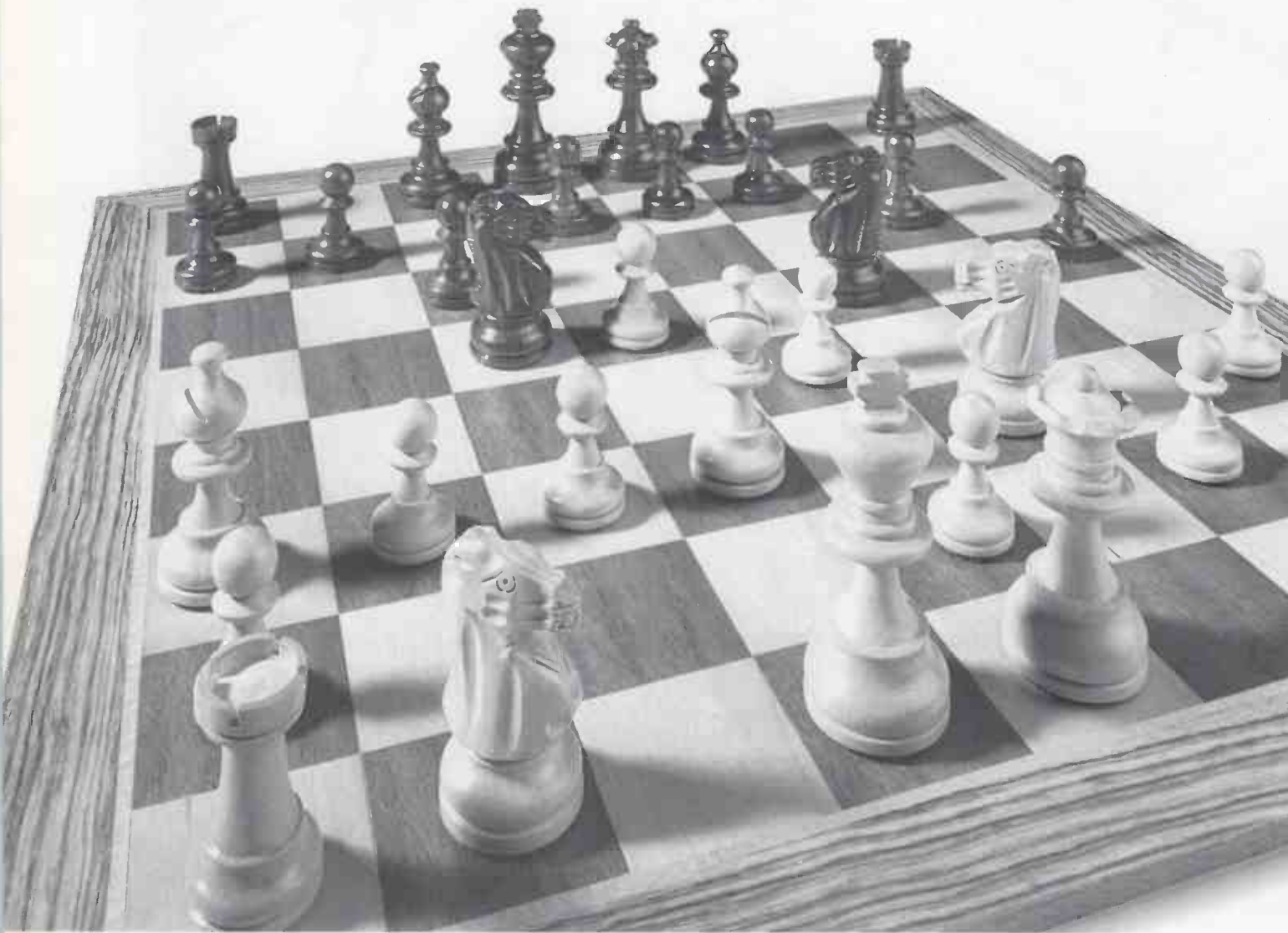
Your loudspeaker will have an axis where it sounds best. In our example of a conventional two way design, the most 'accurate' sound comes when you listen on the axis between bass/mid and tweeter. Above this axis a dip will appear unbalancing the sound.

NEXT MONTH

How far should you sit from your 'speakers and how to control the reflections that can ruin good stereo.



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CASTLE

CHANGING LIFESTYLE

Dominic Baker asks whether Denon's new DF-10 'lifestyle system' is a worthwhile alternative to separates.



What is a lifestyle system? If Denon's new DF-10 setup fits the definition, it's a more elegantly styled version of the midi-system, trading some of the flashing lights and gadgets for improved sound quality and styling. Does it work though? Read on to find out if Denon have been successful.

The DF-10 is a separates system, inter-linked by cables which carry the control signals for remote control and allow 'intelligent' taping from CD. This facility sets record level and then fits the CD onto a cassette without cutting tracks in half at the end of the tape. Because it

is a separates system, the DF-10 has the advantage of being upgradeable, so if one component fails the system won't be rendered useless, which can happen with some midi systems.

Using CD the DF-10 system turned in a very reasonable performance, sounding clear and open, with good bass. The treble, although lacking true extension through the 'speakers supplied, could become a little fierce on tracks with a lot of treble energy, but this could also be said of many budget players.

Sheryl Crow's 'Tuesday Night Music Club' was delivered in what I'd describe as a 'pleasant' manner. Bass was full and

rounded without becoming boxy or overblown. Midrange was clear enough to convey character and project vocals well. Treble was not especially delicate, and whilst it lacked extreme extension, it still balanced the sound nicely.

The cassette deck though is one of the best parts of the system. From cheap ferric giveaways on the front cover of VOX up to esoteric metals, the sound was focused and stable. In fact, using Maxell MX I managed to push recording levels up to +5 on the display, depressing hiss enough to make Dolby unnecessary. The extra sparkle of metal tape actually suited the Denon system extremely well, staying sweet and clear. Recording onto a high quality ferric also gave satisfactory results, but hiss was loud without Dolby and the sound closed in and became muggy with either Dolby B or C in use.

The radio worked normally, much as I'd hoped, performing much like other Japanese budget tuners. It's extremely sensitive, picking up a full range of stations even with the wire strip aerial supplied. Setting up the preset stations was easy, and RDS provides a visual indication of the station selected, which I must admit can make life a whole lot easier. Bass was a little thin and lightweight, common with modern chip-based tuners, and treble soft but clear and intelligible with speech - certainly adequate for pop on Radio 1. Classical listeners may notice the lack of dimension and scale to the sound though.

The Denon DF-10 is attractively and neatly styled, has a wide range of convenience features, a very good tape deck and better loudspeakers than most midi-systems. As a second system, making high quality tapes for the car and providing smooth, inoffensive background music, it's fine.

But I could never forget that for the same money a carefully selected separates system would improve on it easily in terms of musical enjoyment, adding an extra dimension to the sound. So the DF-10 isn't a system for the audiophile. As a convenient and stylish all-in-one music system though, it's great, looking far more attractive than a sombre pile of black boxes ●

Denon DF-10 £1150
Hayden Labs,
Hayden House, Chiltern Hill,
Chalfont St Peter,
Bucks. SL9 9UG
Tel: 0753 888447

Conspicuous Presence



From Germany comes a high end valve amplifier combination for wealthy people who like it to look the part. David Price listens to an expensive slice of the good life.

Ten years ago if anyone had suggested valves would come back in a big way, they'd be greeted with hilarity. Now they're not only in fashion, but many feel there's no other way to listen to music. Aside from the undisputed sweetness that valves bring to music, many enjoy having their amplifier glowing away in the corner, warming the air as well as the sound.

Let's be honest here - valve style and exclusivity is what turns many on to tubes, and German manufacturers Audiovalve recognise this. Indeed their £1995 LC8 PPP30 pre-power combination tested here seems to be the excuse they needed for a consummate exercise in conspicuous styling. Looking like miniature glowing Trump Towers, they won't be to everyone's stylistic taste. Unfortunately, we found it possible to touch live fuses through open side bars. If the designers had worried less about cosmetics and more about safety, there'd be no danger of interfacing with the power lines. So we don't recommend the amplifier is used where children might be exposed to it.

In the context of our reference system comprising Garrard 401 and KEF Reference Series 2s, the Audiovalve combination proved competent. Avoiding the warm, fat, splashy sound that poorly designed valve amplification gives, it was clear and spacious in the midrange with sharp treble. The Audiovalve delivered a lean, tight sound on Scritti Politti's 'Boom There She Was!' - more reminiscent of Naim than Quad! The soundstage was fairly expansive and apparently detailed, throwing out little bits of information impressively. Green Gartside's voice was delivered with a silken gloss which hovered above the mix, and digital synths were delivered with characteristic bell-like clarity.

This first encounter with the Audiovalve combo looked promising. But as I shifted from ultra-clean, digitally recorded late Eighties electronic pop to more subtle recordings, the Audiovalves began to flounder. Despite their clarity they seemed unable to really get to grips with the fundamentals of the music. This was partly because the amplifiers had a loose, poorly extended bass lacking in slam, and also because high treble suffered the same malaise. With Isaac Hayes' 'That Loving Feeling', the Audiovalve combo again rewarded with an airy midband, hinting at the acoustic of the Stax studio. Although the sound was quite sharp, the mandolin sounding crisp and projecting forcibly, percussion needs control and grip rather than brightness to work, and the Audiovalve was wanting in this department. Drums also failed to cut it, having a beautiful texture but singularly failing to stop-start fast enough.

Trying the Audiovalve preamp with another single-ended power amp, I was rewarded with more of the same. The preamp seemed to be sitting on the

dynamics and rhythms of the song, rendering it somewhat matter-of-fact and workmanlike.

The other way round, with either a valve phono stage, or Pink CD player and solid-state Audiolab preamp, the monoblock power amps impressed, giving an open sound with an expansive, airy acoustic. On full chat, the Audiovalves delivered quite a punch but ultimately sounded a little flustered, in the most genteel, valve-like way, of course.

Turning to a digitally remastered (ouch!) version of Sam and Dave's classic 'Soul Man', the monoblocks caught the song's recorded acoustic, as well as the slightly analytical quality of the remastering. But once again, they seemed to lack low bass control, flattening the rhythmic urgency of the song and sucking out some emotion. As I went through my record collection, the German

combo maintained its bright, clean but rather unengaging approach to making music, failing to really excite or endear itself.

All in all, the Audiovalve was an interesting combination, eschewing the traditional lavish, opulent tube sound for a brighter leaner approach. Some people will like this set-up, finding it a match for their black-windowed Benz or gold plated Rolex perhaps. But some may not, such is the particular nature of its sound.

Audio Valve LC8/PPP30 £1995

**Wollaton Audio
134 Parkside,
Wollaton,
Notts. NG8 2NP
Tel: 0602 284147**

MEASURED PERFORMANCE

Twined EL84s (12watts anode dissipation apiece) in push-pull provide 28watts of output (4Ω or 8Ω) from this power amplifier. The secondary winding is centre tapped to ground, probably to provide twin feedback lines for a fully balanced amplifier, from the phase splitter on, as used by McIntosh. This means that only a fully floating load like a loudspeaker must be connected across the speaker terminals, not any earthed accessory.

Distortion levels were very respectable, especially at high frequencies where - importantly - second harmonic dominated. This is characteristic of a well designed amplifier operating with auto-bias.

The output transformer had some limitations, passing just 12watts at 40Hz for 2% distortion. With a larger/better core it should have been able to swing 20watts or so, the sort of performance we'd like to see at the price. Expect slightly soft bass. There was a peak at 100kHz too, due to high leakage inductance, a surprise with a small core. There was some square wave ringing as a result of this gain, the output transformer could have been better designed. All the same, with low overall distortion levels and second harmonic predominant at all frequencies, this amplifier will sound smooth.

Input sensitivity measured 400mV, enough for CD direct, but some cassette decks and tuners may fail to provide full drive, so a preamp with some gain is the best match. Unfortunately, the Audiovalve preamp has very little gain, giving it an effective sensitivity of 340mV. This is on the low side, since a few budget sources give just 300mV out. They wouldn't be able to drive the amplifier to full output.

Bandwidth of the preamp was enormously wide, stretching from 5Hz to above 180kHz; most preamps go no further than 100kHz, since above this lie radio frequencies. Distortion was

negligible, separation good and noise low.

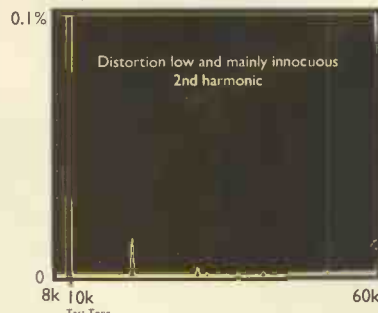
Internally, the preamp has a very small volume control with a short track; quality controls are large, for good resolution, channel matching and longevity.

All mains connections were unshielded, which we consider a safety hazard. The power amps similarly have H.T. fuses close to an open grille which a child could push a finger or metal object through with ease. Internal wiring was messy in places and unshielded. The Audiovalve is surprisingly complex in some electrical respects, yet poorly executed in others. It's something of a mixed bag and, with all-unshielded mains connections, of dubious safety in my view. **NK**

TEST RESULTS

POWER AMP	
Power	28watts
Frequency response	30Hz-40kHz
Distortion	0.015%
Sensitivity	400mV
PREAMP	
Frequency response	5Hz-200kHz
Separation	55dB
Noise	-85dB
Distortion	0.002%
Sensitivity	340mV

Distortion



IN THE APRIL ISSUE

Don't be fooled by other magazines - our April issue is packed with the latest hi-fi equipment reviews, features, readers' letters and queries, industry news and the usual mouth-watering competition. Here's a selection of what we hope to bring you for Britain's rainy season.

GARRARD 401 vs. THORENS TD124

These two classic turntables face each other in a full-scale head to head test. Both have been fully refurbished by Loricraft Audio and are fitted with the latest SME 309 tonearms. Only World would bring you this!

LIFE ON A BUDGET

Forget ten second budget super-amp shootouts! We reveal just what it's like to live with £250 amplifiers from Arcam, Pro-Ject, NAD, Aura and Pioneer on a day to day basis.

LINN MIMIK

At under £1000 Linn's Mimik, designed to partner the Majik-I, is the easiest way into a Linn CD based system. We assess its chances.



DENON DCD-1015

We audition Denon's DCD-1015, boasting their Alpha processing system which claims to produce an analogue replay signal of near 20-bit quality from standard 16-bit CD!



MISSION 733

Mission's £499 733s are tall floorstanders using the latest cabinet technology. They look like they'll set the market alight. We find out.

VINYL SPECIAL

There are strange things happening in the High Street. People have started buying records again, and more surprisingly, the record companies have cottoned on! We find out what all the fuss is about.

Hi-Fi World is still only £2, but with more editorial than most rivals. With the most enthusiastic and expert editorial team in hi-fi journalism, can you afford to miss it? Make sure you don't by filling in this order form and handing it to your newsagent.

HARMAN KARDON HK610

At a penny under £190, Harman Kardon's new budget amp promises great things. We find out if it'll give the competition something to worry about!

As if that wasn't enough, April also brings a super new layout, and the latest and greatest free DIY Supplement. You just can't afford to miss it!



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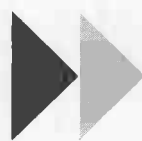
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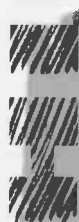
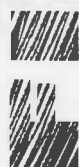


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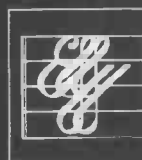


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Yes, it's time for another instalment of "The Maximalist Pre-amplifier" saga. Because I started designing inputs and outputs first, the next stage is to get digital I/O hooked up. Digital audio plays an important part in this pre-amplifier. So I thought before pitching headlong into the electrical design of the interface, it might be just as well to recap on the digital audio interface standards.

1) The two-channel serial balanced professional interface (the so-called AES/EBU or IEC958 type 1 interface).

The electrically balanced version of the standard digital interface is the standard adopted mainly by recording studios and broadcast installations. Mechanically the interface employs the ubiquitous XLR connector. The balanced signal is carried by a twisted-pair, microphone-style cable and voltage levels are allowed to be between 3V and 8V pk-pk. Inputs and outputs are required to be transformer coupled.

2) The two-channel serial unbalanced consumer interface (the so-called SPDIF or IEC958 type 2 interface).

The consumer version of the two-channel, serial digital interface is very different electrically from the AES/EBU interface. It's a 75 ohm, matched termination interface intended for use with coaxial cable. Mechanically the connector style recommended is RCA style phono. Voltage levels are defined as 1V pk-pk when unterminated. Transformer coupling is by no means always used with this interface but is recommended at least at one end.

Despite the very considerable electrical differences between the AES/EBU interface and the SPDIF interface, their data formats are very similar. Both interfaces have capacity for the real-time communication of 20 bits of stereo audio information at sampling rates between 32 and 48kHz. There's also provision for extra information which may

indicate to the receiving device various important parameters about the data being transferred (such as whether pre-emphasis was used on the original analogue signal prior to digitisation). There is a small overhead for limited error checking and for synchronisation.

The type of code adopted for AES/EBU and SPDIF is bi-phase mark coding. Put at its simplest, it represents the 'ones and noughts' of a digital signal by two different frequencies where frequency F_n represents a zero and $2F_n$ represents a one. Such a



recorded message

Left by Richard Brice

signal eliminates almost all DC content, enabling it to be transformer coupled. The resulting signal is like an analogue FM signal, and since the two frequencies are harmonically related (an octave apart), it's a simple matter to extract the bit-clock from the composite incoming data stream.

The digital audio signal is divided into frames. Each digital audio frame contains a complete digital audio sample for both left and right channel. If 48kHz sampling is used, 48 thousand frames pass over the link in every second leading to a maximum baud rate of 3.072Mbit/s. The lowest allowable transfer-rate is 2.084 Mbit/s, when 32kHz sampling is used. Just as each complete frame contains a left and right channel sample, so each frame may be further divided into individual audio samples known as sub-frames. A diagram of a

complete frame consisting of two sub-frames is given in Fig.1. Any piece of equipment receiving the digital audio signal as shown in Fig.1 must know where the boundaries between frames and sub-frames lie. That's the purpose of the "sync preamble" section of each frame and sub-frame. This differs from all the other data sent over the digital interface in that it violates the rules of a bi-phase mark encoded signal. In terms of the FM analogy given above, think of the sync preamble as containing a third non-harmonically related frequency which when detected establishes the start of each subframe. There's a family of three slightly different sync-preambles: One to mark the beginning of a left sample sub-frame and another to mark the start of the right channel sub-frame. The third sync-preamble pattern is used only

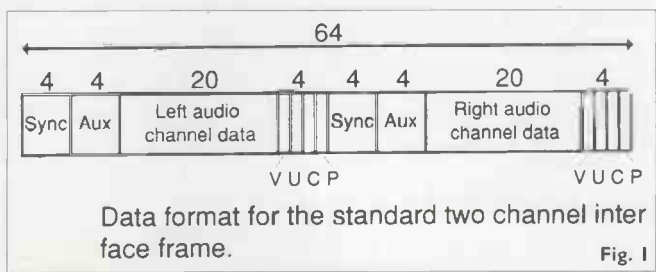
once every 192-frames (once every few milliseconds) and is used to establish a 192 bit repeating pattern to the channel-status bit labelled C in fig.1.

The 192 bit repeat-pattern of the C bit, builds up into a table of 24 bytes of channel-status information for the transmitted signal. It is in this one bit of data every sub-frame that the difference between the AES/EBU interface data format and the SPDIF data format is at its most significant. In both cases, the channel status bits in the AES/EBU format and

SPDIF format communicate to the receiving device such important parameters as sample-rate, whether frequency pre-emphasis was used on the recording but the implementation in consumer and professional equipment is almost entirely different.

Other features of the data format remain pretty constant across the two interface standards. The Validity bit, labelled V in Fig.1 is set to O every sub-frame if the signal over the link is suitable for conversion to an analogue signal. The User bit, labelled U in Fig.1 has a multiplicity of uses defined by particular uses and manufacturers. The Parity bit, labelled P in Fig.1, is set such that the number of ones in a subframe is always even. It may be used to detect individual bit errors but not conceal them.

It's important to point out that both the AES/EBU interface and its SPDIF brother are designed to be used in an error-free environment. Errors aren't expected over digital links and there's no way of correcting for them. So it's the job of the designer to ensure very few errors occur in a SPDIF (AES/EBU) interface connection. Join me next month for a practical design ●



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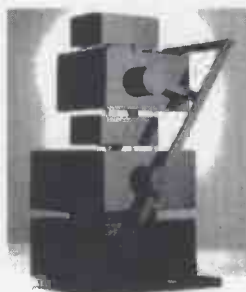
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WIN TEAC CD

TEAC's range of high end CD players have proved highly popular, due no doubt to their battleship build and innovative Vibration free Rigid Disc clamping System (VRDS), so we thought it was time they shared their

success and offered this month's competition prize! But as always, we at Hi-Fi World weren't happy with just one prize, so TEAC have kindly donated both a VRDS-7 CD player and the well received new VRDS-T1 transport.

The VRDS transport system is an improvement on the conventional tray-loading CD mechanism. This system only clamps the disc in the centre, leaving the edges free to vibrate as it spins, making it difficult for the laser to stay in perfect focus. The VRDS system uses a precision machined platter which has a concave surface which not only clamps the disc, but also irons out any warps. This system is used by both the VRDS-7 CD player and VRDS-T1 CD transport.

We reviewed the VRDS-7 in our May '94 issue, finding that its solid build was matched by an equally firm and weighty sound. Bass is deep and powerful with real kick behind it, something every audiophile appreciates. But the VRDS-7's qualities stem further than just bass, through the mid and treble the sound was refined and detailed.

TEAC's VRDS-T1 CD transport is the latest addition to the VRDS range. At £499 this transport is competitively priced, making it the ideal transport for those upgrading from a one-box player. But the T1 will take you even further, having a solid sound which will survive several upgrades.

To enter this competition, simply complete the questions and tie-breaker opposite.

Please send your entry on a POSTCARD, or the back of a SEALED ENVELOPE, completed in block capitals, to arrive no later than 3rd March 1995 to:

**TEAC VRDS COMPETITION,
Hi-Fi World Magazine,
64 Castellain Road,
Maida Vale,
London. W9 1EX.**

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

In the event of more than one entrant submitting all the correct answers, the winners will be picked from the tie breaker by the Editor. We will endeavour to publish the results in the May 1995 issue. Purchase of the magazine is not a precondition to entry.

No correspondence about this competition will be entered into and the Editor's decision is final.

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

COMPETITION ENTRY QUESTIONS

1) What does VRDS stand for?

- A. Vibration full Rigid Disc chewing System
- B. Very Rigid Digital transport System
- C. Vibration free Rigid Disc clamping System
- D. Very Revealing Digital Sound

2) Why is VRDS an improvement on the conventional tray loading system?

- A. It plays the disc upside down
- B. It spins the disc faster.
- C. It reduces disc vibration
- D. It can play both sides of the disc

3) What chipset does the TEAC VRDS-7 use?

- A. Philips DAC-7
- B. Analogue Devices AD1867
- C. Crystal CS4328
- D. Burr Brown PCM-69

4) How much does the VRDS-T1 cost?

- A. £399
- B. £499
- C. £599
- D. £699

TIE BREAKER (Obligatory)

Call it rigidity,
As TEAC do,
A disc clamped tightly,
Not wobbly or askew,

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Complete the ditty above in no more than thirty words.

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Only one entry per household will be accepted. Multiple entries will be automatically disqualified.

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competition

JANUARY ISSUE COMPETITION - WIN EVERYTHING WE REVIEWED

An amazing twelve prizes were on offer in our January Christmas issue, and here are the winners.

1. Colin Attenborough of Hull wins the Mission DAD-7.
2. David Johnston of Linwood wins the Spondor SP7/1s.
3. R. F. Juskus of Gloucester wins the KEF Reference 2s.
4. Paul Nilsson of Loughton wins the Rega Radio.
5. Ian Jarvis of Derby wins the Philips CD740.
6. H. Smith of Stroud wins the Triangle Cometes.
7. M. J. Edge of Chessington wins the Grundig CF-4.
8. A. E. George wins the Sonic Frontiers Assemblage SF-1.
9. A. Caffrey of Preston wins the Stanton CS100.
10. J. M. Lipscomb of Andover wins the Denon PMA-450SE.
11. S. Wakeford of Orpington wins the NAD310.
12. Jemma Kettlewell wins the DNM Ringmat 330MkII.

Many thanks for the hundreds of entries we received, and congratulations to all of the winners.



Hi-fi has seemingly lost its way, even turning back to yesteryear in what appears to be a bizarre vote against modern technology: how can we, in an age that now accepts huge computing power at home (dare I mention Pentium!), then switch on a valve amplifier using valves designed in 1928, tune in a Leak Troughline from the 1950s and listen through loudspeakers from 1958, the Quad Electrostatic. Is this purely nostalgia, a hankering for what we see as the golden days of a bygone era?

I'd say not. Throughout the Seventies, the inventions of the previous two decades were honed to give steady advance and improvement. However, by the end of the decade problems were mounting for which solutions were by no means obvious.

Let me give you some examples. A top loudspeaker, billed as near perfect according to measurement, received a lukewarm reception. So did a landmark MOSFET amplifier that also measured 'perfectly'. This type of purist engineering became discredited as a result; it wasn't delivering what people wanted, yet no one could provide unequivocal reasons for such failure, nor even identify the core problem, at least in any language that signposted a solution.

The Seventies also gave us the 'wonder' of digital sound, marketed to consumers in the form of Compact Disc in 1983. I remember it all well. Once the initial brouhaha had settled down, reviewers went into a state of collective depression about CD. Was this perfect sound? More argument broke out, again along the lines that only ignorance barred appreciation of perfection. In this case the flaws were more obvious, but only now are the problems being identified and eradicated, by HDCD (High Definition Compatible Digital).

The technological wonders of the Seventies

are at last being seen for what they were: crucially flawed in subtle yet deeply important ways. We saw the big picture and thought we could copy it painting by numbers, failing to appreciate that big pictures are created by small brushstrokes.

So as the end of the twentieth century approaches and we find ourselves redeveloping the valve, what's going on? We're beginning to realise that our senses may well be right and our understanding of their complex behaviour inadequate to engineer



Reflections from Noel Keywood kaleidoscope

effective solutions. In *Shadows of the Mind*, Roger Penrose gave some fascinating insights into the actions of the brain and how, at present, we seem far from understanding how it works. Speaking to Michael Gerzon the other day, a mathematician from Oxford University working in audio, he told me that we may well listen to sounds in a way that is extraordinarily complex. At present it isn't possible to run the necessary computer simulations (the maths of which he had been working on) without using computers significantly more powerful than the best available today, except for giant mainframes like the Cray. Test equipment? Yes, a device known as a Super-Resolving Analyser might do, but such machines are still in their infancy.

Meanwhile, we are left to move forward by trial and error, using empiricism.

In my view no end of new, whizzo circuit configurations will lift us from the current stasis transistor amps have reached. Solid-state amplifiers will improve when we get good

(dedicated) audio amplifying transistors. They'll probably be bigger, of lower current density, and being specials built with care, of greater unit cost. DPA have shown that today's solid-state can be made to sound clean, sweet and open, whilst Sugden show that richer timbre can be gained as well, properties that exist in too little quantity in most designs. Add some of the space captured by Michell, and solid-state amplifiers could well sound a lot better than is common today. Yet we still need an understanding of why they sound the way they do and that's at least five years away, possibly more.

I'm sure loudspeakers are about to move ahead too. Better drivers will come about as a result of exploiting advances in materials technology to improve the behaviour of the cone and the surround. Today we have carbon-fibre and High Definition Aerogel (HDA), a matrix of carbon and Kevlar fibres that's sprayed onto a mould then baked to give a lighter and stronger cone than plastics or paper, but with

more consistency. A range of new, even better materials are being developed for tomorrow, yet at present neither carbon-fibre nor HDA are being used. This is changing too, with incoming investment from the East.

So solutions to current problems are either just around the corner or are slipping into view, at least in loudspeakers and in amplifiers.

This leaves the problem of source quality. Radio is not likely to improve much. Digital Audio Broadcasting

is based on the late Seventies view of digital, that even dimly low bit rates and sampling frequencies are hi-fi, all justified by a digital "compression" (data removal) system more extensive than that of DCC (PASC) and MD (Atrac).

Happily, studios have trashed such an outlook after so fervently supporting it, which is why we have HDCD from the U.S.A. - an interesting development that offers a relatively inexpensive improvement for the silver disc.

And recording media? Such is the pace and pressure of computer development I suspect hi-fi will bob up and down quietly in its own technological backwater until a high capacity, rewritable computer disc comes along. Then, surely, we can use it for recording and playing music. Ironically, it may be the 5in CD, originally developed for music but then adapted to suit the information age, returning to hi-fi like a prodigal son to fill this role. They'll call it something novel, like CD-E ●

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"I found the sound of my LPs improved significantly, reminding me of the experience of listening to records on a Goldmund reference turntable with a van den Hul Grasshopper cartridge with its nude stylus. All of a sudden, much more of the music, and the space in which it was performed, was evident. I'm sure that the legions of Linn and Rega owners out there who still play their LPs will want to make the modest investment required for major improvement in vinyl play." **Andrew Marshall (Audio Ideas Guide, Winter '94)**

Hear what your fellow music lovers say:

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You've probably fully recovered from the seasonal festivities by now, but what about your records and CDs? Christmas and New Year parties (or any party for that matter) can wreak havoc with your music collection. So if you've found yourself left with beer splattered CDs and remains of Japanese rice crackers in the grooves of your records, then here are a few tips for getting them squeaky clean again.

We'll look at vinyl first, as it's more complex. It's also the format most guff is talked about in terms of cleansing, although CD is catching up. Before I go any further, though, let's get the record straight, by looking at how not to go about cleaning your precious LPs.

Most hi-fi enthusiasts know by now that it is not a good idea to grab the nearest duster and to proceed to rub the vinyl to within an inch of its life. This may have the effect of making the record appear to be cleaner but, in fact, all that is being done is the dirt is being rubbed deeper into the record's grooves. Despite the obvious implications of cleaning vinyl in such a way, it never ceases to amaze me that a great number of people still persist with this method. No wonder CD found favour with the public, if this is the way they treated their records!

Another school of thought suggests washing records in soapy water. Ridiculous as it may sound, this method still carries credibility with some of those in 'the trade', such as DJs. It's not something I'd recommend for the following reasons. For a start, you'd have to use de-ionized water free from impurities. Then you'd have to be extremely selective with detergents in finding one that didn't leave a residue. Next there's the question of being careful not to ruin the label by wetting it. And finally, you're left

with a wet record, which if not dried will collect further dust.

If that sounds bizarre, then it's not half as daft as the next method suggested to me by several hi-fi shops. This philosophy suggests that you simply don't clean the record at all. Instead, you let the stylus clean the record. Admittedly this does mean that the record isn't faced with an abrasive cleaner but, in practice, it simply doesn't work. When I've tried it with records which already appear to be clean (or are even brand



Fair Views

- from Dominic Todd, our man in Scarborough

new), by the time the stylus has ploughed through a couple of tracks it's clogged up with dust. It's impossible to listen to a complete side before the stylus needs wiping clean, to avoid distortion.

That's how not to do it. Generally I've found the best method is to simply use an anti-static carbon fibre brush (possibly with a velvet pad), wiped lightly over the

“The best cure is prevention! Your records stand their best chance if they're put away straight after use and properly stored.”

record's surface. I've been using this method for over five years and my records have suffered no ill effects. If the surface is looking really grim, then seek out (you'll occasionally find them for general use at hi-fi shops) one of the purpose built machines, such as a Nitty Gritty or Keith

Monks. The Keith Monks, in particular, is a wonderful device which not only thoroughly cleans the record, but also dries it using a tiny vacuum located on the end of an arm. There is a similar machine from Nitty Gritty too, although I've yet to try one. Which ever device you try, they have to be the ultimate accessory for vinyl fans.

Don't forget there are excellent de-greasing agents on the market too. These will clean lighter marks off the record, but will also remove the pressing lubricant you'll find on new records. Designed to be a once only (or annual) applicant, such agents are usually alcohol based (thus evaporate quickly) and supplied with a velvet pad. Brands to look out for include Goldring, Hunt/Ixos, Milty.

Finally, the best cure is prevention! Your records stand their best chance if they're put away straight after use and properly stored.

Cleaning CDs is a much simpler affair. There are machines on the market designed to do the job for you. However, unlike the 'Gritty and 'Monks vinyl

machines, such devices are usually ineffective. The units I've tried have had very little effect, or have even gone so far as scratching the surface when a bit of grit gets stuck between the pad and CD. Having said that, I've yet to try one of the more expensive Nitty Gritty CD cleaners which I would expect to make a better job of this.

Once again, the best solution is one of the most simple. For lighter marks, simply breath on the CD and use a lint free cloth to

wipe the surface. Always wipe from the inside of the CD towards the outer edge, in straight lines (not in a spiral). For more stubborn finger marks and stains try one of the spray-on cleaners, again using a lint free cloth to wipe the residue off.

This year has seen a plethora of liquids said to remove scratches from CDs. The samples I've tried have been less than impressive and only really seem to be effective on the smallest marks. These are not the miracle cure they may first appear. Once again, the best thing to do is to prevent them getting scratched in the first place, by returning them to their boxes after use.

Finally, don't forget the stylus and laser. In the case of the stylus use a stiff brush or electronic vibrator type, plus a drop of a proprietary cleaner to remove stubborn dirt. The CD player's laser lens can also get fogged up, especially if it's in a smoky room. Again, you can buy devices to do the job - which is the easiest and safest method.

All that remains for you to do then, is to sit back with some Alka Seltzers and enjoy the music ●

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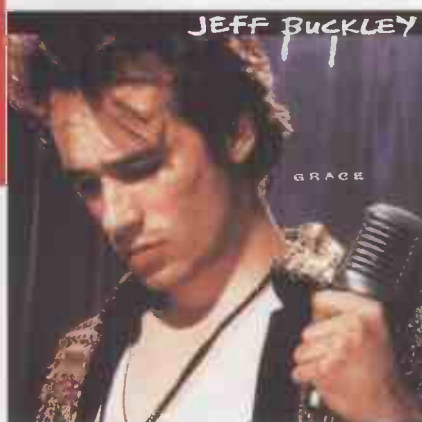
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The Music of Days

Giovanni Dadomo



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● The children of the famous are more damned than blessed in the main. What, for example, ever became of Patrick Wayne or Alan Ladd? And even the most devout Lennon devotee can hardly claim son Julian's LP – was it LaVotte, LaMotte, Big Bott...or what? – to have been some sort of meisterwerk. But then, to confuse and amaze one and all comes the first long-player from Jeff, son of the late and brilliant Tim Buckley, an artist who – as noted in these pages before and despite an untimely death, continues to rise in stature with each passing year and every posthumous release.

So now comes the LP debut from Buckley Junior, and one or two minor flaws aside - when he tries to, ahem "rock out", as they say, he could learn a lesson or two from uncle Neil Young, say - Grace is a strident, strikingly original piece of work, one that Buckley Sr., would no doubt have been justly and rightly proud. Master Buckley shares his father's breadth

of range vocally – although the tonsils displayed here are lighter in general feel perhaps, but that's no bad thing by any means, and he marries his vocal diversity with a gleefully easy way with the raunchier side of contemporary guitar rock. Check only the dizzyingly delicious beauty of the vox on 'Dream Brother' and its near-blissful marriage to a loudly proud drum back up (take the first of many bows Matt Johnson on skins) whilst the title cut features a breath-taking vibrato section as emotive and evocative as anything in Buckley Senior's broad and brilliant canon.

'So Real' is another of several demonstrations of both wide vocal range as well as an imagination of similar breadth and depth, featuring some of the strangest guitar sounds I've heard in years, and 'Eternal Life' is as rockingly guitar-powered as anything this side of Keith Richard or Dinosaur Jr. And the semi-acoustic thrills and spills of Leonard Cohen's 'Hallelujah' are quite simply awesome in their restrained potency and, yes, pure grace.

Stunning and special, Tim's shade must surely be smiling (and most likely harmonising along too) at having such a special offspring. Hallelujah indeedy.



THROWING MUSES
University
4AD CAD 5002

● After a too-long dissolution during which singer Kirsten Hersh delivered a striking solo debut with Hips And Makers, one of the most subtly amiable indie

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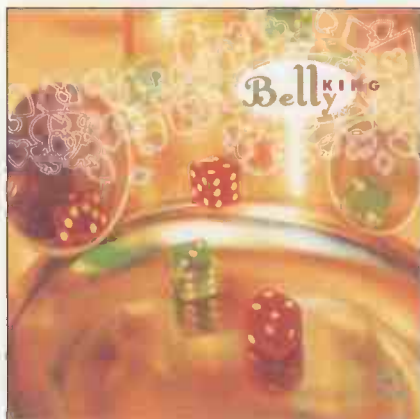
JAZZ86

Simon Hopkins
Simon Cooke

combos return with a strong if fairly typical record under the old Throwing Muses banner.

As previously there's a much harder electric edge to this set than Hersh's solo outing, but it still scintillates with a blend of tough rhythms and delightfully brittle voicings. Note two particularly strong openers in 'Bright Yellow Gun' and 'Start' before things take a downward gear with such self-explanatory titles as 'Hazing' and the particularly seductive tones of 'Shimmer'. Items such as 'No Way In Hell' bespeak a more muscular side, the words are as fetchingly off-centre as ever and the tunes never go quite where you'd expect.

A welcome addition to an already strong and wholly distinctive catalogue.



BELLY King

4AD CAD 4004CD

● Second time out for Belly, the ruff'n'tuff, always more than cool enough combo centred around Tanya Donnelly, indie superstar, and former Throwing Muse. Donnelly's voice is not a stone's throw from that of her former colleague, but it's a somewhat stronger mix of light and shade. And if at times she tends towards a deep vibrato which can't help but bring to mind echoes of Chrissie Hynde of the Pretenders, this is really no bad thing.

For the better part of King however, as on the band's excellent 1993 debut album *Star*, she's very much her own woman, combining uniquely quirky lyrics (check out the one about the woman next door who "walks on her hands...doesn't trust where her feet might take her") plus an enviable talent for tunes that are both sturdy and catchy in nigh on equal measures.

Perfectly assembled, this selection of powerful tunes combined with some highly sympathetic production (courtesy of Veteran Glym Jones) gives Donnelly and cohorts (bassist Gail Greenwood and the brothers Chris and Tom Gorman, bass, drums) a record full of fire, brimstone, high inspiration and not the merest hint of treacle. A palpable hit, as they say.

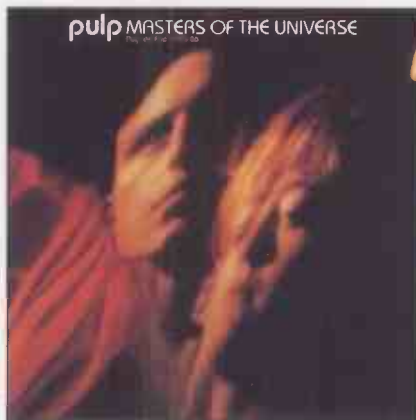


PULP It

**FIRE REFIRE CD 15
Masters of the Universe
FIRE CD 56**

● Perhaps the major irony concerning Sheffield's Pulp - unarguably neck and neck with Blur and Oasis as major Big New Names of '94 - is that they weren't new at all, but had been cranking out indie vinyl for a good ten years. The evidence is on these two reissues. It, the group debut long-player made few ripples when first issued in 1984. Similarly the bunch of 12-inchers assembled on the 'Masters Of The Universe' collection.

Hearing these early, necessarily low-budget early works from Jarvis Cocker and company makes their sources and inspirations more obvious - Jacques Brel, Scott Walker and more nearby sages such as Marc Almond and Human League's Phil Oakey. Cocker was, it's true, still a way from developing into the distinctive stylist of the sublime *His 'n' Hers*, and there are too many stabs in too many directions for a cohesive whole. Still, aficionados new and old can't help but find plenty to intrigue them on these two sets.



Cocker was already a wordy bugger - the lyric sheet reads like a short existentialist novel. Novel too are the choices of subject matter - who else would write a song about dogs, say? And there's a twisted love story - the rightly notorious 'Little Girl With Blue Eyes' - that contains a lyric so shocking and extreme that I can't bear to say it, let alone share it with you in a quality journal

like ours. Alternately bombastic, pretentious, and inspired in almost equal measures, these are interesting enough pieces of what the literary world would dub Cocker's juvenilia, but as a Pulp fanatic I was more often enthralled than not, even though - see previous reference to meagreness of budgets - the one thing that does let the discs down - particularly the overly sparse *It* - is a definite weakness in the production stakes.

That said there are extraordinary moments aplenty here - check out the astonishing vocal breakdown at the end of 'Tunnel' or 'The Will To Power', which manages to collide 'Sister Ray' with proto-electro to amazing effect. Mainly for completists perhaps, but then Pulp are - and were, even wayback then - unique enough for even their prehistoric phases to be more interesting than much of the current competition.



ZZ TOP

**ONE FOOT IN THE BLUES
WARNER BROS 9362-45815-2**

● They've clocked up a cool quarter century between them and most of us know that the drummer with the smooth chin is called Frank Beard, but the origin



THE STONE ROSES
Second Coming
 GEFFEN GCD 24503

Anyone sufficiently long in the tooth enough and / or big in the memory business will doubtless recall how Stevie Wonder once spent so long "getting it together" in the studio that Motown Records finally put out a T-shirt emblazoned with the message "I'm nearly finished" or words to that effect. But Mancunian boy wonders Stone Roses have been keeping the world waiting a good five years in between first and second long-players; in fact they are hardly boys at all anymore. Actually, there were ample good reasons for sympathy in this particular case – record company and management hassles galore and all manner of business lah-di-dahs.

Thus, and needless to say inevitably, a lot of pop critics' reactions were nothing if not uncharitable where the new Stone Roses' disc – slap-our-cheeky-bottoms – was concerned.

Small surprise really; after all, the Roses were supposedly the new Smiths -

cum-pre-Oasis of their day after their hugely impressive eponymous debut. Inevitably Second Coming received more than its fair share of drubbings in the weeklies.

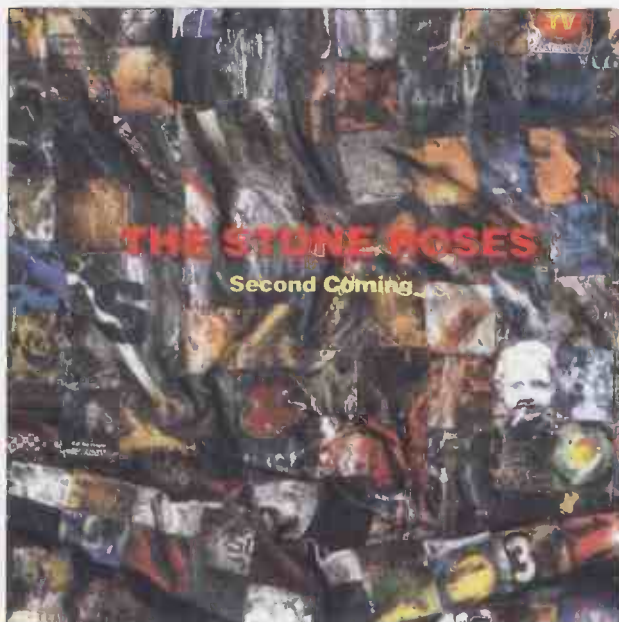
Ironically, such brickbats are both inaccurate and inapposite as even a relatively cursory acquaintance with the new Stone Roses long-player will easily prove. True perhaps that the disc is prey to a mite of self-indulgence – most

notably on the lengthy hand-job that passes for an introduction to the otherwise sturdily catchy opener 'Breaking Into Heaven'.

Elsewhere the boys come good on the Simon and Garfunkel-type harmonies of 'Your Star Will Shine', or the brisk cosmic blues of 'Begging You', a feelgood racer that declares "This is a mystery not to be solved", and who can argue with that? On 'Tightrope' they

sound like (paradox, paradox!) nothing so much as a relaxed Jesus and Marychain, whilst elsewhere such various ghosts as the Beatles, Blind Faith, and even the Latino sexuality of Santana rub shoulders with Snake God Jim Morrison's serpentine shade. And 'How Do You Sleep?' is a happily ironic nod in the direction of Messr's Lennon and McCartney – one where the angel of death comes happily knock-knock-knocking at everybody's door.

Second Coming is a suitably impressive follow up and one which I guess will grow on most people, maybe even some of those originally none-too-kind pop critics.



of their name remains a mystery even to this long-term listener.

Everyone knows the ZZ's distinct up-ending of the simplest of structures - like Status Quo with clever fingers and a somewhat broader palette - so this trip through their back catalogue assembling the more obviously Blues-tinged material isn't exactly packed with surprises. Still, it's a warmly infectious sound, and the band's canny sense of humour - titles like 'I'm A Fool For Your Stockings' or 'Head's In Mississippi' tell their own tall tale. Top men one and all, and a must for any proper record shelf.

befitted the times, a couple of art school chums-turned musos, blowing a hot but cool blend of Blues classic as well as contemporary rock. They even made it into the top 30 and onto Top Of The Pops, a feat sadly unmatched by any of their stablemates.

This first LP was probably their most lovably distinct - the only other duo around at the time who could make such



MEDICINE HEAD
New Bottles, Old Medicine...Plus
 SEE FOR MILES SECD 411

● John Peel is a Guaranteed Hero of the underdog and some of his finest moments off-air came via his sadly short-lived Dandelion Records, which featured such delights as early works from Kevin Coyne, the inimitable Stackwaddy and, among others, this amazingly original duo - John Fiddler - guitar, violin and Peter Hope-Evans - harmonica - were, as



joyous sounds come from such a teensy band were Marc Bolan's Tyrannosaurus Rex (who were, natch, also Peel-assisted into thousands of grateful ears). The "...plus" at the end of the title of this re-issue refers to a bunch of bonus tracks which, viz. a stomping version of Bobby Zee's 'Just Like Tom Thumb's Blues' provide ample evidence that the lads were as at home in a live context as they were in the studio. Well worth a listen - and at the very least everyone should see the Dandelion label design, surely one of the neatest ever to feature on vinyl.

Jon Clarke



NEW ORDER
The Best Of
 BEMUSIC/WARNER CHAPPELL 8285802

● Another year, another New Order album. And this time another compilation. While the enigmatic Mancunians always disappear for large lengths of time, fuelling frequent rumours that they've split up, suddenly up they pop with a new album to quell the doubts. But on this occasion, however, the news is no news. As if the excellent Substance wasn't enough, Manchester's other finest band bring out a second compilation of their weighty back catalogue.

And although there are remixes, albeit synthetic, in 'True Faith', 'Bizarre Love Triangle', etc., the album is entirely old material. New Order have a crafty habit of doing just this - remixing and repackaging tracks for later release. Regardless, New Order sound as brilliant as they ever did, and the tracks on Best Of sound as sweet today as they did in the 80s. It's particularly nice to see 'Thieves Like Us' and '1963' - two long lost beauties - sitting pride of place on the A-side.

Despite hearing the whole lot before, it's worth the buy just to see yet another New Order record on your turntable. And to know that they still haven't quite keeled over and died.

PARIS
Guerrilla Funk
 VIRGIN 7243 8 40095 2 6

● The Black Panther of rap has been shaken and stirred once again, and this time he's larger than life. It's been a good year and a half since America's Paris had any sort of foray into the music scene, and with this album he's made a storming return.

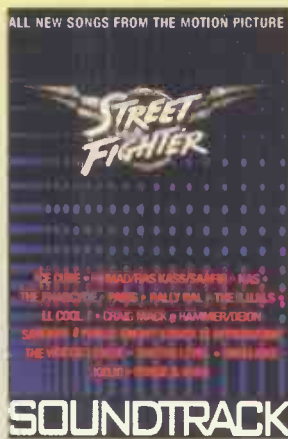
Guerrilla funk is a hard-core slice of west coast rap with a sweet G-funk edge.



And while it may be as far from Europe's cultural capital as you could possibly get, it's a stylish, angry and uncompromising album. From the frighteningly explicit sleeve notes - depicting rather dodgy scenes of police being slain - Paris drops some of the hardest, most chilling lyrics heard over the past year.

This rapper is big, digging at the American system about as hard as you can, Paris is out to educate. But, that's not just why he deserves a listen. Musically the album is as tight, funky and brooding, with heavy bass lines and Clinton-style grooves. The awesome track 'It's Real' and the new single 'Guerrilla Funk' are some of the best rap tracks to have been released for a while, and a real credit to Virgin for snapping them up.

The rantings of this radical black rapper might not suit everyone's point of view, but his musical talent is no way in doubt.



VARIOUS
Streetfighter: Songs From The Motion Picture
 VIRGIN 7243 8 40127 4 8

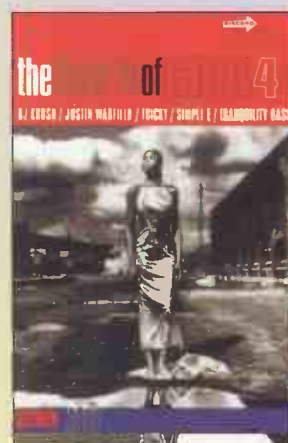
● The soundtrack to the new Kylie quest to take over the world, featuring Claude Van Damme as somebody hard and mean, no doubt, is a lot better than one would imagine.

● Featuring a superfly mix of rap heavyweights, from Ice Cube to LL Cool J, and some of the new and up-and-coming rapsters like Paris and Nas, it's an album well worth getting hold of.

VARIOUS
The Rebirth of Cool 4
 ISLAND BRCA 607

● This delightful, little known series of compilations only gets better. With three excellent albums already down the line, Rebirth of Cool returns with an absolute stormer. Loosely connected with the club scene, number four again springs up a delightful range of obscure named bands from as far afield as Brazil and Japan - the best being ex-Special Jerry Dammer's Tone Productions featuring Brudda Nay Cha.

Yet again compiled by Kiss FM's Jazz guru Patrick Forge, Rebirth of Cool 4 has moved away from its beginnings as very much an outlet for up and coming jazz rap bands. Practically every group is young or undiscovered. Only trumpet genius Ronny Jordan makes it onto all four compilations.



These seventeen generally wild tracks, are a melange of rare grooves, Swing and Jazz. Loosely a step on from the dance-floor jazz scene, they have a mellow vibe collectively but give scope to dance. Inspired by Miles Davis' Birth of the Cool - an album which heralded a new era in Jazz - the Rebirth compilations also look to the cutting edge and boundaries of modern music. Rebirth 4 is no exception.

Kicking off with the much-rated Japanese trend setter DJ Krush, the first side hardly has a bogus track. Simple E's 'Play My Funk' is simplicity indeed, built around a Herbie Hancock sample, it's a sublime chunk of poetic funk. New York's Groove Collective supply the album with their brilliant 'Rent Strike' - a fluid dance track. But best of all is the excellent Tranquillity Bass for California with the storming 'Cantamilla'. And that's not to mention top sounds from The Pharcyde and Tricky. The flipside has many moments, in particular Bomb the Bass' Justin Warfield with a brilliant jazzy number 'Cool Like the Blues' and dub grandfathers Burning Spear with their old but bold 'Great Men's Dub'.

The best thing about Rebirth compilations is the way they fuse known acts like Tricky or The Pharcyde with brand new and underground stuff like Batu or Outside. This stuff is timeless, unknown, and above all, Cool.

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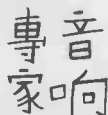
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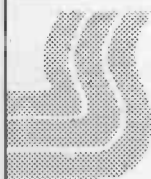
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300B VALVE AMP KIT

£850

This is a specialised amplifier based on the highly linear 300B triode valve. Our 300B runs in Class A, giving one of the most sweet, open and neutral sounds possible today. Matched with good loudspeakers, it is unsurpassed. Can be monoblocked for 60watts.

All parts are included in the kit, except valves since different 300B makes are available.

4W SINGLE-ENDED VALVE AMP KIT

£385

The 4W Single-Ended amplifier kit is a line level integrated amplifier. It comes with three line level inputs and a tape output. High quality components are used throughout, including polypropylene signal capacitors, Alps volume control, custom C&K gold plated selector switch etc. Valves are included.



World Audio
design

VALVE LINE LEVEL PRE-AMPLIFIER £295

The line level preamplifier uses one of the simplest and most elegant circuits to give a sound with remarkable clarity and detail. The components are all high quality and include a special screened toroidal transformer, Military Spec. Russian valves, Alps potentiometer, polypropylene signal capacitors, silver plated copper wire etc.



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KLS3 uses extremely light and stiff carbon fibre cone drive units for a fast and accurate sound. A dedicated 4inch carbon fibre midrange drive unit provides the cleanest, smoothest and most detailed midrange characterised by superb projection.

KLS3 has been engineered to get the best from your amplifier, be it valve, solid state, single-ended or zero feedback. Its high 90dB sensitivity and near flat 8Ω impedance make it one of the easiest loudspeakers to drive.

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- Drive Unit Pack £230
- Built £1500

HIGH DEFINITION LOUDSPEAKER

The High Definition loudspeaker is ideal for low power, high quality amplifiers, transistor or valve. It goes very loud with just 1.5watts, having an enormous sensitivity of 94dB - that's 8dB more than most other speakers. It is also a very easy load for valve amps (8ohms) and it gives a terrifically dynamic and fast sound. This speaker is also unusually suited to low powered vintage amplifiers, such as Quad IIs, Radfords, Pye Mozarts and such like.

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The 1994 range of Audax drive units sees many modern high tech materials and technologies that would normally be unavailable to the home constructor. We offer a small range of the highest quality drivers, including High Definition Aerogel (HDA) units, carbon fibre and three superb soft dome tweeters. Sadly there isn't enough room to print the specs, but if you are interested in any of the following drivers, please ask us for a detailed spec sheet.

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CAST CHASSIS UNITS

	4 inch mid	6.5inch bass/mid	8inch bass
HDA	HMI30Z0	HMI70Z0	HM210Z0
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NEW 3inch HDA mid,	HMI00Z0		

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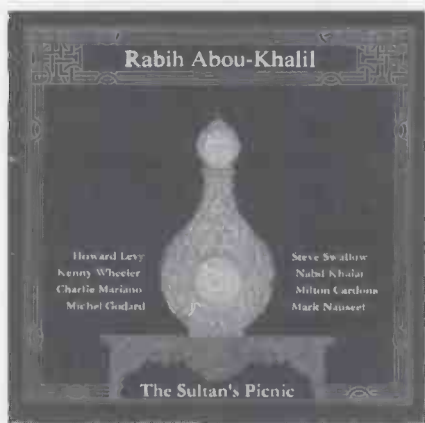
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See page 85 for order form...



Simon Hopkins



RABIH ABOU-KHALIL
The Sultan's Picnic
 ENJA ENJ-8078 2

● The Sultan's Picnic is the latest in a quickly-expanding body of work by Rabih Abou Khalil, Lebanese master of the oud, a middle eastern form of lute. Over the course of six - now seven - albums released on or through the German jazz label ENJA, he has produced a pan-ethnic, improvisational music of increasing

uniqueness, which has brought together the traditional Lebanese and Syrian classical music of Abou-Khalil's musical background with jazz improvisation, Indian drumming and European experimental music.

It's a music which has been recorded by Khalil in conjunction with some of the finest musicians working in contemporary acoustic music, from jazz musicians like English trumpeter Kenny Wheeler, bassist Steve Swallow and altoist Sonny Fortune (alumnus of one of Miles Davis' great 70s bands), to "traditional" idiomatic musicians as diverse as South Indian percussionist Ramesh Shotham and South American conga player Milton Cardona.

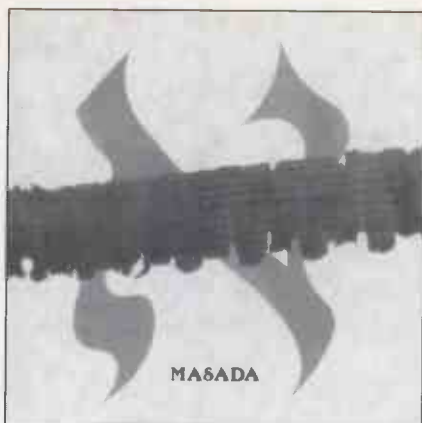
Still, Abou-Khalil is hardly the first musician to attempt a fusion of the music of a particular culture with jazz improvisation. Indeed, historically, the very hybrid, mongrel nature of jazz has made it a veritable playground for well-meaning eclectics, from Mahavishnu - period John McLaughlin's Hendrix-meets-Ravi Shankarisms to Ornette Coleman's outings with the Joujouka musicians of Morocco. But for every artistic success like those there's been a hundred ghastly failures, and by the height of the New Age cult in the mid-eighties you'd have had to have been either certifiably mad or just plain tasteless to have gone near an album which boasted the sort of line-up credited on Abou-Khalil's albums.

But Abou-Khalil undoubtedly belongs alongside the very finest jazz-eclectics. The music evident on 1992's Blue Camel and 93's Tarab, at that point his finest records to date, showed a musical mind

at work which could match its owner's staggering virtuosity with a font of musical ideas, as immediately accessible as they were immensely sophisticated.

For The Sultan's Picnic Abou-Khalil has brought together eight musicians with whom he's worked in various line-ups over the last half-dozen years or so: Wheeler, one of the most lyrical musicians working in European jazz, on trumpet and flugelhorn; the hugely underrated and under-used Charlie Mariano on typically swooping and soaring alto saxophone; the characteristically thoughtful American electric bassist Steve Swallow; jazz and fusion drummer Mark Nauseef; Cardona on congas; the superb frame drummer Nabil Khaiat; tuba player Michel Godard; and, very possibly the star of this set, harmonica player Howard Levy. Geoff Dyer's accompanying sleeve notes point to the "cry of the blues" that Levy's playing brings to The Sultan's Picnic, but in truth, Levy is about as close to the tradition, say Sonny Boy Williams, as John McLaughlin is to that of Robert Johnson; I mean, you don't know what a harmonica's capable of until you hear Howard Levy dive-bomb his way around this music.

What's staggering is that not only does Abou-Khalil the instrumentalist shine even in such stellar company, he has these players, each unique voices, play a music which is from the first note, very much his own. Highly-wrought, hugely enjoyable music elaborately baroque and irresistibly guttural; it is at once the music of the marketplace and the conservatoire. Recommended without reservation.



JOHN ZORN

Masada

DIW DIW-888

● There was a time when John Zorn was never out of these pages, which reflected this particular hack's obsessions, certainly, but had a lot to do with the sheer amount of new Zorn records appearing in the early 90s. For those of you who still haven't got into the work of the single most important musician currently working in contemporary jazz, wise up: over the last decade and a half, Zorn - alto saxophonist, band leader, composer, collagist, improviser, conceptualist, record label founder - has been responsible for a body of work which has re-drawn the boundaries of music making.

The single defining factor in Zorn's musical character has been his relentless absorbing of non-jazz material into jazz's bloodstream. I said Zorn had re-drawn musical boundaries, but in truth he's never recognised them. For Zorn there's no categorical difference between Charles Ives and Brian Wilson and Duke Ellington and Napalm Death, no inherent distinction between surf guitar and Indian film music and punk and allegoric music and jazz, let alone between the jazz subsets of, say, free improvisation and hard-bop and jazz-rock.

Many of Zorn's later musical obsessions have been worked out in the company of his "supergroup" Naked City, their work largely released through his own Japan-based label Avant. With Naked City, Zorn initially moved from the large scale concept pieces of his years with Elektra (in fact, it has to be said that Zorn single-handedly rescued the entire notion of the "concept album" from the critical dustbin) to smaller, song-based settings which plundered Zorn's record collection of influences quite ruthlessly. Still, by the turn of the nineties, even NC's work started to tackle big themes and assume a large scale; their finest album unquestionably remains 1993's Absinthe, a mesmerising, nerve-wracking exploration of the favourite hallucinogenic tippie of fin de siècle Parisian intellectuals.

Yet despite Absinthe's achievements, John Zorn's finest album of the nineties was made away from Naked City, and

took him as far from the central jazz canon as anything recorded in his career. Kristallnacht, a horrific musical account of the events leading up to the Holocaust, centring on the eponymous first night of overt Nazi persecution of the Jews. It was Zorn's first full-scale exploration of his Jewish roots, and perhaps signified a new musical and personal obsession; it's certainly one which he follows through on Masada, a marriage of traditional Yiddish musical melodies with the blues-drenched hard-bop of Omette Coleman.

Now Zorn's evidently got some extra-musical agenda going on here - the Yiddish titles, the Holy Land photograph, the dedication to Cultural Zionism's founding father Asher Ginzberg - but with the copious sleevenotes all in Japanese you'll probably to have forego some of that programmatic detail and judge Masada on purely musical terms.

Suffice to say that in researching and celebrating his cultural roots, Zorn has made his finest acoustic jazz album since 1989's classic Spy vs Spy. That album took the great tunes of mid-60s Atlantic-period Omette Coleman and performed them with white noise, the so-fast-the-tempo-disappears aesthetic that Zorn had picked up from listening to the early albums of British hard-core thrash groups like Napalm Death, Carcass, and Extreme Noise Terror. It was, without doubt, an epochal album, and unquestionably the most important and most enjoyable album of the Eighties.

On Masada JZ is joined by one of the two drummers from that Spy vs. Spy session, the awesome Joey Baron, along with trumpeter Dave Douglas and bassist Greg Cohen. The sound of the group - beautifully recorded at RPM studios in New York last February - is classic hard bop, full of compulsive group interplay. The rhythm section run the gamut of bop grooves from pummelling swing to airy rubato ballad to gritty funk, while the horn players dive around each other's playing with an acrobatic fluidity. And the traditional Jewish melodies around which the band hang their improvisations and on which Zorn has pinned his eleven compositions give the music an inner drive which like so much in the Jewish

cultural legacy, easily mixes the spiritual with the visceral.

So, OK, this isn't the high-concept drama of Kristallnacht or the Ennio Morricone tribute The Big Gundown or the B-movie collage Spillane, but it is Zorn's boldest and finest statement as a no-holds-barred jazz musician of his entire career. If the thought of musicians still recording hard bop albums fills you with either ennui or exasperation (and it generally fills me, somewhat perversely, with both), then prepare to be staggered by Masada.



BOBBY PREVITE'S EMPTY SUITS

Slay The Suitors

AVANT AVAN 036

● And so, all too briefly, to three albums released over the last three month's by John Zorn's own label Avant.

Drummer and bandleader Bobby Previte has been a mainstay of the New York contemporary music scene which has been home to some of the world's finest young jazz musicians - Zorn among them of course - for at least a decade. Empty Suits is a scaled down version of the group which appeared on the eponymous 1990 album, this time out featuring trombonist Robin Eubanks, keyboardists Wayne Horvitz and Wayne Gaboury, guitarist Jerome Harris and percussionist Roger Squitiero. Together they work their way through four long and complex pieces by Previte which joyously jump-cut from genre to genre and mix dense composition with high-octane improvising, all-in-all coming on like the soundtrack to a B-movie with serious art-house longings.

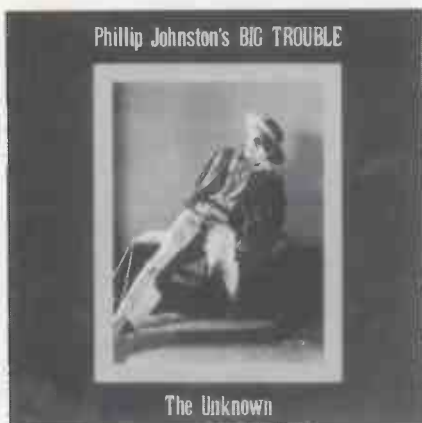
PHILLIP JOHNSTON'S BIG TROUBLE

The Unknown

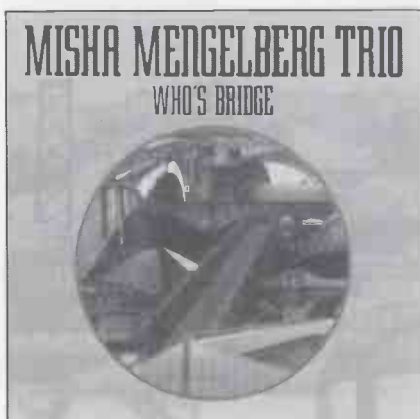
AVANT AVAN 037

● Meanwhile Phillip Johnston's Big Trouble play their leader's music for a real film, Tod Browning's 1927 melodramatic Lon Chaney/Joan Crawford vehicle "The Unknown". Again a grab-bag of musical styles is plundered by this two





sax-trombone-synth-bass-drums sextet and the musicians revel in their task, with both measured accuracy and terrific blowing. A real blast throughout.



MISHA MENGELBERG TRIO
Who's Bridge
AVANT AVAN 038

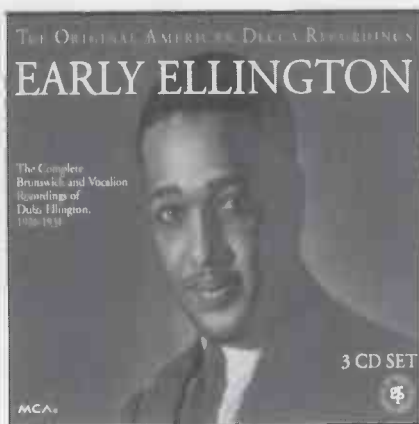
● And finally, an insultingly short word for the finest jazz piano trio records I've heard for a long, long time. Dutch composer and free improv pianist Mengelberg is joined by bassist Brad Jones and Joey Baron on a series of very warped, by-the-seat-of-your-pants takes on bebop chord changes and melodies. Like Masada essential for anyone who wants to visit the places acoustic small group jazz can still go.

Simon Cooke

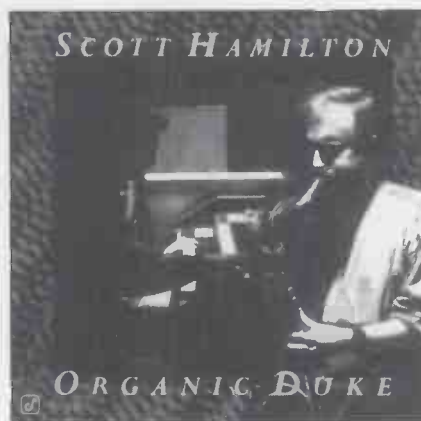
EARLY ELLINGTON
The Complete Brunswick and Vocalion Recordings of Duke Ellington 1926 - 1931
GRP 36402

● Sixty-Seven cracking tracks - three CDs - from the Duke including several takes of tunes like 'Birmingham Breakdown', 'The Creeper' and 'Tiger Rag'. It's an impressive collection let down by the quality of the transcription to CD. Although the music sounds excellent, the

outstanding feature is the surface noise from the originals which sounds incredibly loud.



I have to wonder whether it was worth releasing in this condition as it seems likely that Ellington fans would do better to rummage around for vinyls. Nevertheless, it's a worthwhile buy for the 'armchair' Ellington fan and an insight into the work of one of the all-time greats.



SCOTT HAMILTON
Organic Duke
CCD-4623

● Mike LeDonne on Hammond B-3 organ, Dennis Irwin on bass and old cohort Chuck Riggs on drums running through ten tracks of Ellingtonia. Hamilton provides his usual brilliance on sax and Concord slap it down on CD with caesium-clock precision.

Easily this month's best release, and one which makes you wonder how they make it look so easy. One of the most worthy tributes to the Duke I have heard.

EARWAX CONTROL
2 Live
NAIM CD007

Earwax Control are experimental musicians; Paul Wertico on drums, percussion and anything which comes to hand, Jeff Czech on guitar, vocal, violin, bugle, etc. and Gordon James playing varied synthesised strangeness. It's improvised, and not necessarily jazz, but they run sounds - and, of course, lots of



feedback - around the group in waves and washes that construct remarkably clear and lucid images considering the fact that instruments seem less played than, well, playing.

Often Naim recordings, in my opinion, can dampen the performers' 'edge' somewhat but there's still raw energy aplenty in this CD, enhanced by Naim's high technical standards. It's stuff that will probably test meeker systems (and eardrums) to destruction if approached carelessly but, with due care and liberal applications of Paracetamol, it definitely repays attention.



SHIRLEY SCOTT
Roll 'Em
GRP 11472

● A GRP re-release from 1966 with another Hammond organ celebrating the late 60's revival of the big band sound. Unlike LeDonne in 'Organic Duke', Scott and her organ are too far forward in the mix, lending this a distinctly Sixties retro appeal. Nevertheless, they crack through ten big-band hits including 'For Dancers Only', 'Sometimes I'm Happy', 'Little Brown Jug' and 'Ain't Misbehavin'. Despite the naffness of the Hammond sound, or maybe due to it, this CD works wonderfully.

Jazz

Hi-Fi World Dial-a-Dealer

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SURBITON PARK RADIO, 48 Surbiton Road, Kingston-upon-Thames, Surrey, (081) 546 5549. QUAD, Castle, Denon, Dual, Kenwood, Mordaunt-Short, JBL, Rotel, Pioneer, QED, B&W and Tannoy. Demo fact. Access, Visa and Switch. 9.30-5pm.

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Peter Herring

Discoveries - a Dutch emigre emerges out of the shadows; the unknown glories of Purcell's church music, and sacred jewels by Taverner, Part and Gorecki - not to mention the 'unfinished' Schubert which proved to be anything but!

BERNARD VAN DIEREN **Songs for High Voice and String Quartet** **Estemporales Nos. 1 and 2 for Harp/Songs for High Voice and Piano/Sonata for Solo Violin/Piccolo Pralinudettino** **Fridato/Sonatina Tyroica**

Ludmilla Andrew, soprano; Sidonie Goossens, harp; Philip Thomas, piano; Eiluned Davies, piano; Jonathan Ayers, piano; Chris Nicholls, violin; Emperor String Quartet; Director Barry Collett
BRITISH MUSIC LABEL BML001
 (DDD/79.20)

● Bernard who? The reaction is understandable. Until I encountered this recording, Bernard van Dieren was known to me only as a shadowy figure in the annals of twentieth century British music; I had certainly never heard any of his compositions, either in concert or on record. Ought this situation have remained unaltered? I'm pleased to say, no. The Dutch-born van Dieren was clearly a composer of talent, invention and accomplishment, although his relatively early death at the age of forty nine prevented him from fulfilling his potential.

Van Dieren was born in Rotterdam in 1887 and educated there, becoming a chemist. But music was in his blood and, in the company of a fellow Dutch musician, Frida Kindler, he moved to London in 1909, where they married a year later. His wife was a notable pianist, a pupil of Frederico Busoni. This connection was to have a lasting influence on van Dieren's work, as his composing style evolved from imitative late romanticism to a more exploring atonal technique.

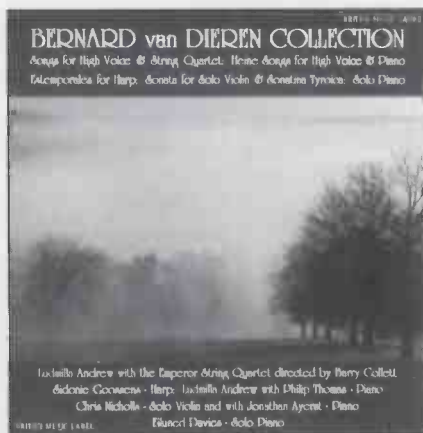
In 1912, van Dieren began to suffer from an incurable kidney complaint which ultimately was to bring about his early death. Friends in England championed his music and many of his shorter compositions were published.

Performances of his works increased during his last years and, after his death, a number of pieces were broadcast by the BBC, under the direction of the composer's friends, Constant Lambert and Edward Clark. Without such promotion in more recent times, however, van Dieren's music has slipped into an obscurity from which it is only just emerging.

This release on the British Music Label presents a good cross-section of van Dieren's compositions, recorded at various venues between 1984 and 1992 but nevertheless coming together as a coherent and interesting programme. His talent as a songwriter is evident throughout, with some fine settings of the German poet, Heinrich Heine. Of particular interest are the two songs for high voice and string quartet which supply an engaging opening to the CD. One sets verses from Shelley's *The Cenci*, the other the *Rhapsodia* from Thomas de Quincey's *Levana and Our Ladies of Sorrow*, the latter demonstrating how imaginatively van Dieren could exploit the free atonal style of his formative composing years.

Equally inventive are the *Estemporales* for Harp, here played by the performer for whom they were written, the splendid Sidonie Goossens. The *Estemporales* date from 1931, five years before van Dieren's death, and the scores make many unusual technical demands on the harpist. Several of the ideas were developed by the composer in conjunction with Sidonie Goossens during rehearsals.

There is considerable need for virtuosity, too, in the *Violin Sonata*, where the neo-classical format begins with a largo reminiscent of Bach and then demands the technique expected in playing the *Paganini Capriccios*. The work is full of ideas, and its development of themes excites and engages. Few aspects of violin technique are left untouched during its five-movement span and, playing

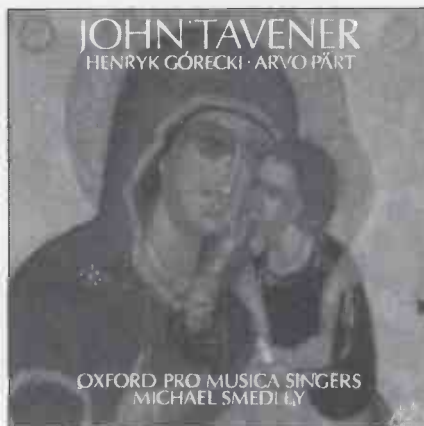


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One of the most surprising musical phenomena of recent times, apart from an apparently insatiable appetite for collaborations between Carreras, Domingo and Pavarotti, has been the burgeoning popularity of sacred choral music, whether of the Medieval and Renaissance periods, or by contemporary composers strongly influenced by those traditions. 'Discovering' (or re-discovering) religion, I suspect, has little to do with this popularity. What most appeals is the contemplative, often ecstatic nature of this music, its pure beauty and its ability to conjure a world of peace, simplicity and unhurried tranquillity. Many, of course, also respond to the visionary, spiritual nature of the music, but frequently not in terms of established theology. The appeal of this music is direct and uncomplicated, and its impact can be immediate.

Three contemporary composers who have revived the fortunes of the a cappella tradition of much earlier times come together on a recent release from the Oxford-based Proudsound label: John Tavener, Arvo Part and Henryk Gorecki. Tavener, with *The Protecting Veil*, and Gorecki, with his *Third Symphony*, have enjoyed recording sales which have earned them almost pop star status. Is it all part-and-parcel of the widespread retreat into a quirky brand of misty-eyed mysticism in the face of an increasingly godless and materialistic society, a kind of 'musical opium'? Or is

this music that, while meeting a contemporary need, is also of indisputably lasting worth? I make no attempt to answer that one, but Tavener, Part and Gorecki could want for no more convincing advocates than the singers of the Oxford Pro Musica.



JOHN TAVENER
Annunciation/Icon of the Nativity/The Lamb/A Nativity/ Today the Virgin/The Lord's Prayer/Many Years/Wedding Prayer/He Hath Entered the Heaven/The Acclamation
ARVO PART
Magnificat/Summa
HENRYK GORECKI
Euntes Ibant/Totus

Tuus/Amen

Oxford Pro Musica Singers; conductor, Michael Smedley
PROUDSOUND PROU CD131
(DDD/77.12)

● Since John Tavener converted to the Orthodox Church in 1977, sacred music has dominated his output, if not choral music, then instrumental works with a clearly-stated liturgical inspiration. Here, though, is Tavener at his most succinct and, for me, his most appealing: ten short a cappella pieces, seven of which - surprisingly - are receiving their first recordings. This is especially so in the case of the *Icon of the Nativity*, a deeply-moving, incandescent setting of a fourth century poem by St Ephrem of Syria. This is Tavener at his most inspired, as is *The Lamb*, to the well-known verses by William Blake and composed for Winchester Cathedral in 1982. This is exquisite; it is sung virtually syllabically using two simple, appealing melodic patterns, the second of which appears in both an inverted and a retrograde form. At the end of each verse, the first melodic idea returns, now harmonized in sharp contrast to its original unison appearance. There is a similar originality to *A Nativity*, composed in 1984 to words by W.B. Yeats and calling for just three sopranos and two altos, so creating a bright, crystalline sonority. Of an equally, bright, joyful character, *Today the Virgin* was written for Westminster Abbey in 1989

an Amati of 1719, Chris Nicholls produces a confident and exhilarating performance. Other soloists could do worse than enliven their repertoire with this remarkable piece.

The last of van Dieren's piano compositions was a birthday gift for his wife, the *Piccolo Pralinudettino* Fridato of 1934. It is a charming piece and is here played by Eiluned Davies who was a pupil of Frida van Dieren and was allowed to make a copy of the score shortly after van Dieren presented it to his wife. The affection she feels for this composition is evident in the playing. This musical portrait of Bernard van Dieren concludes with his amusing pastiche of the eager 'tyro' composer, the *Sonatina Tyroica*, but not before the fine soprano voice of Ludmilla Andrews performs one of the very finest of van Dieren's songs, the beautiful 'Les roses etaient rouges', to words by Paul Verlaine. Both melodically and harmonically, this is van Dieren at his most eloquent and the contrapuntal structure with its ecstatic climaxes emphasises his mastery of the form.

While not all the music here is similarly top drawer, it is full of colour and variety and never wants for impetus or conviction.

Not essential listening, but well worth exploring, and if your CD retailer looks perplexed by the name British Music Label, I am assured the disc can be ordered directly from the Forties Recording Company Tel (01908)502836.

ANTONIN DVORAK
String Quartet No.9 in D minor Op.34 (B75)
OLIVIER MESSIAEN
Quator pour la Fin du Temps (Quartet for the End of Time)
 Vermeer Quartet; John Bruce Yeh, clarinet; Martin Beaver, violin; Marc Johnson, cello; Andrea Swan, piano
NAIM CD008 (DDD/73.39)

● This is a second selection of live recordings made 'under the dome' of the Ascension Church, Oak Park, Illinois, by Ken Christiansen to appear on Naim Audio's CD label. Musically, it is stronger than the first release, and the performers prove a match for what they play. You would expect nothing else from the first-rate Vermeer Quartet, but I was lost in admiration for the way the young soloists



coped with the demands of the Messiaen, a work which ruthlessly exposes all four players, especially the clarinet and the piano.

Messiaen composed his *Quartet for the End of Time* while a prisoner-of-war in Silesia. He found his inspiration, not to mention his vivid imagery, in chapter ten of the *Revelation* of John yet, even with this motivation, the ability to compose a masterpiece of this stature under prison camp conditions surely denotes a special kind of genius and, for that matter, a

and consists of six verses sung in unison over a drone bass and building to an exultant climax.

Taverner has made two settings of the Lord's Prayer; the one recorded here dates from 1982 and was written for the Tallis Scholars. It was originally composed for performance in either English or Russian; the Oxford choir opts for the former. There follow two delightful 'wedding prayers', composed for performance at the nuptials of friends of the composer - not many couples are treated to such 'presents!' One of the most beautiful and haunting pieces on this record is Taverner's 'He Hath Entered the Heaven', which was commissioned by Lady Margaret Hall, Oxford, and first performed by the college choir in January 1993. It is a commemoration of the college's founder, Lady Margaret Beaufort, and the first of two groups of choristers sing what are said to be her last recorded words. The second choral group intones words from the sermon of St John Fisher, preached in memory of Lady Margaret Beaufort, with the sombre plangency of the piece gently lightened by the ringing of suspended handbells.

The Taverner sequence concludes with The Acclamation, another commission, this time by the Dean and Chapter of Canterbury Cathedral to mark the visit of patriarch Demetrius I in 1987. As it was intended to be sung as the Patriarch entered the cathedral, the increasing splendour with which the

melody - derived from Byzantine chant - is sung in its harmonisation for four male voices is a particularly effective device.

The name of Arvo Part first came to prominence in the mid-eighties, chiefly through the advocacy of the Hilliard Ensemble and its recordings on the ECM label, particularly that of Part's St John Passion. Yet Part had been composing for many years earlier in his native Estonia, at first using the kind of twelve-note techniques thoroughly disapproved of by the Soviet cultural apparatchiks.

By the time Part left the former Soviet Union, first to live in Vienna and then what was West Berlin, his composing style had been transformed. He now wrote almost exclusively in his own style, as exemplified by the two pieces here, a setting of the Magnificat dating from 1989 and Summa, a remarkable work in that it exists in four versions, three instrumental and one choral. This last sets the liturgy of the Credo from the Ordinary of the Mass. The devout intensity of these works, emerging out of Arvo Part's unique sound world, is both striking and arresting; and both are wonderfully well sung.

Polish-born, Henryk Gorecki has been deeply influenced by the musical traditions of his homeland and, since about 1970, has reverted to an orthodox, quasi-romantic style of composition which, although dismissed by many critics, has undoubtedly

captured the imagination of the record-buying public. Gorecki is represented here by three works composed over a fifteen year period between 1972 and 1987. The earliest is Euntes Iban, which sets verses from Psalms 95 and 126 with considerable skill and invention. The choir is divided into twelve parts, so permitting almost limitless variations in texture. This Gorecki exploits to the full, from simple unison passages to tightly-bunched tone clusters, and throughout the dynamic scale. Amen, of 1975, is just that - a progressive development of phrases built up on just the one word. The piece grows inexorably in both volume and density, and the way the choir handles its demands can only be admired. The most recent of the Gorecki compositions is Totus Tuus, composed in 1987 and dedicated to Pope John Paul II on the occasion of his third visit to his native Poland as Pontiff.

It is difficult to fault the performances by the Oxford Pro Musica Singers throughout this often taxing programme and they are well-directed by Michael Smedley, whose credentials as a choral conductor are impeccable, having sung with both the Choir of New College, Oxford, and the Clerkes of Oxenford. The recording, engineered by Paul Proudman in the church of St Barnabas, Oxford, is rich in atmosphere, yet loses nothing in clarity, and embraces the wide dynamic compass of this music without difficulty.

special kind of faith.

Messiaen's choice of instruments - clarinet, violin, cello and piano - now appears utterly perfect for the work, yet was dictated by what was available to him at the time. At the first performance, held in the prison camp in January 1941, the piano was out-of-tune, the cello was cracked and had only three good strings, and the clarinet had broken keys, yet the audience of 5,000 prisoners was apparently transfixed by this strangely beautiful music.

The Quartet is divided into eight sections, all but one - the Scherzo - given titles rich in apocalyptic imagery: the Dance of Fury for the Seven Trumpets; the Cluster of Rainbow for the Angel who announces the End of Time; the Liturgy of Crystal; the Abyss of the Birds - this last a lengthy, vividly descriptive and highly-demanding solo for clarinet. Here, John Bruce Yeh tackles this eight-and-a-half-minute movement with breathtaking virtuosity and understanding - a remarkable feat under live conditions. Yet his colleagues are no less praiseworthy in their sympathetic interpretation of this unique and remarkable twentieth-century masterpiece. It is also superbly recorded,

Ken Christiansen achieving a satisfying balance between the four instruments.

Rare indeed must be the occasions when a work by Messiaen has been paired with one by Dvorak, but such is the case here, the Vermeer Quartet performing the Op.34 String Quartet which the composer wrote at breakneck speed over a few days in December 1877. Such haste did not leave its mark on the quality of the work, which is as fine as any of Dvorak's chamber compositions. He dedicated it to Brahms, and the first movement is replete with autumnal Brahmsian tints. After a polka-like scherzo, the *adagio*, with its ominous undercurrents and moments of melancholy, seems strangely unlike the normally optimistic Dvorak - until you learn that two of his children had died in the weeks preceding the composition of this quartet. That optimism returns, however, in the vivacious finale.

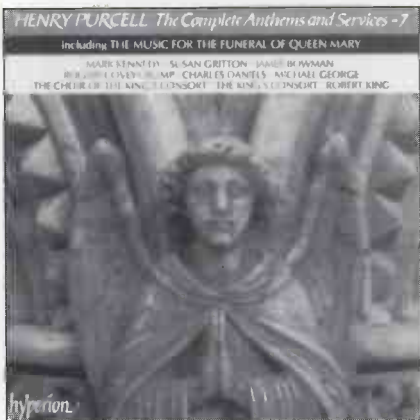
The Vermeer Quartet offers a warmly expressive, affectionate performance of the Dvorak, and I appreciated the way that the recording illuminated each strand of the texture. But it is also a fairly close recording, with little sense of acoustic. It may be, of course, that conditions dictated

such a microphone placement. More importantly, the sound has the richness of tone and fullness of body which you expect from a quartet recording and is free from the glassy, sterile sheen which mars some modern chamber music productions. The Vermeer's cultured Dvorak playing and the thrilling performance of the Messiaen make for an unexpectedly winning combination.

**HENRY PURCELL
The Complete Anthems and Services: Volume 7**

The Choir of the King's Consort; Choir of New College, Oxford; The King's Consort; conductor, Robert King
HYPERION CDA66677 (DDD/69.41)

● This year marks the tercentenary of the death of Henry Purcell and there will doubtless be a shoal of new issues and releases commemorating the event. It is worth recalling, therefore, that for some musicians, championing Purcell's music is not solely for anniversaries, but a lifelong crusade. One such is Robert King who, with his King's Consort, is now well-advanced in his five-year project to record



all Purcell's anthems, services and other sacred music for Hyperion.

This seventh volume is especially timely, including as it does perhaps the best-known of Purcell's sacred compositions, the Funeral Music for Queen Mary, who died in 1694. As the Organist of Westminster Abbey and the leading composer of the day, Purcell was required to provide music for the funeral service and what he produced certainly matched the chillingly sombre mood of the occasion. He reworked choral settings of the Anglican Funeral Sentences he had composed fifteen years earlier and composed a new anthem, together with a March and Canzona to be played by 'moumful flatt trumpets', according to one account.

The seventeenth century 'flatt trumpet' was quite unlike the modern instrument. It had a reverse slide which moved behind the player's shoulder and its range included a raft of extra chromatic notes; and it could be played in minor keys. In all other recordings of the Funeral Music, the role of the flatt trumpets has been given either to trombones or to sackbuts but, on this CD, thanks to the efforts of Andrew Pinnock and instrument builder, Frank Tomes, you can hear the precise sound that was intoned in Westminster Abbey three hundred years ago. Indeed, Robert King's booklet notes offer a detailed analysis of precisely what music would and would not have been played during the service, exploding a few myths into the bargain. However, the solemn drumming (which in 1695 would have accompanied the Queen's coffin to the door of the Abbey) is wholly authentic and I should add that the approaching-and-receding effect was not achieved with the faders on the mixer but by having the drummers march up to the microphones and away again—and highly effective it is.

But there is much more to enjoy on this splendid recording than simply the Funeral Music. Robert King conducts nine other anthems and devotional songs, ranging from the bleak in the black, dismal dungeon of despair to two magnificent settings of Psalm 122.

For these recordings, Robert King has assembled a starry line-up of voices (Michael George, Charles Daniels, James Bowman, Rogers Covey Crump among them) and the pick of the choristers from

a number of cathedral choirs. King argues that Purcell, in his positions with the Chapel Royal and at Westminster, would similarly have had the pick of the best voices of his day. Certainly, the results bear out Robert King's selections. Interestingly, for those works composed for the Chapel Royal, Robert King takes as his pitch centre A=466Hz which he justifies by saying it makes sense of Purcell's improbably (and uncharacteristically) low vocal writing. The higher pitch certainly has a telling effect on both the choral and the string sound in these works. Elsewhere, he adopts the more conventional pitch centre for Baroque music of A=415Hz.

After his appointment as Organist of Westminster Abbey in 1679, Purcell enjoyed a prolific five years during which he composed nearly one hundred anthems and other sacred pieces. It is a treasure house of music which doesn't require the spurious excuse of an anniversary for it to be explored. Robert King and Hyperion are to be congratulated on an immensely worthwhile project which will long outlive any tercentenary hype.

FRANZ SCHUBERT String Quintet in C Major Op.163 D956/Symphony No.5 in B flat Major D485

Isaac Stern, Alexander Schneider, violins;
Milton Katims, viola; Pablo Casals, Paul
Tortelier, cellos; Prades Festival
Orchestra; conductor, Pablo Casals
SONY CLASSICAL SMK58992 (ADD/76.02)

● Think of that great Spanish cellist, Pablo Casals, and the first composer that springs to mind is J.S. Bach; it was, after all, Casals who dusted the cobwebs from the six cello suites and restored them to the mainstream repertoire. But in many ways, a composer closer to Casals's heart was Schubert. He had a special affection for the piano trios and seems to have played the second, the E flat D929, at every opportunity. Perhaps it was the intimacy of Schubert's chamber music, its underlying humanity, its often heart-wrenching honesty which appealed to Casals. Whatever, his enthusiasm was shared by many of his contemporaries and, in July 1952, four of them joined Casals at his Prades Festival to make one of the greatest chamber music recordings of all time, that of the String Quintet D956, a work which many consider not only the finest of Schubert's chamber compositions, but among the very greatest of the genre. Anyone wanting to make the case would find all the evidence required in this performance. Alongside Casals that July day were the American violinist, Isaac Stern, the French cellist, Paul Tortelier, and two members of the legendary (original) Budapest String Quartet, violinist, Alexander Schneider and violist, Milton Katims. Whatever the individual qualities of the players, there is no guarantee that such



an ad-hoc ensemble will achieve the theoretical sum of its parts, but here the chemistry worked. You are invited to eavesdrop on a communion of five musical spirits and to share a life-enriching experience. The vitality and expressive warmth of the playing is irresistible - has the sorrowful trio of the third movement ever been more movingly played, or the threads of the finale been more lucidly woven together? While there are several exceptional, more recent recordings of the String Quintet to choose from - the Lindsay on ASV, the Fitzwilliam on Decca, the Alban Berg on EMI, the Melos on DG, the vintage Aeolian on Saga, Yo To Ma and colleagues, as with the recording under discussion, on Sony - the Casals continues to merit a place in any collection. It may not be the most polished performance, but in getting to the emotional heart of the music it is unsurpassed. The forty-two-year-old recording, always acceptable, has a new freshness and clarity in this latest SBM transfer. It's mono, of course, but not at all compressed or 'boxy', and certainly not thin in tone, and the music-making transcends what limitations there are.

While the recording of the String Quintet has been in-and-out of the catalogue over the years, the performance of the Fifth Symphony which accompanies it, astonishingly, new to the catalogue. Again made at the Prades Festival, this time in July 1953, the recording sessions were plagued by a dispute with the musicians over royalty payments and the tapes were withheld from release. Over the ensuing decades, it has been assumed that either the performance was incomplete, or that it may not have been worth issuing anyway. All credit, then, to whoever trawled the ex-CBS tape library and discovered that neither of these assumptions was true. Casals' conducting and the playing of the Prades Festival Orchestra display none of the tensions underlying the recording. The performance is lyrical and affectionate, the playing fine and, even if the andante may be too romantically-inclined for contemporary taste, the whole has a true Schubertian spirit. Again, the recording has a fullness and radiance that belies its years.

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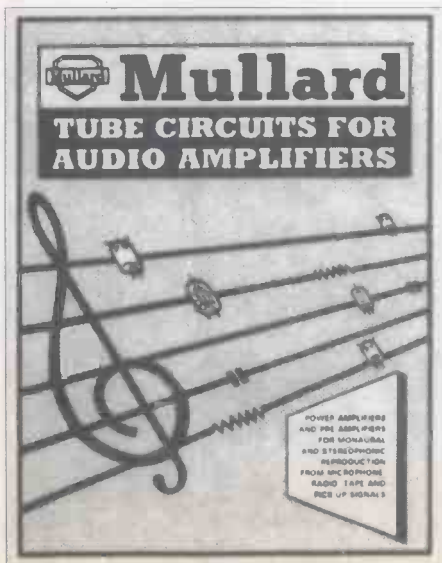
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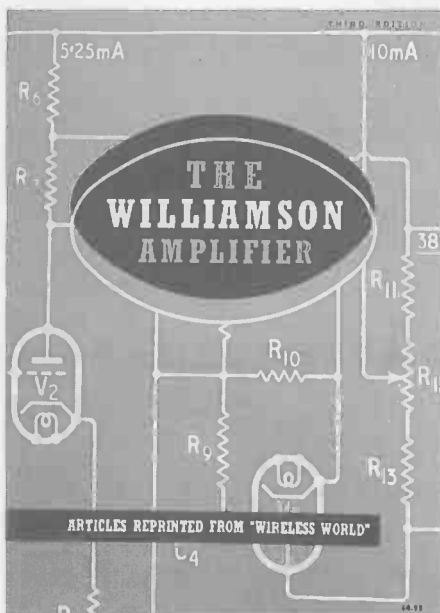
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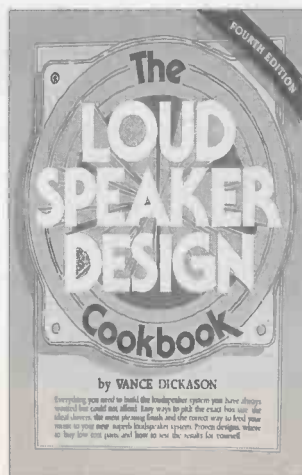
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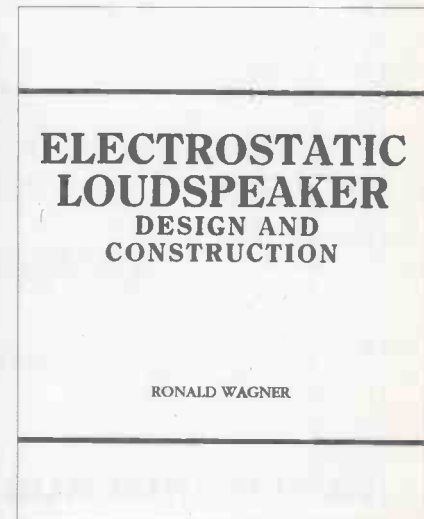
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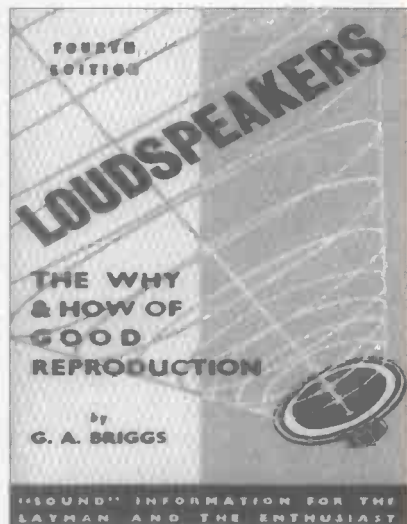


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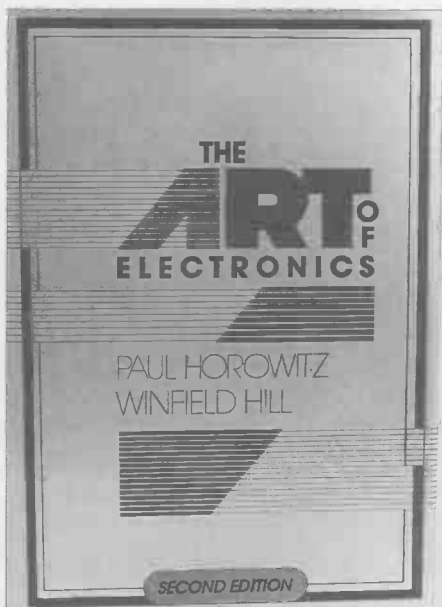
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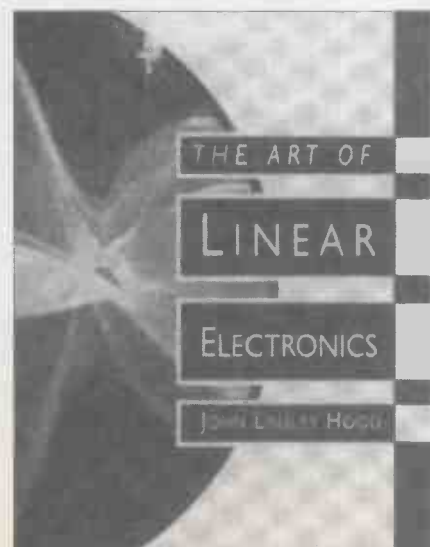
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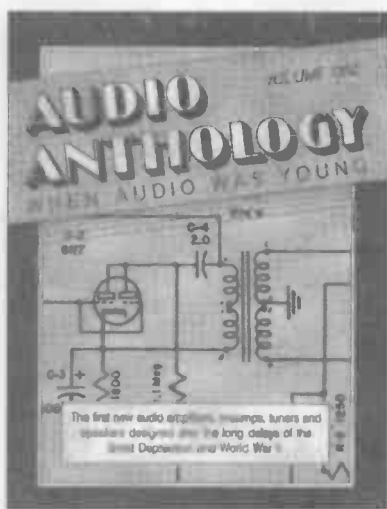
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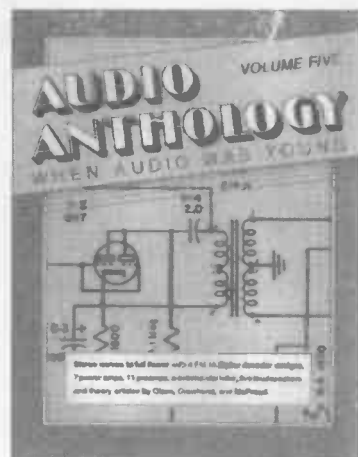
Summary of Contents: Simple valve phono stage, transformerless amplifier using 6082, 20watt 5881 amplifier, 10watt 6V6 amplifier, stereo valve preamp, high quality valve phono stage, a preamp for the Williamson, low distortion tone control preamp, binaural or stereophonic?, transistor phono amp, corner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

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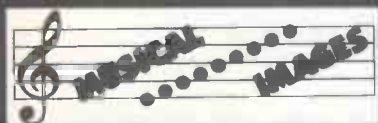
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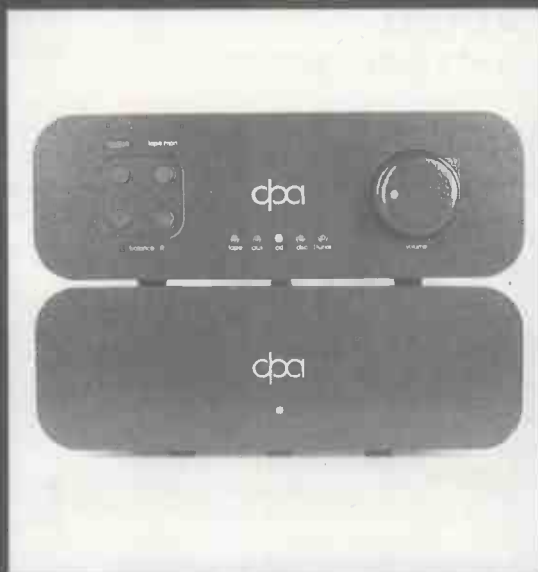


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- "It's diamond necklace in a world of plastic - but without a Tiffany price tag" **Eric Braithwaite, HiFi World, Sept 1992**
- "Clearly the, these LFD components are of an outstanding quality" **Jimmy Hughes, Audiophile, Jan 1993**
- "The placing and scale of each element was near perfect; Dynamics were also impressive" **Malcolm Steward, Audiophile, Sept 1993**
- "The result was music making without the Hi-Fi intruding" **Peter J Comeaux, HiFi News, June 1994**
- "Spirolink I, Spirolink II and Digilink Copper" **HiFi Choice Recommended, June 1994**
- "Airoflex, ***** Rating" **What Hi-Fi, Feb 1994.**
- "Spiroflex I, Hi-Fi Choice Recommended, Aug 1994

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MERIDIAN 602 TRANSPORT 606 DAC 7 LATEST. MINT	£2250	EX/DEMO £3,100
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AUDIO RESEARCH D70 MK2 POWER AMP. MINT	£895	S/HAND £1,929
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MUSICAL FIDELITY P270 MK2 POWER AMP. MINT	£895	S/HAND £1,500
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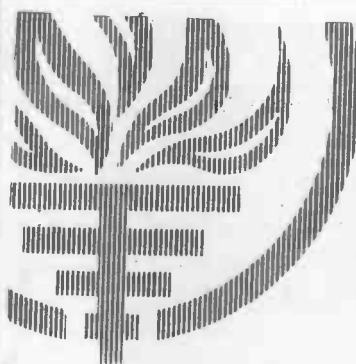
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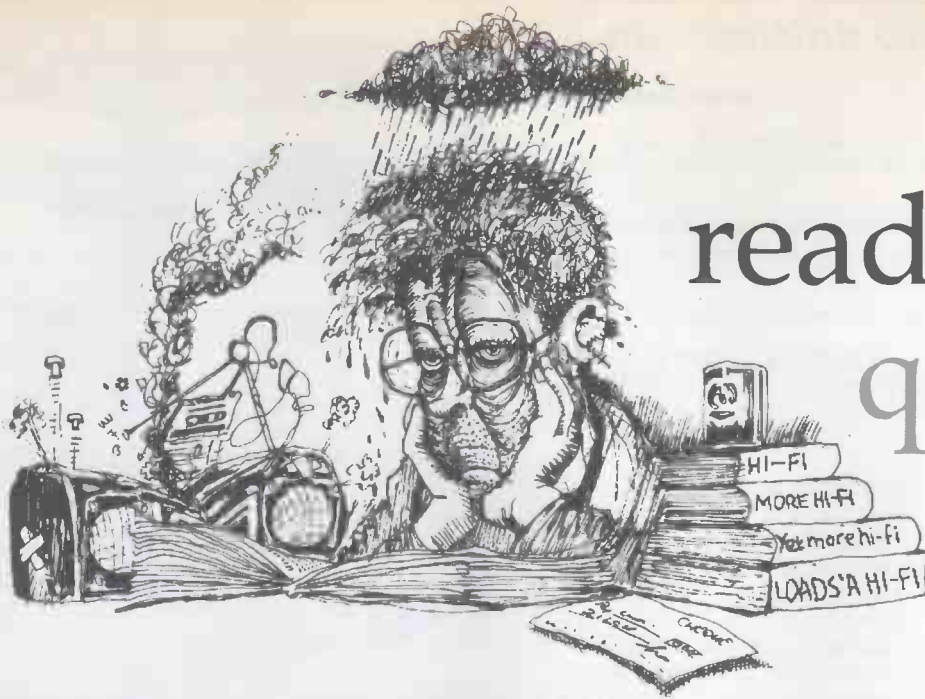
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readers' queries

WARMER SOUND SEARCH

Like, I suspect, many others, I have an all-Linn system comprising Linn LP12, Akito, K9, Intek and Keilidhs. As you might expect, it is very rhythmical, punchy and ideal for rock music. However, as time has gone on (I bought the Keilidhs last Christmas) I have begun to find the sound a bit thin and tiresome after a while and lacking depth.

Since my next upgrade will be an amplifier, costing up to £1,000, I wonder whether you could make any suggestions about making the sound fuller and less harsh, particularly for classical listening. I also wondered

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

whether the Intek was under-powered for driving the Keilidhs? I am toying with the idea of a valve amplifier,

to 'soften' the system, but without losing too much detail. Any suggestions please?

Tony Keson, Axhomedwood, Doncaster.

When reviewed, our measurements showed the Intek produces 45watts, and more into low loads. Whilst not a power house, the amplifier shouldn't be running out of steam unless you play loud in a large room, so it isn't likely to be under-powered. By nature the Intek isn't exactly thin and tiresome, even if it isn't fulsome and warm either.

Consequently, we don't think you're best advised to blow £1000 here straight away.

Our suspicion lies with the K9 cartridge. This is neither the smoothest nor the most refined of beasts. Much smoother, warmer and more amenable is Goldring's superb 1042. It has strong and articulate bass, plus the clearest and best differentiated treble around, due to an excellent stylus.

Should the Goldring sound a little too cuddly to your ears though, then I'd advise you to look at an Ortofon moving coil, since the Intek has a fine MC input stage. You may well find the excellent Ortofon MC15 Super II too 'cold' in its sound for your system, an MC20 Supreme probably being the best choice, although a 30 Supreme is very suited to classical, because of its super-smooth treble. However, at this level you should get a better Linn arm.

Valve amplifiers - good ones, at least - will not lose detail. We don't have any experience of trying to drive Keilidhs with valves, but would suggest a modern feedback design (for low output impedance) is best, namely our own K5881s in monoblock form or an Audio Innovations Classic 25 integrated which comes in both kit and built form. Although Linn and valves hardly have a symbiotic resonance, the notion isn't entirely beyond consideration, but few if any Linn dealers stock both and would be willing to offer such a demo., which you must have to ensure compatibility. However,

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Linn's Intek will drive Keilidhs well, producing a healthy 45 watts.

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since you intend to spend a lot on the amplifier, a home demo should be possible.

NK

LOST VOICES

I have a question which I hope you can answer for me.

I have a Legend (AR) turntable, Rega RB300+K9, Denon 350 II amp., Marantz CD52 Mk2 SE CD player, Leak tuner and Castle Richmond Mk1 'speakers. The last two are about 20 years old.

Before I purchased the Denon, I had a Graham Nalty kit amp. It produced an easy sound, but gave the impression that it needed winding up like the old gramophone, sounding slow.

So I traded it in for the Denon. That livened things up, so then I purchased the CD player. I have Sonic Link Violet interconnect cable and 'speaker cables are Audioquest Indigo.

Now the question is, 90% of the music is OK to brilliant, whether CD or vinyl, but female voices on CD with certain tracks give the impression that the voice is breaking up. Not on all tracks, but odd ones. Connie Francis on CD and Tammy Wynette on vinyl are examples, anything else is OK, whether it's The Shadows, Glen Miller, or classical music. So is it that these two females sound like this when singing at high volumes, or is it something else?

The other amp also sounded the same with Tammy Wynette, above normal listening levels.

It's not until you turn up the volume, that it comes on. By that, I mean it's there at lower volumes, but I don't find it bothers me. When I talk of high volume the setting on the amp is below 9 generally, about 8 when using CD, and just over 9 on records.

On something like the Shadows, with the volume set between 8 and 9, it fills a 12' X 16' room, yet doesn't give the impression of being loud until I go out of the room for something then return, but I can sit for hours on end listening to a variety of music at that level.

The 'speakers are on home-built stands about 10 years-old, the legs standing 13" from the wall, the floors are solid and the stands are 1"sq tube, sand-filled, top and bottom with adjustable spikes. Thank you.

**D G Rayner
Truro,
Cornwall.**

Since you claim female vocals on either CD or LP can break up, the problem appears not to be related to one or other source, eliminating mistracking in the K9 for example (always possible on high level vocals). It's very unlikely your Denon amplifier is the cause, since it is clean sounding and very powerful (70watts). That leaves two likely reasons for the problem: 'speaker overload and resultant distortion, or distortion within the original recordings.

Because you say the problem is audible but not annoying at low volume, it would appear that it is within the recordings. It's not uncommon for strong vocals to overload a microphone or the downstream electronics and many older mics had quite strong treble peaks around 10kHz, which emphasised sharpness, sibilance and such like, especially if poor solid-state amplifiers then followed.

The best way of making certain is by using another pair of loudspeakers. If this is not easy to arrange, then try taking the discs that cause the problem into a dealer's and asking for a demo with them. If the distortion doesn't appear,

then it is almost certainly 'speaker related. NK

Castle's Richmond Mk1 loudspeakers are around twenty years old now. The cone can sag with age causing the voice coil to rub and scrape as the cone moves forwards, which may be the cause of the distortion you are hearing. Fortunately Castle have a superb service department (Tel: 0756 795333), and will almost certainly be able to repair or replace any suspect parts. If this is the case, it may well be worth upgrading the cross-over components at the same time - try Lockwood Audio, Tel: 081 207 4472, for advice in this area. DB

BRING BACK THE SPARK

Please could you give advice on improving the sound of my present system which consists of: original Source turntable with 3D power supply; Odyssey RPI-XG tonearm with Audio Technica OC5 cartridge and AT630 step-up transformer; Beard P500 pre-amplifier and a Leak Stereo 20 power amplifier, rebuilt completely by myself using Holco resistors, Kimber wiring, Wonder caps etc., new valves and DCM Timewindow 1A loudspeakers.

Up until a few months ago the sound of my system was first-rate, plenty of clarity, musical ability, depth of a good analogue/valve set-up, but now the sound has become very flat and lifeless with no depth, and is compressed. I recently borrowed an Audiolab 8000A amp to use as a pre-amp in place of the Beard P500; this improved the sound somewhat, but it still isn't as good as it should be.

The biggest surprise I got was when I tried a friend's £200 Marantz CD player and a Pioneer A400 amplifier with my DCM loudspeakers. The

sound was almost as good as my set up when it was working on song and better with some CDs, such as Enya's first album.

Have CD players and budget amps improved so much over the last few years, or is something seriously wrong with my present set-up?

Please could you advise me of the best way to get the system back on song and possible causes for the loss of sound quality. Should I replace the pre-amplifier with a modern design which would work with the Leak amp, or sell the valve amps altogether and buy a modern integrated transistor amp, like the A400, and a good CD transport and outboard DAC?

My budget is a maximum of £1000 to improve the system. Your views would be much appreciated.

**Patrick Smith,
Cambuslang,
Glasgow.**

Always, a flat, lifeless sound is a sign the cartridge has had its day, at least, on LP systems; have a look into the exchange value, but we'd recommend replacing it with a good Ortofon MC which would be an upgrade at the same time.

With valve amps you do also have to consider valve life, since emission does slowly die, but a life of many years is normal. However, some modern valves can go gassy quite quickly, due we believe to poor annealing of the metal and glass to drive out oxygen. Ideally, you should get your valves tested, although this service isn't very common nowadays, especially in Scotland I might be right in saying, where valves don't seem to be a very big thing at present, we are told by Scots dealers.

CD can be very good nowadays, partly because

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UPGRADE QUANDARY

I am in a bit of a quandary hi-fi wise. I am looking for a satisfying, relaxing sound. My interest mainly is in Classical and some choice jazz. My set-up is: Linn LP12, Valhalla, Cirkus, Ittok and Arkiv feeding a LK1, LK2 into Linn Index Improved (about five years-old) on their own

studios have so greatly improved their mastering and production equipment. If you play a really good modern recording through decent components, such as the Marantz CD40 and Pioneer A400, then you will get impressive results. In my experience, the very best

perhaps replace its old electrolytics (with Black Gates?)

2) Look for some more sensitive 'speakers for above, or -

3) Get another Class 'A' amp like the Sugden A21a (more modern?), or -

4) Get a Class 'A' single-ended amp. I have a sheet on Fuller amps at Southend.

could usefully incorporate RIAA compensation to match the majority of line amps about these days, would it not?

7) Get your high definition 'speaker kit (KLS 2) and sit tight, or -

8) Any other suggestions you may have, although not too dear.

I look forward to your comments. PS Listening room is 14' X 13' X 9' with a wooden floor and light furnishings.

**Thomas L. Priestley
St. Annes-on-Sea,
Lancashire.**

A twenty five year old Richard Allan Class A is almost certainly one of Jim Sugden's first Class A amplifiers, which he designed exclusively for Richard Allan, Patrick Miller of Sugden told me. You can get this amplifier serviced and repaired by J.E. Sugden & Co., Valley Works, Station Lane, Heckmondwike, W. Yorks NF16 0NF, Tel: 0924-404088.

You could well experiment with improving component quality, but be judicious about this.

Conventional carbon composition resistors have quite a neutral sound and should be left alone in my view, unless very special metal film types are used, like Holco, or bulk foils like Vishays. Rubycon PS2 electrolytics are a good grade for audio, but Rubycon Black Gates are exceptional - as is their price of course.

With capacitors, Solen or Ansar audio grade polypropylenes are, from experience, our choice. Beware of non-audio grade polyprops - they can sound sharp. Audionote paper-in-oils are superb, but watch out for leakage.

And mix-n-match. Don't fill an amp with one type of

Continued on page 117....



The A400 is a fine sounding amplifier, and powerful too helping it to drive the majority of loudspeakers with ease.

LPs when played through super high quality playback components are better, but perhaps the argument is academic for all except those with lots of cash.

You should try running CD through your valve amplifiers first to see whether it is offering the improvement. If it is, then try getting a Marantz CD52SE CD player or such like. If the sound doesn't match up to that you heard from the A400, then you need to abandon your valve amps too, since the chances are the Leak power amplifier cannot drive the DCM Timewindow IA loudspeakers. **NK**

triangular stands.

Recently I obtained an old Richard Allan Class 'A' amp which is about 25 years-old and I have been using it with an old Lentek step-up device. Would you believe - I think you would - there is a dramatic improvement in sound quality. Not powerful, just more musical, with better imaging and transparency. I am, therefore sold on Class 'A'. Would single-ended Class 'A' be a further improvement?

It seems there are a few options open to me on which I would value your opinion.

1) Have Richard Allan amp reconditioned and

They seem impressive and I would value your comments on these amps and Pharaoh 'speakers, although these items go beyond my budget.

5) Have the LK1, LK2 'improved' to cure its listless, crumbly sound, if it is possible (it would have to be good).

6) The Lentek step-up device is an old-stager. Would I do better with a new separate phono-stage, like the Fuller MAG1. I have heard that the EAR 834 phono device is a poor match with some low output cartridges, e.g. Ortofon 7500? But, I have heard a Sugden 21a has a good phono-stage, but would it drive the Index 'speakers. Any phono device

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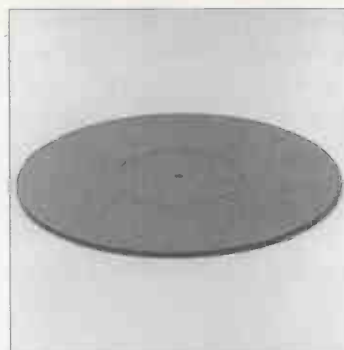
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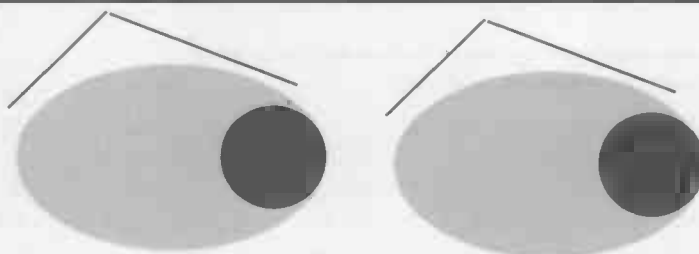
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.... Continued from page 115

capacitor or it may sound very coloured.

Single-ended amplifiers, which are Class A by nature, do give impressive results in my experience; ultimately, I'm totally sold

preamp costs £600.

Signals, a dealer near Ipswich (Tel - 0473-622866) have an SE they can let you hear, plus a range of other interesting products, including DPA and Sugden, who produce the excellent A21a Class A. Trouble is,

their sensitivity was a very reasonable 87dB, and the impedance never drops below 6.8Ω , which makes them quite an easy load that won't draw excessive current. I'd recommend auditioning the Audionote OTO SE, which could sound

stylus for playing 78s and shortly after buying the turntable he went out of business. When I ask other dealers to get me a 78 stylus they say CD has taken over and they don't stock styli anymore.

Do I have to have a special cartridge to fit the 78 stylus in or will the Dual play LPs and 78s?

The stylus type is a Dual DNI67. Thank you.

**Ray McCormack,
Comeath,
Ireland.**

Your Dual is fitted with an Ortofon OM Series cartridge. A 78rpm version is available at a cost of £24.95 from Ortofon direct (Tel: 0753 889949). Alternatively, they'll direct you to your nearest Ortofon dealer. **NK**

XENON ARM POSITION

I own an Alphason Sonata turntable and Xenon arm. Recently I moved to a new house and in moving the turntable I had to remove the arm. Unfortunately I am now unsure how to reposition it with respect to its correct height/vertical tracking angle, etc. Could you please advise me?

**M J Dennis
Worthing.**

The safest way of getting your deck up and running again is to take it to a good specialist dealer. They will be able to fit the arm properly, check the turntable bearing, and generally service and set-up your Alphason for maximum performance. Heatherdale Audio, Tel: 0903 872288, are more than willing to offer this service or you could also try Chichester Hi-Fi, Tel: 0243 776402, who possess a powerful microscope for checking stylus wear at the same time, which is always worthwhile. **DB**



Audionote's OTO SE may well be a good match for Linn's easily driven Index loudspeakers - but get an audition first to ensure compatibility.

on SE working. However, in the real world you need to bear in mind that SEs are the ultimate in esoterica: they're expensive, low powered, vastly inefficient, generate volumes of heat, match a limited range of speakers - and they invariably sound gorgeous. The Fullers Audio SE we haven't reviewed, but Steve Fuller (Tel: 0702-612116) told me it is a solid-state design that gives 10watts per channel, but dissipates no less than 120watts/ch. of heat to achieve this. It is a capacitor coupled, emitter follower design - price £1200 for the stereo power amplifier alone. Expect to keep the windows open in summer! A matching

Southend-on-Sea and Ipswich are a long way apart. I doubt whether SE working is a practical proposition for you though.

The 834P does not match an Ortofon 7500, as you say. Whether it will match a Linn Archiv we do not know. The Michell Iso is one of the best head amplifiers around for moving coils. I suggest you consider this, working into either your current Richard Allan or a new Sugden A21a, which is a very fine amplifier, much admired by us for its sound quality. **NK**

The Linn Index loudspeaker used light and efficient drivers, and after speaking to Linn they confirmed that

absolutely fantastic with the Indexs. Although single-ended, it uses a small amount of feedback to lower output impedance which allows it to drive a wider range of loudspeakers. The OTO SE also has an excellent phono-stage, so no external head amp will be necessary. But, it may be noisy with your low output MC; a simple step-up transformer will cure this though, and again Audionote make one that is suitable. **DB**

SPEEDING UP

Last year I bought a Dual turntable to play my 78rpm records. But the dealer I got it from did not have the

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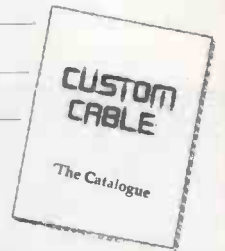
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I was surprised, even shocked by the Minstrel's dynamic range, which is utterly convincing and un-tube like, yet the delicacy and fine detail of Debussy or Ravel orchestral music is beautifully handed. A real mailed first in a velvet-glove type performance. Alivn Gold, Hi Fi, Choice, October 1994.

For further details, dealers lists and demonstration appointments, contact the producers:

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WHAT'S IN A NAIM?

You certainly have to hand it to Naim - they do appear to have got their brand name across to the public! Far too many people out there seem to be rushing out and buying a Naim amplifier system as if it is the one to own, but then having found it impossible to find a speaker to compliment it, then ring me up enquiring what I would recommend! I keep making the point that amplifier and speakers must be looked upon as one component, you cannot split them up - please ring me before you buy that Naim, not afterwards - then you might end up smelling of roses. I stock speakers that work with the amps that I stock, not necessarily with Naim amps.

WHY V'AUDIO IS DIFFERENT

A recent case I feel is a good indication of the sort of service we aim to provide as consultants as opposed to many shops which sell boxes and give little real assistance to the customer. A gentleman contacted me about buying a new amplifier to improve the sound he was getting from his old Wharfedales. I explained that the only way I could recommend anything was to go along and listen to the system and in particular see if it was worth persevering with such an old loudspeaker. The result was by the end of the afternoon it was clear that in fact his amplifier was the best component in the system and that both CD player and speakers needed replacing. So instead of the

customer wasting £700 on a new amplifier, I am piecing together a complete system for about £700 which will probably consist of my favourite AMC CD6 (£350), the Pro-lect amp at £260 and a pair of bargain Jamo Cornet 30 loudspeakers at a mere £99. Possibly however we may be able to piece together a cheaper s/h CD and amp with the ever popular Ruark Templars which will sit nicely in the window bay. This in my opinion is the only way to really help customers and stop them going around in circles wasting money.

RUARK CRUSADERS

As regular readers will know, Ruark speakers are a favourite of mine and in particular the Accolade and the ATC 50 are my two favourite speakers. For those who can't quite stretch to the size and price of the Accolade, the Crusader comes close but again needs a good amp to drive it properly. The price of achieving that has now come down to £800 with the new AVI integrated. This combination has scale, warmth, detail and excitement in abundance!

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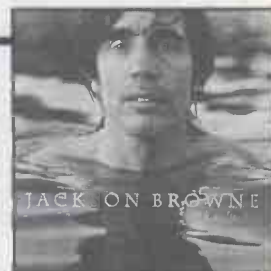
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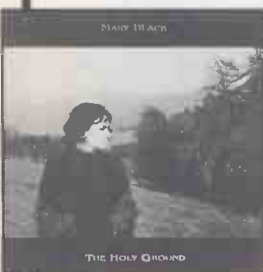
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Tel: 0280 701145.

LINN LP12, Ittok, Trak + K9, 45 adapter, boxed, instructions £450; Rogers HG88 MkIII, fine integrated valve amp. £180; Armstrong 526 receiver £50; Cyrus 2 amplifier boxed, £80; KEF B110 drive units, unused boxed, £50 pair; Decca C4E. £50.
Tel: 0121 706 2068 (Midlands).

LINN ACTIVE SYSTEM: LP12, Lingo, Ekos, Klyde, Karik, Kairn, Aktiv Keilidhs, two LK100s. Less than two years old, original cost £8,000, will accept £4,000, or may split. Wigan
Tel: 0942 272187 (eve).

ARCAM DELTA 170.3 CD transport + Black Box 5 DAC (January 1994); Sync-Lock, remote; classic Arcam style and effortless sound; immaculate, boxed, save £500 on original rrp: £650.
Tel: 0608 811349. (Oxon).

ORIGIN OL2 SPEAKERS for sale in new Walnut finish, brand new, will accept £500.
Tel: 0634 361640 (home).

NAIM NAT 02 tuner wanted, will pay £500 plus carriage.
Tel: 010 3531 4591432.

CAMBRIDGE CD2 CD player, digital output, no box or remote hence £125; Thorens TD160 Mark II, classic turntable, includes Mission Solitaire cartridge, good condition, excellent sound, £85.
Tel: 0480 460502 (Cambridge area).

LOWTHER BICOR 2000, balanced horn 'speakers (mahogany) each with two new PM6 drive units, 98dB; incredibly dynamic and detailed sound, comparable 'speakers over £2K, yours, £629, may p/x.
Tel: 0274 545219.

SUMO POLARIS 100 wpc class AB solid-state stereo power amplifier, £375 ono; Art Audio VPI active/passive valve pre-amp, including phono-stage, £320 ono. Sage Digitrap £10.
Tel: 01962 851802.

GARRARD 401 HOUSED in satin black plinth, SME 3009 S2 + fluid damper, Nagaoka MP11 Boron cartridge Goldring sound cones, excellent, £225 ono. Ariston RD110 Rosewood, Linn Akito, Linn K5, spare arm boards, immaculate, £230 ono.
Tel: 081 669 1088 anytime (Sutton/Croydon).

MUSICAL FIDELITY MVX-2 pre-amp, £950, Marantz CD94 with Trichord mod., £950, Spondor SPI 'speakers, £400, Spondor S100 monitors, £950 both with stands.
Tel: 071 584 8494 (day) 071 352 1786 (eve).

ROKSAN XERXES deck with Rega RB300 arm, excellent condition, £325.
Tel: 021 350 0744.

SME 3009, no headshell, Ortofon arm and headshell, Ferrograph reel-to-reel, Truvox RE102, connoisseur BDI for spares, offers or p/x for Rega RB300.
Tel: Patrick 081 443 4860.

LOWTHER PM6-A (Alnico), drive units, pair with Acousta, Blue Print £195 ono, new.
Tel: 021 705 1060.

MARCONI SPECTRUM ANALYSER, Audio 110 MHz, £650; TF2100 precision AF oscillator, £60; precision level meter/attenuator for above £40; Dymar THD meter £70; 25MHz digital storage scope £195; double-beam scope, £75, Marconi sig. generators to 470MHz, £60. H/Packard RF generator to 65MHz, £55 TF 2700, precision RCL bridge portable, £110.
Tel: 0344 27869.

ARCAM DELTA walnut veneer, £185, KEF Quattro (C10 and CS200 subwoofers), £165; Gale 301 Black Ash veneer, £170, Dual CS505, £65, AR18BX, £80, all boxed vgc.
Tel: 0257 263403 (Lancs)

WANTED SQ quadrophonic decoder, working condition.
Please Tel: 0543 671265, anytime.

TANDBERG 3001 FM tuner, retail price £2,300, high spec sensitivity/selectivity sound, very good condition, working perfectly; official UK service available, £300, ex Dublin.
Tel: 010 3531 4591432

SUGDEN AU41 pre/power, £350; Linn Helix c/w stands, £215; Mission 780 c/w stands, £140 (all mint); DPA PDMI MkII, £220 (good); Mission 700, £100 (excellent).
Tel: Michael 061 304 8400 (day) 0204 651540 (evening), can demo.

FISHER STEREO with Garrard 401 turntable; all-valve tuner, thirty years-old, still good, offers invited.
Tel: 0371 850 917.

PINK TRIANGLE PT TOO/RB250/Chorus Black all in immaculate condition + box, little use. Will gladly demonstrate, £465 ono.
Call Richard on (01276 684561 anytime (Surrey)

MERIDIAN 200 (MK1) transport and 203 (DAC 7), both boxed and mint condition, buyer collects, £600 for both.
Tel: 0565 632796.

GARRARD 401, SME 3009 arm with M75 ED cartridge on plinth; Leak Delta FM tuner; Armstrong 521 amp, £170, the lot, or ono.
Tel Tony, 081 535 6647 (day).

LINN LP12 CIRCUS, Naim ARO, Troika, £1,400. Exposure X1 pre-amp, £1,700; Naim SBLs, black, £1,350; Exposure V X-over + PSU, £750; Meridian 201, £500; SME IV, £500, all excellent condition.
Please phone: 01934 522 635

NAIM CD1 CD PLAYER, 2 years-old, little use, £1,200; Elite Rock 2, van den Hul rewired RB300 OC9 cartridge, five hours use, £700.
Tel: 0803 297691 (Torquay/South Devon).

AUDIO INNOVATIONS A500, new Sovtek valves, £500; Michell Mycro RB300, Goldring 1042, £350; original packing.
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Tel: 0206 861457 (eve).

STAX SRD 6/SR5 classic electrostatic ear-speakers, £50. Wanted; Afrormosia sleeve for Quad 33/FM3 and excellent Garrard 401 chassis.
Tel: 0625 535299.

LINN SYSTEM, black Sondek latest spec, £500; Lingo, £500; Ekos, £750; new Troika, £500; Kairn £900; LK280, £350 each; Active x/over, £600 Kabers Active, £700.
Tel: 0753 851429 (eve).

LINN SONDEK LP12, Linn Basik plus tonearm & Sound Organisation Table, £230; Linn Kans/Kan stands, £200; 'Dual' C808 tapedeck, £25; Naim Nait amp, £200.
Tel: 0892 862369.

WANTED: BEARD P101 amp. Contact: J. Bos, J. Teullingslaan 95, Amstelveen 1187 SH, Netherlands.
Tel: 206458715.

MISSION CYRUS 782 'speakers black Ash immaculate condition, boxed with stands only 1-2 hours use, house move forces sale. Cost £400, bargain £300. Welwyn Garden City.
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LFD LS2 LINSTAGE pre-amp, cost £1,100, sell £600; PSl phono-stage, cost £650, sell £375; PA 1 power amp, cost £750, sell £450. Having to spend crazy money to better this sound.
Tel: 0884 32465.

MUSICAL FIDELITY TEMPEST amp and matching CD2 CD player, cost £650, £250 mint; prize win.
Thomas Tel: 0582 765871

QUAD II/22 CONTROL unit stereo valve amplifier, vgc, recently overhauled, £295; Quad 33/303/FM3 with Afrormosia sleeve, vgc £299; Ferrograph series 7 high-speed reel-to-reel, £95; Wharfedale Dovedale 3 pair, £50. All can be demonstrated.
Tel: Andrew on 0420 479343 eves/w/ends, or 0344 413203 (day)

MISSION 78 AMP, £95; Revolver turntable, Linn Basik LX arm, K9 cartridge, £100; Yamaha K320; cassette deck, £95; £345 the lot (cost £1,000)
Tel: 0746 766362 (Shropshire).

KT 66 VALVES for sale Marconi/GEC boxed, seven at £20 each or £120 the lot; Rogers Cadet 3, £60; Leak Troughline 3 Stereo 30 in case, £95, call Alan.
Tel: 01604 846465.

MICHELL QC power supply, new £225 ono; Tesseract Gyro power supply, new £305 ono.
Tel: 081 854 6738.

SPENDOR SP2/2 in Rosewood with Madrigal (Mark Levinson) rewired inside + Fram stands A1 condition, £600 ono. Ariston turntable RD 80SL with Alt 1 ADC arm and NAG mp10, cartridge £100 ono A1 condition. Decca London cartridge (maroon) needs retipping, £65.
Tel: 0482 831652.

FOR SALE PIONEER M-73 power amp class A/AB switching, Rosewood end cheeks, boxed, beautiful condition, £350. WANTED, Carver M400A power amp Cube-shaped, must be good condition, no silly prices.
Tel: 041 881 1748.

LINN LP12 Lingo, Akito, K9, 2 years use, £650 ono; Denon POA6600 monoblocks, 2 years use, £650 ono; Conterpoint SA6 valve m/c stage, £200; Audioquest Emerald interconnect, 1m pair, £100.
Tel: 0782 415 699.

SONUS FABER Minima Amators, £1000; AVI 250wpc poweramp, £900; Audio Research LS1, £750; Orelle CD107/DA180, £875; Orange valve pre-amp, £400; Huygens stands, £110, half-price Madrigal/Deskald cables.
Tel 021 427 6661 (Roy)

REVOLVER TURNTABLE with Linn LVX arm and Linn K9 cartridge, mint condition, £130 ono; WANTED, Audio Technica AT 0C3 cartridge.
Tel 0245 267872, or 0585 491353.

RADFORD STA 25 with SC22 control unit, excellent condition £450. WANTED single mono Armstrong A10 Amplifier, also Technics EPA 500 arm or arm tubes and Decca SC4e cartridge.
Tel: 0533 626508 (anytime).

MISSION DAD 5 CD player, boxed as new £100.
Tel: 0703 328573 (Chris, Southampton)

DYNACO USA VALVE equipment: ST70 power amp, £275; PAS 3 pre-amp, £150; FM 3 tuner, £120; PAT 4 transistor pre-amp £100; FM5 tuner, £100, All excellent.
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REVOX PAIR F-36 stereo valve recorders, new heads on one, £375; Sugden Craftsman 3 turntable chassis, 3-speed, £75; Mono pick-ups: Garrard TPA 10/Goldring 600, £35; Leak Dynamic 78rpm MC head/transformer, £45; Heals wall cabinets for Quad valve system, £75; Heals folding wall cabinet with Thorens TD 124/Shure M212, £275; single speakers, 1 mini Acousta PM6, 2 Sandwich 600, 3 12" Axiom 300. Offers or buy single. WANTED, single monoblocks, Quad II nearest to No2727, Leak TL 10. Tel: 071 372 3724

JBL 4X L-100 monitors, Signature series, £395 pair; Tannoy Chevening, HPD 295, £275 pair; Rogers 2-way export monitors, £195; Yamaha B-2 power amp, massive dual supply, £495; Thorens TD-126 Mk4, Thorens arm, brand new, £295; Vitavox S-3 drivers, new + Vitavox Radial horns, used £595 Tel: 071 625 8966.

NAIM/LINN buy sell: 52, CDS, 250, 135, 140, SBL, ARO etc. Tel: 0382 819732 (Bob)

QUAD 606, £400; Equinox pre-amp, cost £1,800, sell £650; Ruark Talisman speakers, £500; Pink Triangle Ordinal DAC, £530; Micromega T Drive T DAC, £1,400. Tel: 0977 643629.

AUDIO INNOVATIONS series 300 Mk I integrated valve amplifier, fitted with upgraded valves, mint condition, boxed, only £200. Absolute bargain hence no offers. Tel: 01403 254992 (after 6pm).

SNELL E11 speakers teak with Pirate stands, excellent, boxed, £600 Tel: 0255 675115

REGA ELA Loudspeakers, £265; Cyrus 3 amp, £360. or exchange for Nait 3, both mint boxed as new. Tel: 0638 508193 (eve until 10pm)

PAIR SUPERB LOWTHER Acousta horn speakers (walnut), original (Alnico) PM7 units, £375; Garrard 301 mint, £150; Troughline tuner, perfect, £75; Quad and Leak valve sets. Phone for details. Tel: 0364 72153.

NAIM NAP 135 monoblock amplifiers, great sound, excellent condition, All leads, original boxes, £1425 (pair), Surrey. Tel: 0372 452529.

DPA PDM2 two box DAC complete with Deltran clocking unit, £1,600 ono. Tel: 0883 653165. (Surrey)

NAIM NAP 135 power amps, excellent condition (boxed), old style case can demonstrate or deliver (cash sale). Price £1,325 ono Tel: 0284 763853 (eve/w/end, or 0621 854444 x 412 day)

CROFT MICRO A PRE-AMP with series five power amp, £500. Will not split, no offers Please phone Steve. Tel: 01922 640737 (Walsall, West Midlands).

NAIM NAIT 3, 2 months old, £400. Tel: 0235 765986.

AUDIO NOTE SINGLE-ENDED 300B amplifier, as Kit One, £750 as kit, will sell for £680 Complete and in perfect condition Croft Micro A pre-amp, £160. Tel: 092872 4589.

TOWNSHEND ROCK reference Excaliber tonearm, boxed, just serviced by manufacturer, £2,200; B&W Silver-Signature 'speakers mint complete with State Audio stands, cost £6,000, accept £2,800. Concordant Exquisite pre-amp, £1,450; Alphason 4 tier Rosewood rack, £140; Roxsan Xerxes RB300 supply 3, £495. Tel: 081 450 7384.

MONOBLOCKS 2 PAIRS; one pair Denon POA4400A, 140 watts each, boxed as new. £450 (cost £900); one pair Sugden P128 vgc £300, both can be heard (bi-amped?). Tel: 0634 365153 (Kent).

HFW KLS-1 3-WAY speakers, oak veneer, 18mm MDF cabinets, external crossover, boxes, silver-plated cable. Too large for new house, excellent condition, £335. Tel 0902 374786 (Wolverhampton).

WANTED TRIO L-07D turntable, working or not. Also spares, accessories, packaging etc. for same. Good prices paid. Tel: 0782 680 376.

AUDIO RESEARCH V 70 power amp (black) mint, £2,700; 5 metre pair sterling silver interconnect £100 Tel: 071 437 1988 (day, London).

KEF 104/2 ROSEWOOD Reference series, vgc (new £1,000) asking price £600 ono, can demo. Deliver within reasonable distance. Tel: 0635 42278 (Berkshire).

AUDIO RESEARCH SP-8, £700; Quad 606(II) and Quad 34, £650; NAD Monitor pre-amp, £90; Leak Stereo 30 plus amp and Troughline stereo tuner, £140. Tel 0273 684424 (Brighton).

ENTHUSIAST'S CLEAROUT, Leak amps, tuners Stereo 20s, pair of TL12s, 301 etc. Want recent Teac-Revox reel. Additional 10.5" reels (new), hi-fi books magazines brochures etc. 1980s, manuals Teac XIOR, Pioneer 95001 I amp list Tel: 0392 860182 (eve).

IMPULSE HORN H4 speakers, £550 ono or swap for Epos ES14 plus stands; Townshend Rock turntable with Roxsan Tabriz arm with Isoda interconnect cable £350 ono. Phone after 5pm Tel: 081 658 2490.

TRICHORD PULSAR series I, six months old, £950. Tel 081 979 3297, or 081 943 3771 (Eve. only)

FOR SALE PR TANNOY Oxfords, £100, PR Rogers LS5s, £75, Nait 2 amp; £250, PAS-02 passive pre-amp Penny and Giles pot, £150, Hart phono amp with power supply, £75 ono. R Dadson, 27 Sydney St, Folkestone, CT19 6HG

NAD 7120 stereo receiver, 5330 CD player (slightly marked), 6050 C cassette deck, all good working condition and value at £50 each; Monitor Audio R252 speakers £50 pair Tel: 0482 898322.(Hull).

QUAD 22 control unit and two amplifiers restored (high quality metal film resistors, polypropylene capacitors, electrolytics); FM II stereo tuner (valve) (recent Quad service), all excellent condition, best offer secures Tel: 0736 60367.

TURNTABLES TRANSCRIPTORS, hydraulic reference arm and brush-kinematic art, £350. Thorens TD-124/II SME Decca, £250, outperforms 301/401. Thorens TD150 (Linn Mk 0?), £50. Mision 774 original dampable arm, boxed, £75. Tel: 081 991 0762.

QED A240SA INTEGRATED amplifier, including super analogue phono stage, 40w per channel. Excellent sound for both vinyl and CD mint condition, boxed £125 ono. Call Gary Tel: 0327 706714 (Gary - Northants).

AUDIO INNOVATIONS second audio triodes (ECC 88/2A3); £1150 or would take first audio triodes in p/x; DPA PDM One series 2 DAC, £200 (£625 new). Tel: 081 688 6397

IMPULSE HORN H4 speakers, £550 ono, also Townshend Rock turntable with Roxsan Tabriz arm, £350, both excellent condition. Phone after 5pm Tel: 081 658 2490.

QUAD SYSTEM, 67 CD player, 66 tuner, 66 preamp + remote, 606-2 power amplifier, £2,000 ono, months old.; Triangle floor standing speakers (on offer), rebuilt Garrard 401 turntable, £125 ono, Logic turntable + Datum arm and cartridge, £100 ono; Project 2 turntable + arm, £75 ono; various speaker stands and cables. Tel 0292 441544.

BLACK LINN LP12 Valhalla/Fidelity Research FR 64 tonearm vgc £495 ono; Counterpoint SA20 power amp; Hybrid 420 w/cl 4ohm 220 wpc 8ohm. Immaculate, £780 (new £3,000) Tel: 0375 392225.

LEAK SANDWICH Mk I I speakers, excellent condition original boxes and interconnectors, £120; Leak Troughline Tuner 3 vgc. mono £100; Wharfedale Isodynamics headphones, £20 ono Tel:0453 546191

ART AUDIO VP 1 valve pre-amp Golden Dragons, Pearl Coolers, £250, Blackhead MC transformers (by Tim de Paravicini), £50 Eroica and Orofon X3mc cartridges, offers Tel: 051 526 9760.

LINN BASIK turntable, arm and K9 cartridge, barely used, £300. Tel: 0248 351193 (eve, Bangor).

MISSION CYRUS 2, £195, Nakamichi BX1, £195; Linn Index speakers £200, Technics SL-P220, £125 Goodmans Acromat100 speakers £100; Castle Richmonds, 65, Dovers £145 (rosewood) Leak 2200, Stereo 70, Troughline (stereo), Sandwich speakers, £265, the lot, Garrard Turntable, £35 Tel: 091 3873205 (anytime).

SME V GOLD new boxed £1,195, Quad II (pair), £295; Quad 22 pre-amp, £25, Quad 4 pre-amp, £165, Musical Fidelity A100, £165, Quad ELS (serviced), £350, Leak Troughline II (stereo), £165. Tel: 0444 459196.

CROFT BEST EVER, the Mega pre-amp from Nottingham Analogue for £3,600, extra large power supply and separate pre-amp box £2,050 ono. Leak stereo 20 and pre-amp, £220. Tel: 0604 415182 (Northampton).

MERIDIAN 563 DAC as new with 2 year warranty left with Audio Quest 2 interconnect, £495 ono; Ruark Talisman speaker finished in rosewood, mint condition £290 ono Tel: 0242 574152

AUDIOLAB DAC MkII boxed immaculate, £450; Ortofon Quasar cartridge (unused) £200; Musical Fidelity MA65s + pre-amp 8 new trade price; TDL 0.5-speakers + stands (new) £475 possible p/x Tel: 01952 502097 (Telford).

WANTED - USED BANG & OLUFSEN turntable: BEOGRAM 7000 or 4500 in top condition. Tel: 0453 860223 (Glos).

WANTED ROGERS CADET II. Contact: Lars Berggren, Lohegatan 1 B, S-633 55 Eskilstuna, Sweden.

MISSION 753 loudspeakers, rosewood veneer, latest specification with upgraded plinths, immaculate condition and boxed, £525 (new price now £799). Tel: 0522 568330.

NAIM 32-5 PRE-AMP, 72 boards, K boards, phono, mint boxed, £300. Nakamichi BX1 cassette deck, new head, £75. Tel 0543 686 845 (eve/w/ends).

DPA DSP 50S 3 box pre-amp, disc stage and power supply, £625 (£1,320), LFD PA1 power amp, £425 (£999); Creek T40 tuner £100. Answerphone. Tel: 081 888 6902 (Simon).

ARCAM DELTA 90 2 amplifier, Arcam Delta 80 tuner, Arcam 70.3 CD player, Castle Chester speakers, all boxed, very low use, only just over two years old mint condition, £1,300 ovno. Tel 0564 770429.

BEREAVEMENT SALE of Quad system: 606 power amp, 44 control unit and FM4 tuner, £750. Also ESL-63 Electrostatic speakers, £1,500. All in excellent condition. Tel 0483 232672. (Guildford, Surrey)

GARRARD 401 strobe platter, wooden plinth, near mint, £200 ono, SME 3009 arm vgc, complete with Shure cartridge M75EJT2, offers please. Leak Stereo 70 amplifier, offers please. Tel: 0580 241208.

AUDIO INNOVATIONS S1000 pre and Mk2 power amps, power amps 25w each triode coupled; Snell Ks, S1000 step-ups transformer 2 and 3, tier Apollo racks on items. Tel: Mike, 0903 723031.

LINN KAN II, bi-wired walnut with Linn stands immaculate, £295, plus Linn speakers cable K400 2x6 metres, £75 and K20 2x9 metres, £45, both bi-wired; current prices per metre £14.95 and £5.95, respectively. Tel: 0483 37286 (Surrey)

INTRODUCING:-

BILLINGTON GOLD

VALVES/TUBES

Long known as specialists in rare tube brands, Billington Export introduces a new line of premium-grade valves to fill the increasing demand for hard-to-find tubes! BILLINGTON GOLD features specially tested valves selected for long life, low microphony and low noise. Versions with gold plated pins including E81CC, E82CC, E83CC, E88CC are available as well as grey pin versions of 6L6GC, 12AT7, 12AU7, 12AX7, DG732, ECC81, ECC82, ECC83, EF86, EL34, EL84, KT66, KT88 and others as listed below.

BILLINGTON GOLD brand comes from a variety of countries around the world. We have carefully chosen the best manufacturer for each type, with an emphasis on the highest audio quality, and product reliability. We also stock one million valves by Brimar, GE USA, GEC UK, Mullard, Russia/Sovtek, Tesla, Tungstram and other rare brands as well as sockets and CRTs.

Minimum order: UK, £50.00 (US \$75.00) + VAT & carriage. Export, £100.00 (US \$150.00) + carriage

2A3 Billington Gold	£15.00	12E1 STC/TT UK	£15.00	E81CC Billington Gold	£5.25	EF804S Telefunken	£27.00	B7G McMurdo UK Chassis	
3Amp1A Tungstram	£32.40	13E1 STC UK	£135.00	E81CC-01 Billington Gold	£9.50	EL34 Chinese	£7.00	mount skirted	£0.72
5c-450A STC UK	£259.35	85A2 Mullard	£5.93	E82CC Billington Gold	£4.50	EL34 Billington Gold	£9.95	813 Socket	£15.00
5R4GY USA	£7.50	300B Billington Gold	£69.00	E82CC-01 Billington Gold	£8.50	EL34 Siemens Germany flat top	POA	Octal McMurdo UK	£1.20
5U4G Sovtek	£3.20	805 USA	£54.00	E83CC-01 Billington Gold	£8.50	EL34G Sovtek	£7.00	Octal PCB nylon	£2.70
5Y3GT RCA	£3.90	300B Silvertone Chinese	£69.00	E88CC Billington Gold	£6.90	EL84 Sovtek	£1.82	Octal PCB, foreign	£1.20
6AS7G Russian	£4.00	807 USA	£9.00	ECC81 Mullard UK (CV4024)	£7.50	EL84 Billington Gold	£4.00		
6B4G Russian	POA	811A Billington Gold	£12.00	ECC81 Billington UK	£5.25	GZ32 Miniwatt France	£8.00	B9A Sockets for ECC83, EL84, EF86 etc.	
6BH6 RCA	£2.48	845 Billington Gold	£33.00	ECC82 Mullard UK	£9.00	GZ34 Sovtek	£7.95	suitable for preamps	
6CG7 USA	£6.75	5687WA Sylvania	£6.45	ECC82 Billington Gold	£4.50	GZ34/SY3GT Sovtek	£4.20	B9A Ceramic, skirted, chassis with	
6L6G France	£18.00	5751 use ECC83		ECC83/12AX7WB Sovtek	£3.50	GZ37 Mullard UK	£4.95	screening can, made in China	£1.20
6L6GC Billington Gold	£6.50	5881/6L6WGC Sovtek	£6.00	ECC83/ECC803S Tesla	£13.13	KT66 Billington Gold	£9.50		
6L6WGC Sovtek Russian	£6.00	6189W GE/RCA	£5.99	ECC83 Billington Gold	£5.25	KT88 Billington Gold	£18.50	B9A Ceramic, skirted, chassis with	
6SL7GT Sovtek	£2.50	6336A Penta USA	£58.50	ECC85 Bentley	£3.50	PL519 ECG/Philips	£5.95	screening can, made in Russia	£0.90
6SN7GT Sovtek	£1.33	6550A GE USA	£33.00	ECC88 Chinese	£3.90	Jumbo 4 pin for 211	£11.50	B9A PCB Gold pins	£2.40
6V6GT STC UK	£4.20	6550A Billington Gold	£11.50	ECC88 Billington Gold	£6.90	U4 used for 2A3/300b	£2.25		
6X4W Raytheon USA	£3.60	6550WA Sovtek Russian	£19.95	ECC88/6922 ECG Philips	£5.18	UX4 large locking type	£6.00	B09 magnoval chassis	
12AX7 Billington Gold	£5.25	CV4003 Mullard UK	£9.00	ECL82 Russian	£1.58	B5 UK	£3.60	mounted for PL519	£2.25
12AX7WA Sovtek	£3.50	CV4004 Brimar UK	£7.85	ECL86 East European	£3.23	UX5 McMurdo UK	£3.60	Topcap used for 807	£1.20
12AX7WB Sovtek	£3.50	CV4024 Mullard UK	£7.50	EF86 GEC UK 'CV4085'	£19.50	B7A used for 6C33CB	£3.23	Topcap 12 E1, 5B-254M,	
12BH7A GE Brands	£13.80	DG732 Tungstram Hungary	£32.48	EF86 Sovtek	£4.50			PL519	£3.60

Billington Export Limited

1E Gillmans Trading Estate,
Billinghamurst,
Sussex RH14 9EZ UK
Telephone: (01403) 784961
Fax: (01403) 783519

We can supply sockets for any valve listed in this advertisement. For matched testing please add £2.00 per valve (eg. £8.00 per quartet)

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SERIOUS KIT

X-DEM CLEARANCE SALE

	WAS	NOW
1 x COPLAND CSA14	£1,000	£850
1 x COPLAND CS501	£1,400	£1,000
1 x AUDIO INNOV. 1st. AUDIO	£1,550	£1195
1 x AUDIO INNOV. 200 PWR.	£500	£400
1pr. KESWICK VOLANTE (61K)	£550	£400
1pr. IMPULSE HZ	£780	£600
1pr. MICHELL ALECTO	£1,850	£1600
1 KRELL KSA50'S	£3,700	£2,850
1 AUDIO INNOV. L2	£700	£500
1pr. SONUS FABER MINI-AMATOR	£1,500	£1,200

AIC X-DEMONSTRATION KIT FULLY GRANTED

S. HAND SALE	NEW R.R.P.	NOW
1 x CONRAD JOHNSON ??? 10(??)	£4,000	£2,500
1 x MARTIN LOGAN CLS II	£4,300	£3,000
1 pr KINEROETIC SW800 (??? for above)	£5,000	£3,000
1 x DELTEC POM1 mkII	£500	£150
1 pr TDL SUTDIO 1	£700	£400
1pr. STAX LAMBDA PRO + SRMT-1	£1,600	£1,000

SERIOUS KIT

21, ALGERNON ST., MONTON, ECCLES,
MANCHESTER, M30 9QA.
061 707 4823

MERIDIAN 207B CD: pre-amp, Meridian 209, remote. £450; Meridian M3 Active speakers and stands; Meridian 101B pre-amp, Meridian 104 tuner. £450.
Tel: 0493 85 1296 (Gr. Yarmouth).

CHORD SPM 1200 B, barely used, boxed, as new (much better than standard 1200), £1,900. Also KEF R107-2 semi-active speakers finished in rosewood, mint condition, £1,950.
Tel: 021 422 0340.

MOREL 602 loudspeakers with Morel stands (£1,250), £750; QED Vector Reference r/c pre-amp (£400), £295; Linn Theta tuner (£475) £200 Albarry S508 power amplifier (£500) £275.
Tel: 0296 71 3311 (Bucks)

MERIDIAN M20 Active loudspeakers in excellent condition, complete with stands and original boxes, £395 ono; Arcam "S" Nlcam Stereo TV tuner, excellent condition, boxed, £150 ono, eves. Hants.
Tel: 0705 467938.

BARTOLOMEO REFERENZA stereo power amp, hugely powerful 100 watts per channel, will drive any speaker, £1500 (cost £2,750 new), boxed, mint condition; 2x2 metres of Isoda HC/08PSI interconnect cable terminated with phono plugs & Naim Din plugs (offers); 2 off bi-wired pairs of Naim speaker cable ie 1 off 11 metres long, 1 off of 8 metres long, all terminated with Banana plugs (offers).
Tel: 021 559 6972 (eve/w/ends, 0384 371586 (Bryan Newton).

KRELL KSA100, £1250; Audio Research SP9, £950; Pioneer PD91 CD, £450; Linn LP12 Ittok Koetsu black K, £850; Toshiba 33" Dolby surround TV, £800, all excellent condition.
Tel: 0922 402320 (W Midlands).

LINN LP12 Valhalla Afro Ittok LV11 Bk arm, Supex 900 Vital stylus. £450.
Tel: 0532 504990.

CAMBRIDGE CD2, boxed with remote control £225; Linn Basik plus arm, K9 cartridge & Linn arm board, £45; Target 3-shelf equipment stand, £30. Target wall shelf, £15.
Tel: 0942 818752

VANDERSTEEN 2CE speakers, a rare opportunity to buy these highly rated speakers (see Hi-Fi News Oct '92, £895, ono, (cost £1,400); brand new KEF 103/4s (rosewood), £775 ono (cost £1300) consider p/x for KEF 105/3s.
Tel Southampton 738935.

LINN LP12/Lingo/Ekos/Ortofon MC3000 Afro finish, £1500; Meridian 208 +209 remote control, £675, both boxed and in excellent condition, will haggle!
Tel: 0924 290749.

MULLARD 5-20 monoblocks expertly built, Partridge, Parmeko etc. £350 ono; Silversounds 16/4 bi-wireable cable 2X7mtrs, cost £400, accept £150; Denon DL304 as new, £100 Nagoaka TSI1, £30 unused. Empire 1000Mk1 I, £20 unused.
Tel 0742 738153, or 723621.

AUDIO NOTE ANJ speakers (walnut) as new, £325, Lowther Acoustas, new PMA drive units, £250; Nagaoka TSI1 cartridge unused, £25; Empire 1000 Mk1 I cartridge unused, 320.
Tel: 0742 738153 or 723621

HARMAN KARDON PM 665 VX1 amplifier, HD800 remote CD player, TD 392 cassette, TU 920 tuner, finished in champagne, with boxes as new £750.
Tel: 0483 766490.

PAIR AUDIO INNOVATIONS 2nd Audio Triodes. 6B4G 15watts. Superb Dynamics. Mint condition, £1,000.
Tel: 0242 236981, Gary.

QUAD ESL - 63 Speakers. Outstanding Condition, £1,250.
Tel: Cambridgeshire 01487 822093, evenings and weekends.

GARRARD 301, very good condition, £130. Garrard 401, good condition, plinth £100. Early Quad Model M-30, with valves, wanted plinth for Thorens TD-124/II.
Tel: Adrian (0892) 662424 evenings.

QUAD ESL - Bronze £350. Bastin serviced Garrard 301, mint in custom slate plinth, with Rega RB300 £300. ono.
Tel: (0116) 2553176.

IMPLUSE H2 Loudspeakers, mahogany, mint condition. Fitted with Spectra Deflex panels and XLO patch wires. 18 months old. Cost new £2,500, will accept £1,450 ono.
Tel: 081-291 1744.

FINESTRA PRE-AMP and Sumo Polaris power amp, powerful, beautifully balanced combination £700 the pair, Hitachi FT5500 tuner £45, Sony CDP-228ES CD player £75. All boxed and in immaculate condition.
Tel: 01252 844248

MUSICAL FIDELITY Ref 2 Speakers. Walnut veneer finish, little used, £100. Target welded speaker stands, 200mm high, £20. Marantz 65mk2 CD player, £60.
Tel: Essex (01268) 795235.

TRANSMISSION LINE Loudspeakers. Hi-Fi News/McDonald Design, superb full sound. Built as an exercise. Kit £450, sell £200 ono. Connoisseur BD2. Turntable in plinth, with cover. Lenco arm, excellent £25 ono.
Tel: 0275-872777.

MERIDIAN M3 Active speakers, stands and Meridian 101B Preamp £495; Thorens TD125 Grace 707 mint £125; Musical Fidelity A1 £110.
Tel: (01993) 776195 Oxfordshire.

VINTAGE MORDAUNT Floorstanding Speakers, Decca Kelly ribbon tweeters (perfect) and 10 inch bass, in good original condition £250 or offers.
Tel: (01993) 776195 Oxfordshire.

LOUDSPEAKERS NAIM IBL (passive) £450; Tuner Sony ST-3950 £40; TV Sound Tuner Minim TV-1000 £10; M.C. Step-up Transformer Lentek £40; M.C. Step-up Transformers Ortofon T-5 £40.
Tel: Ludlow 876040.

LINN SARA Nines. Bl-Wireable. With stands. Black Ash. As new. Original owner. £450.
Tel: 0508-470211 (Norwich).

MERIDIAN 206 CD £250; Michell Argo/Hera pre-amp £490; Lynx Pulsar power amp (130 WPC) £290; PT T00, Mission Mechanic, Goldring Excel £500; Audiolab 8000DAC £350; Proac Studio 1MK2 Speakers, £300; Target T2 Stands £95; Aura Tu50 Tuner £130; Yamaha KX260 Cassette £90.
Tel: (0962) 841 268,

AIWA AD-F450 Cassette, boxed, unused £95. Yamaha K-220 Cassette £40. Pioneer F-77L preset tuner £45. 2X Bartolomeo Class A stereo amplifiers £695 each, used preferred to Nalms in active system.
Tel: 01384 265058.

WANTED: Meridian 101 pre-amp with M/C module. (Note 101 not 101B).
Tel: 0161 351 1598 after 6pm.

EPOS ES11 good condition £200.00 ono.
Tel: Dave 0732 740040 day or 0732 866817 evening.

CONRAD-JOHNSON P.V.II pre-amp (18 months) £975 (£2,200) nothing better at this price. Micromega Duo C.D.3 and B.S. DAC (8 months) hardly used £975 (£1,800).
Tel: Mike 0884 - 32465.

LINN LP12 rosewood, latest specification, Lingo, Cirkus, Trampoilinn, Naim ARO arm, excellent condition, £950.
Tel: 031 667 3168.

LINN LP12 Ekos Klyde Tramp Cirkus Lingo £1,350, Kairn LK280S/Spark £1,150, Sara 9 (walnut) and Stands £250, S/O Stak (4 Shelf) and Wall Shelf £100.
Tel: 0947 811286.

AUDIOLAB 300B Silver Knights Monoblocks £1,275; B+W DM70 Electrostatic Loudspeakers - real wood veneer £450. Beautiful in combination. May split, part ex etc.
Tel: 021 486 2705 after 6.00pm (Paul).

AUDIOLAB 8000A II integrated amplifier, immaculate condition, boxed with instructions. Upgrade forces sale. £375 ono.
Tel: Harrow 081-863 9449/081-421 4920.

PROAC RESPONSE Three Speakers black ash. Very late sample - and unmarked. £1,900 (£3,060). Audio Research SP9 - also unmarked. £650 Arcam 170.3 CD Transport £450 Audio Synthesis Ultra-Analogue DAC £550. Both units include rare AT & T option. Also Sync-Lock.
Tel: 081-659 9538.

AUDIONOTE VALVE DAC 3 Signature DA Converter. Unused prize. New £2,700 accept £1,600. Audionote AN-L speaker cable 5 meters Bl wired pair unused new over £600 accept £300.
Tel: 01303 840 303.

NAIM SBL Speakers, walnut finish, very little used in mint condition. Superb sound. Cost £1,800+, bargain at £1,150 ono.
Tel: 0435-862986 after 5.00pm.

FOR SALE: Sound Organisation CD Two-tier Support Table - with granite/marble (green)top shelf and MDF lower shelf. £50.
Tel: Dave (0256) 54941 B/stoke B4 6pm.

NAKAMICHI CR7E Cassette Deck purchased new from manufacturer by present owner 3 years ago. Superb example £1,000.00 buyer collects.
Tel: 0275 206 767 7-10.00pm (answerphone at other times).

TRANSFIGURATION AFI Moving Coil Cartridge, low hours in ARO arm. Mint £550.
Tel: Mike 0895 440602. Mobile: 0860 155521.

ARMSTRONG 625 FM Receiver £90. KEF Reference 101 Loudspeakers £180. All teak, pristine, boxed with instructions.
Tel: 0246 237816 evenings (Chesterfield).

LEAK TROUGHLINE 3 stereo tuner. Recently renovated by G.T. Audio, superb sound. £190 ono. Denon TU 260L tuner £80 ono. QED 2way speaker switch £15.
Tel: 0287 639179 (North Yorkshire).

AUDIO INNOVATIONS 200 pre-amp (passive line level) with valve phono stage, Audio Innovations 1000 Mark 3 valve mono blocks 50 watts Class A - 8 months old, mint condition - £1,250.
Tel: 0733 840746.

SONY TUNER ST5370L. What Hi-Fi Tuner Of The Year 1991. RDS excellent sound. £80. Small Loudspeaker stands on spikes. £10.
Tel: 081-289 2172 Bromley, South London. Answerphone.

FOR SALE: Linn Lingo £550; Linn Ekos MK2 £900.
Daytime Phone No: 0628 604455 ext. 385; Evening Phone No: 0344 488342.

EXPOSURE XI Pre-Amp, VI PSU, IV Power Amp £1,700. Excellent condition.
Tel: 01934 522 635.

MOD SQUAD HIGH quality passive pre-amp, excellent with valve power amps, some scratches on case top, £150. Goldring 1042 MM cartridge, 30 hours use, £40.
Tel: 01962 774218.

MICHELL ARGO pre-amp with Hera power supply. £575 ono. Orelle DA180 D/A converter. £325 ono. Both sound superb. boxed and in excellent condition. Upgrades force sale.
Tel: (01734) 875964.

WANTED CYRUS 3 Amp or Sugden AU41 pre and power and Royd Abbot speakers. For sale or exchange Mission 753 R/Wood £500 and Sugden A21a Int. amp £300.
Tel: 01222 732 732.

QUAD II POWER AMPS with Hafler pre amp inc. Quad 22 and all original books £350.
Tel: Hereford 0432 268484.

CASTLE PEMBROKE MK2 speakers, mahogany, with stands £175. Musical Fidelity P150 power amp £150. QED C300 preamp with Super Analogue phono board £175.
Tel: 0636 71387 (Notts).

LINN KABERS, unmarked black, with Long Linn Tri-Wire Cables, upgraded to latest standard at Linn factory. £650. Sugden T48 MK II FM push-button Tuner, excellent condition. £75.
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Tel: 0782 773885 with details and price.

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Tel: 0274 572924.

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Tel Richard 071 586 2390 Eves W/end

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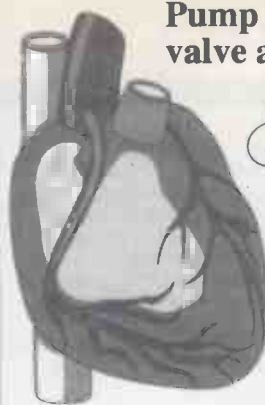
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