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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 rearranging 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
**THIS MONTH'S REVIEWS**

### AMPLIFIERS

**AUDIONOTE SORO SE & E SPEAKERS**

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**

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**

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.

### LOUDSPEAKERS

**B&W P4**

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**

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

### COMPACT DISC

**DPA ENLIGHTENMENT DAC & TRANSPORT**

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

**PIONEER A103**

**AUDIOVALVE LC8/PPP30**

### TURNTABLE

**ORTOFON MC IS SUPER II**

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**

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

### TUNER

**FANFARE FT-1**

The Fanfare FT-1 is used by many radio stations in its native US as a reference tuner. Eric Braithwaite found himself an instant convert.
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The Stone Roses: The Second Coming

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COMPETITION

Win a superb TEAC VRDS-7 one box CD player or the excellent new TEAC VRDS-T1 transport!

An in-depth look at what's happening in the hi-fi world.

World readers expound on issues that concern us all.

The team get to grips with your hi-fi problems

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

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David Price listens to the new 18bit Digital Compact Cassette machine from Philips and asks why it hasn't had the success it deserves.

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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.
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

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!

TEAC VRDS
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.

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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Friedrick Kammerzelt.
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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The P4s impressed with a clean midrange, and Denon's PM/A450SE - 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. Harbouring 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 weight and definition, as if the B&Ws were just routinely informing the listener of their presence, but not their importance.

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

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.

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 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.

**MEASURED PERFORMANCE**

B&W's new P4s have a smooth response and higher than average sensitivity. I'd recommend amplifiers capable of supplying around 40 watts or more for best results.

<table>
<thead>
<tr>
<th>Frequency Response</th>
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<td>Treble plateau adds brightness; bass peak adds boom</td>
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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. With the transport - but only just. the midrange only became a little better. It was enough of an improvement to allow them to grow and echo within life. The performances of the musicians seemed almost tangible, such as the degree of insight and expression this converter 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 Wagrian 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.
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Do Audionote’s exuberant, valve-friendly E loudspeakers sound good?
We audition them with the partnering SORO amplifier.

According to the grapevine Audionote E’s 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 hwxwd) 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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HI-FI WORLD MARCH 1995
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 RTL-4s and Audiowave 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 Audiowave 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.

**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 Audiowave 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 Audiowave 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 unsuitable. 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

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**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 1kHz, 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 opposed to the phono stage. The SORO’s low frequency response was measured 15Hz-15kHz, which will give a soft or warm sound, bandwidth measuring 15Hz-15kHz within 1dB limits. The phone 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 hi-fi 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.

**TEST RESULTS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>12watts</td>
</tr>
<tr>
<td>CD/tuner/aux</td>
<td>7Hz-15kHz</td>
</tr>
<tr>
<td>Separation</td>
<td>65dB</td>
</tr>
<tr>
<td>Noise</td>
<td>-91dB</td>
</tr>
<tr>
<td>Distortion</td>
<td>0.15%</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>120mV</td>
</tr>
<tr>
<td>Disc</td>
<td>15Hz-15kHz</td>
</tr>
<tr>
<td>Separation</td>
<td>60dB</td>
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<tr>
<td>Noise</td>
<td>-60dB</td>
</tr>
<tr>
<td>Distortion</td>
<td>0.2%</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>0.17mV</td>
</tr>
<tr>
<td>Overload</td>
<td>60mV</td>
</tr>
</tbody>
</table>

**Distortion**

Distortion is low and well mannered.

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**HI-FI WORLD MARCH 1995**

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GETTING TO THE SHOW

Temple Meads Station is a short distance from the Marriott and is accessible by bus, foot or taxi. By car, from the M4 (Wales to London) take J19 (M32 Bristol) at J3 the M32 becomes a conventional dual carriageway. Follow signs for City Centre.

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at the Marriott Hotel, Lower Castle Street, Bristol.
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 thunder 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 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.

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**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 90 - close to the ideal 80 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 pencodes 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 flatter, 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

**CONCLUSION**

The Audionote SORO needs to be auditioned very carefully. We were underwhelmed by it. The Es 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.

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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-I 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-I 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 Mary 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-I 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-I 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 eerie 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-I on a par with both the Audiolab 8000T and the Rotel Michi.

However, a Beethoven concert from Birmingham's Symphony Hall had...
its disappointments. Not a fan of Harmonic at the best of times, the top end was somewhat compressed and the flow of the music had a mild sense of construction. 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 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.

**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 -76dB. 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 160pV from the aerial, this is effectively its stereo limit. The mono sensitivity was very high at around 0.8pV. 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 80uV (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: 44dB
- Distortion (50% mod.): 0.2%
- Hiss (CCIR): -70dB

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

Hi-Fi World is in its fourth year. Noel Keywood, editor, talks about tobogganing, publishing and tarantulas.
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 mid-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 of mid-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 uninstructed, difficult or unapproachable technically. All the same, 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.

Coveting 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 Troubleshoot, although the NAD402 gets very close. This demonstrates just how bizarre hi-fi can get; an old valve fifties tuner (but which 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. World 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 '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 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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- **PHILIPS CD710** CD Player

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- **MARANTZ PM44SEMKII** Amplifier
- **JPW MINIM SPEAKERS**

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- **ROTEL RA960BXMKII** Amplifier
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- Pioneer CTW8030R - £229.95
- Sony TCK6115 Dolby $ - £249.00
- Technics RSX501 - £179.95
- Yamaha KX500 - £249.95

PIONEER CTW503 - £229.95

HOME CINEMA
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- Yamaha XA3000 - £169.95
- Pioneer CTXW503 - £189.95
- Yamaha KVX500 - £249.95

TUNER AND STEREOES
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- Pioneer CTXW503 - £189.95
- Yamaha XA3000 - £169.95
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Prices include VAT and were correct at time of going to press, but are subject to change without prior notice. Prices are valid until at least February 28th, 1995 E&OE.
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 converter - 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 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 classical recording of Locatelli's 'Sei Introductions 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
CBS 9PB
Tel: 0223 861550

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.

TEST RESULTS
<table>
<thead>
<tr>
<th>Frequency response</th>
<th>4Hz-20.75kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distortion (%)</td>
<td>0.09% 0.09%</td>
</tr>
<tr>
<td>-6dB</td>
<td>0.10 0.09</td>
</tr>
<tr>
<td>-30dB</td>
<td>1.01 0.90</td>
</tr>
<tr>
<td>-60dB</td>
<td>49.3 44.5</td>
</tr>
<tr>
<td>-90dB dithered</td>
<td>163 148</td>
</tr>
<tr>
<td>Separation (dB)</td>
<td>left right</td>
</tr>
<tr>
<td>1kHz</td>
<td>93 96</td>
</tr>
<tr>
<td>20kHz</td>
<td>93 96</td>
</tr>
<tr>
<td>Noise</td>
<td>92dB with emphasis 92dB</td>
</tr>
<tr>
<td>Dynamic range</td>
<td>101.5dB</td>
</tr>
<tr>
<td>Output</td>
<td>2.36V</td>
</tr>
</tbody>
</table>

Frequency Response
Rolled off treble gives a smooth sound.

Distortion
[Graph showing distortion levels]

High distortion may add some grain.
LOOKS LIKE NO OTHER...
SOUNDS LIKE NO OTHER...
SOUNDS LIKE NOTHING AT ALL.
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The Sweetest Feeling

A Cary Class A Triode is an amplifier you “feel”. An amplifier that delivers “goosebumps” and “raised hair” as you transcend into the dream of live music in your home.

The Cary Single-Ended line was inspired by the famous 300B triode vacuum tube of the 30’s. The 300B tube is considered by tube aficionados, on a world-wide basis, to be the finest audio tube ever designed.

The Cary Single-Ended Class A Triode Amplifiers have the high-end audio community in a state of complete reappraisal of what hi-fi truly is. We took classical circuits of the golden years of audio and combined these designs and techniques with the components and advances of the 90’s.
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...
The DCC's overall performance was very close to the Nakamichi. A fine result.

**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 depressed, 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 has a very sophisticated sound, an artificial forward. On the Nakamichi, leading edges of instruments came across better, conveying the full attack 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 digital compression would inflict.

Moving on to 18bit prerecorded tapes and the sound was even more impressive. With Decca's recording of Cecilia Bartoli and Andreas 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 criticize. 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

**TEST RESULTS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>REPLAY (prerecorded tapes)</td>
<td></td>
</tr>
<tr>
<td>Frequency response (-2dB)</td>
<td>30Hz-18kHz</td>
</tr>
<tr>
<td>Speed accuracy</td>
<td>+0.4%</td>
</tr>
<tr>
<td>Hiss (70uS, Dolby out)</td>
<td>64dB</td>
</tr>
<tr>
<td>RECORDING (blank tapes)</td>
<td></td>
</tr>
<tr>
<td>Frequency response</td>
<td>20Hz-20kHz</td>
</tr>
<tr>
<td>Separation(1kHz)</td>
<td>-90dB</td>
</tr>
<tr>
<td>Distortion (315Hz)</td>
<td>0.05%</td>
</tr>
<tr>
<td>Hiss (70uS, Dolby out)</td>
<td>-90dB</td>
</tr>
</tbody>
</table>

**Frequency Response**

-0.5 to +0.5 dB

Slow treble roll-off.

**Distortion**

0.03%

Minimal distortion.
the Arcam Delta 290 amplifier and the new Delta 290P power amplifier

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.

Finally, put the 290 and 290P together, along with a pair of bi-wireable loudspeakers. Leave the 290 connected to the speakers' treble drivers and connect the 290P to the bass units. Now, play your favourite music; though you might have heard the epithet "working in perfect harmony" before...now you'll understand it.

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

Just close your eyes, open your mind, and see the light.
DIGITAL
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 personal, 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 share 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 the decks in the first place, getting the software side right looks like a real challenge.

Abroad, the future is even less promising for DCC, MD having made fierce 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). Pre-recorded MD software is now being sold in Oldakuyi 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. Even more telling, Philips have to make a compatible MD player, which may well be the wildcard in DCC’s future.

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

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 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 by the increasing interest.

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

HDCD, HCD, 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 HDCD.

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 HDCD 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 HDCD (High Density Compact Disc) - not to be confused with HCD (High Definition Compatible Digital) from Pacific Microsonics.

The good news was that Pink Triangle would soon be bringing out an HDCD compatible player - but which HDCD? 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 HDCD (High Density Compatible Digital), HCD (High Definition Compatible Digital) and even HDCD (High Definition Compact Disc).

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

Brian Horswill Pembrokeshire.

Letter of

I think the easiest place to start with all this is at the top. High Density CD, or HDCD, 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 HDCDs. 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,

HI-FI WORLD MARCH 1995
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.

N K

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 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...

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.
Eric Braithwaite is thoroughly enamoured by the open sound of Magneplanar's MG 0.6 SE loudspeakers.
Wonderful sounding places, some hi-fi eminates 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 discriminating visitor; a painter, so my own similar view was borne out by a discerning visitor, a painter, ‘elegant’ by a discerning visitor, a painter, “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.”

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 through, 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 5.2 ohms overall and in the treble impedance falls to 2.5 ohms at 20kHz. This makes a powerful solid state design a necessity. I’d recommend something with at least 100 watts to ensure good results.

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

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

Impedance
Impedance drops to 2.5 ohms at 20kHz.
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 midihifi 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 space around the hi-hats, and Lea’s obvious emotion. Whilst it was clear that the Denon was streets ahead on ‘hi-fi’ aspects like control, detail and space around the hi-hats, it was 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 lower 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 superior, capturing the tendency of the Roland 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 ability it has 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.

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

**MEASURED PERFORMANCE**

Low powered perhaps, but at 36 watts 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 50 watts 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 highish 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 Premain Amplifier’. NK

**TEST RESULTS**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Pioneer A-103</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>36 watts</td>
</tr>
<tr>
<td>Frequency response</td>
<td>8Hz-60kHz</td>
</tr>
<tr>
<td>Separation</td>
<td>70dB</td>
</tr>
<tr>
<td>Noise</td>
<td>97dB</td>
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<td>Distortion</td>
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<tr>
<td>Sensitivity</td>
<td>270mV</td>
</tr>
<tr>
<td>dc offset</td>
<td>0/0mV</td>
</tr>
<tr>
<td>Disc (MM)</td>
<td>14Hz-63kHz</td>
</tr>
<tr>
<td>Separation</td>
<td>65dB</td>
</tr>
</tbody>
</table>

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

**Distortion**

Low distortion, comprising innocuous 2nd harmonic.

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

Audiolab 8000A
Best Integrated Amplifier over £300

Audiolab 8000T
Best Tuner

Audiolab 8000DAC
Best Digital product

Cambridge Systems Technology Limited, Spitfire Close, Ermine Business Park, Huntingdon, Cambs. PE18 6XY. Tel 01480 52521
Modern production 300B valves have a lifetime of around 10,000 hours when used in a well designed circuit.

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

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.

... 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?

I confess I simply don’t understand how this last area can improve so dramatically as I previously imagined the 'ingle' 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 unreasonable 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 malign 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.
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 general manufacturing grease to lubricate the swing-arm suspension of a Norton Dominator.

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 PCMI 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 Wilmshurst 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 Wilmshurst 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
Wilslow 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/plate shop and fixed them to each.  

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 Wilslow 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. Alasdair 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 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 111 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, Alasdair 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 LP1 2
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 VI!

Come on guys - give the poor LP12 a chance. I own 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

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

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

S. Chapman
Ilkeston,
Derby.
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 Ortofons 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 MC 15 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 MC 15 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 Ras900 being fine. I used the cartridge in an SME3.12.12in arm on a Bastian 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 stylius and, as modern moving coils go, low output. Beware of this since hiss can easily become a problem.

**SOUND QUALITY**

Having listened to MC15s 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 symbolic 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 '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 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-euphonous 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 B34P valve phono preamp. With its raised bass, smooth, sweet treble and superb openness, the B34P 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.

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 B34P is very quiet too - quiet enough to cope with the 15's low output without hiss becoming apparent.

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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 shine to itself to be masterful. Although not as intrinsically sweet and melodic 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.

**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 flattest 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)**

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<thead>
<tr>
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<th>Response (%)</th>
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<tr>
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<td>20kHz</td>
<td>96%</td>
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**Channel separation** 27dB

**Tracking ability (300Hz)**

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<th>Test</th>
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<td>vertical</td>
<td>45µm</td>
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**Distortion (45µm)** 1%

**Output (5cms/sec rms)** 0.53mV

**Channel imbalance** 0dB

---

**Ortofon**

**Chiltern St. Peter, Bucks. SL9 9UG**

**Tel:** 0753 889949
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 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
Yamaha Electronics UK Ltd.,
Yamaha House,
200 Rickmansworth Road,
Watford,
Herts. WD1 7JS
Tel: 0923 233166

Inside the CDX-480 construction is neat and simple.
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 riveting 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.

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

WHERE IMAGES HAVE NO SPECIFIC POSITION

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. 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.

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Speaker placement can sound surprisingly spacious, filling the room with a performance.

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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.

**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 the 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.

**NEXT MONTH**

How far should you sit from your speakers and how to control the reflections that can ruin good stereo.
If you enjoy the touch of injection-moulded plastic, you'll probably go to pieces when buying loudspeakers. The Castle customer never falls for fools mate and his strategy allows the choice of seven handcrafted models in nine real wood veneers before making an important move. To play the game, advance to your local Castle dealer or contact us for his position.

Castle Acoustics Limited, Park Mill, Shortbank Road, Skipton, North Yorkshire BD23 2TT, England. Tel. (0756) 795333 Fax. (0756) 795335
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 ‘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
Hayden Labs,
Hayden House, Chiltern Hill,
Chalfont St Peter,
Bucks. SL9 9UG
Tel: 0753 888447

£1150
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 have been 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 LCB 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 sidebars, 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, light 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 bit of information impressively. Green Gartside's voice was delivered with a

Twinned 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 plus, so the sort of performance we'd like to see at the price. Expect slightly softer 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 good.

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 shielded, 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

**MEASURED PERFORMANCE**

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<tr>
<th>TEST RESULTS</th>
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<tr>
<td><strong>POWER AMP</strong></td>
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<tr>
<td>Power</td>
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<tr>
<td>Frequency response</td>
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**Distortion**

| 0.1% |
| 0.5% |
| 1% |

HI-FI WORLD MARCH 1995
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 Lorincraft 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.

**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.

**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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MAGAZINE MARKETING
synergy
(sin’o r je)

definition: simultaneous action of separate instances which, together, have a greater total effect than the sum of their individual accomplishments.

Dual Mono 150W per Channel, Remote Controlled All Tube Line Level Integrated Amplifier.

Also available as a Stereo Power Amplifier.

For further details on the Synergy and our complete range, including a UK dealer list, please call or write to:

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Foxhills Farm
Longcross Road
Ottershaw, Surrey
KT16 0DN, England

Tel: 01932 873444
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01260 297544
Introducing The Parts Connection’s first complete DIY kit: the Assemblage DAC-1 Digital Processor.

It comes in a small package (24cm x 5cm x 18cm chassis), but packs a big punch and a very musical sound. Designed for the rookie or first time kit builder, the only tools required are a pencil tip soldering iron, a screwdriver, a wrench, a pair of electronics pliers, and a wire stripper or hobby knife. With only 21 solder joints and a handful of nuts and bolts, this kit goes together in one evening (typically about an hour). It’s as easy as connecting the dots.

The parts quality is top notch. The board comes assembled and tested, implementing the Burr Brown 1702 DAC, a Crystal 8412 input receiver, an NPC 5813 digital filter, Analog Devices’ AD844 and 847 op amps and a custom potted toroidal power transformer.

At $449 US, the Assemblage DAC-1 offers an outstanding value in digital conversion and comes with a Satisfaction Guarantee (return it within 30 days of purchase for a full refund) and an Assembly Guarantee (if you can’t get it running, we will!). We challenge you to find a DAC anywhere near this price with better measured performance, component quality, and most importantly, sound quality. Call us for more specific information on the performance or construction features.

To order the DAC-1 kit or to order The Parts Connection 1994 Catalog (for £3), full of a lot of other exciting stuff (including a $10 US discount coupon good on your first order over $100 US), send us your request and mailing address - or call with credit card information.

2790 Brighton Road, Oakville, Ontario, Canada L6H 5T4
Telephone 0101-905- 829-5858 Facsimile 0101-905-829-5388

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E.J. JORDAN DESIGNS
The Dix, Manorbier, Tenby, South Pembrokeshire, SA70 8QR. Tel: 01834 871209 Fax: 01834 871770

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Cecil Watts Dustbugs/Parastats/ (spares incl. Preener wicks)
Cartridges and styli for 78s & Mono Lps in addition to current Stereo LP

TECHNICAL & GENERAL PO Box 55. Crawborough, E Sussex. TN6 2BY Tel: 0892 64534
recorded message

Left by Richard Brice

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.

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).

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 2n represents a zero and 2n represents a one. Such a 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 (n 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 sub-frame.

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 sub-frame. 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 repeating-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 sub-frame 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!
ATTENTION
ONE OF OUR COTTON BUDS IS MISSING!!

The February issue of Hi-Fi World carried an advertisement for Electrocompaniet A/S. (see page 40 Feb. '95). The free to enter competition asks you to send your used cotton bud to Norway, some copies of the February issue will not have a cotton bud, please feel free to use your own.

Send them to:-

Electrocompaniet A/S
PO Box 92, N-1473 Skarer, NORWAY.

CONDITIONS OF ENTRY

1. Entries are not limited.
2. Buds from the Hi-Fi Choice advertisement must be returned to Norway by 31st January 1995, buds from the Hi-Fi World advertisement must be returned to Norway by 31st March 1995
3. The draw will be made on 4th April '95
4. Winners will be notified directly by the distributor in who's country they reside, and will be announced in the June issue of Hi-Fi World.
5. Each of the two winners (one from each of the two publications) will receive an Electrocompaniet ECI-1 integrated amplifier valued at more than £2,000.00

I wish you all the very best of luck.

TEL/FAX:- 01243 53 30 30
No use showing you our amplifiers – as you can’t listen to this advertisement.

Visit your Electrocompaniet dealer today and experience the real thing.
EAC'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.

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.

Complete the ditty above in no more than thirty words.

COMPETITION RULES AND CONDITIONS OF ENTRY

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

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 April 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.

Please do not add my name to your mailing list.

Your name and address may be added to our mailing list only.

If you would prefer not to receive details of new products or special offers from us alone, please tick the box.

Hi-Fi World magazine is published by Audio Publishing Ltd.

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

2. David Johnston of Linwood wins the Spendor SP7/1s.
3. R. F. Juskus of Gloucester wins the KEF Reference 2s.
5. Ian Jarvis of Derby wins the Philips CD740.
6. H. Smith of Stroud wins the Triangle Cometes.
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.

Many thanks for the hundreds of entries we received, and congratulations to all of the winners.
Another exceptional offer from Hi-Fi World!

Using one of the forms below take out a years subscription and the first, lucky, 30 SUBSCRIBERS out of the Hi-Fi World post bag will sent a box of MAGIC CONTACT cleaning fluid absolutely free. This effective cleaning solution removes contaminants from electrical connections. After application, a system regains its original life, sparkle and Vigour.

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03/95 550 E&OE
Reflections from Noel Keywood

**kaleidoscope**

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 effective solutions. In Shadows of the Mind, Roger Penrose gave some fascinating insights into the actions of the brain and, as yet, 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, whizoo 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 ricer 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 shipping 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 dismally 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 quickly in its own technological backwater until a high capacity, re writable 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
RINGMAT FOR RECORD LOVERS
First record support to be properly designed

Hear what reviewers say:

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"I found I preferred the RINGMAT and will carry on using it. The results were wholly positive..." Jason Kennedy (Hi-Fi Choice, April ‘93)

"RINGMAT gave a sharper, cleaner, more solid sound, with better fine detail and clarity. On complex material the improvement in stability and focus was remarkable; easily comparable to an expensive Tonearm, cartridge or power supply upgrade... Any drawbacks? None I could detect..." Jimmy Hughes (Audophile, October ‘93)

"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."


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"This product must be one of the most cost-effective accessories ever to be offered to music lovers." Mr. R.A., Norway

Can RINGMAT really be that good? Yes, it is, but there is only one way for you to find out - try it yourself.

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Tel.: 716 461 1295

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Mr. R.A.

Norway
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!

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 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, 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) accessory, such agents are usually alcohol based (thus evaporate quickly) and supplied with a velvet pad.

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.

The safest thing to do is 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 philosophy suggests washing records in soapy water. Ridiculous as it may sound, this method still carries credibility with some of the 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 even brand 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.

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

"The best cure is prevention! Your records stand their best chance if they're put away straight after use and properly stored."
Try the CD Filter with a difference in your own home

When we listen to music, both the high and low frequency sounds help our brains to paint a 3 dimensional stereo picture. But when we listen to CD, the high and low pictures do not perfectly realign. With their clinically clean electronics, CD players lack the beneficial, subtle signal handling of analogue equipment which can actually "re-converge" the two stereo images. So creating the convincing illusion that is the hallmark of good analogue systems.

Francinstien, designed by Hi-Fi World columnist Richard Brice, breathes life into digital stereo. By simulating the best aspects of analogue equipment, it restores the sense of depth - and even height - to digital recordings. And it does it without introducing any of analogue's vices!

Simply plug Francinstien between your CD player and pre-amplifier (or integrated amplifier) and you can have your cake and eat it. Analogue imaging and "involvement" with the clarity and "bite" of digital. But you don't have to believe us because you can try Francinstien on home trial.

"It's a gentle elegant effect - and a very even one...One simply becomes more aware of the music."
— Eric Braithwaite - Hi-Fi World

"CDs sounded better defined, the soundstage having a more definite shape. It was as if there was more air around each strand in the mix, allowing you to hear it more distinctly, more separately...I didn't immediately want to switch the CD player off and relax with some LPs, instead I went on to make further explorations of my CD collection"
— Andrew Cartmel - Hi-Fi Choice

Let the Francinstien improve the audio quality and stereo imaging of your system. To send you a demonstration unit we require either cheque or credit card payment for £7.00, to cover postage and administration. If you wish to purchase a Francinstien please call us and £7.00 will be deducted from the total price of £150 inc. VAT. However, if you do not wish to keep the Francinstien then simply return the unit to us within 10 days.
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.
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
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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
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 long-player was concerned.

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

MEDICINE HEAD
New Bottles, Old Medicine...Plus
SEE FOR MILES SEEC X 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 arrestingly original duo - John Fiddler - guitar, violin and Peter Hope-Evans - harmonica - were, as 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 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.
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 long lengths of time, fuelling frequent rumors 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 disappeared.

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 rappers like Paris and Nas, it’s an album well worth getting hold of.

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 of with the much-rated Japanese trend setter DJ Knush, 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 Tranquility 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.
hi fi world march 1995

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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 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 eclecticists, 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 classical, no inherent difference between the music of the late sixties and the music of the sixties. He's always been about musical and personal obsession; it's the dedication to Cultural Zionism's founding father Asher Ginzberg - but with the copious sleeve notes all in Japanese - 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 Ornette 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 12 is joined by one of the two drummers from that Spy vs Spy, 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.
Phillip Johnston's BM TROUBLE
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.

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.

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 naivety of the Hammond sound, or maybe due to it, this CD works wonderfully.

Simon Cooke

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Discoveries - a Dutch emigre; the unknown glories of Purcell's church music, and sacred jewels by Tavener, 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 Nicholas, 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...
One of the most surprising musical phenomena of recent times, apart from an apparently inatatable 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 tranquility. 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.

\[\text{JOHN TAVENER}\
\text{Annunciation/Ikon of the Nativity/The Lamb/A Nativity/ Today the Virgin/The Lord’s Prayer/Many Years/Wedding Prayer/He Hath Entered the Heven/The Acclamation}\
\text{ARVO PART}\
\text{Magnificat/Summa}\
\text{HENRYK GORECKI}\
\text{Euntes Iabant/Totus}\
\]

\[\text{Tuus/Amen}\
\text{Oxford Pro Musica Singers; conductor, Michael Smedley}\
\text{Proudsound PROU CD131 (DDD/77.12)}\
\]

- 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 are receiving their first recordings. This is especially so in the case of the Ikon 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.
and consists of six verses sung in unison over a drone bass building to an exultant climax.

Tavener 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 Tavener's 'He Hath Entered the Heven', 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 sings 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, and the sombre plangency of the piece gently lightened by the ringing of suspended handbells. The Tavener 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 record 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 Ibat, 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 Proudfun 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.

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
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 from 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 ‘mournful flutt 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 roll of the flutt trumpets has been given either to trombones or to sackbuts but, on this CD, the flatt trumpets has been given either to the player’s shoulder and its range included was quite unlike the modem instrument. It composed fifteen years earlier and the Anglican Funeral Sentences he had service and what he produced certainly required to provide music for the funeral leading composer of the day, Purcell was Queen Mary, who died in 1694. As the compositions, the Funeral Music for 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

- 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-enhancing 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 Yo 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 is, 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 those 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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SOLID STATE ELECTRONICS

THE ART OF ELECTRONICS, by P. Horowitz and W. Hill. £35
The definitive electronics book. The Art of Electronics is an ideal book for the beginner through to the engineer. Written in easy to understand English, each chapter takes you from basic first principles through to full design exercises and practical circuits.

THE ART OF LINEAR ELECTRONICS, by J. Linsley-Hood. £16.95
Concentrates specifically on analogue electronics for audio and goes into detail on obscure topics like the drawbacks of feedback, as well as its advantages. Covers mainly solid state but also includes valves. A must for serious enthusiasts and budding designers.

AUDIO ANTHOLOGIES

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

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The first new audio amplifiers, tuners and speakers designed after the long delays of the Great Depression and World War II.
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Volume Two - January 1950 to July 1952
More great amplifiers, preamps, loudspeaker designs, and the first glimmer of the stereo revolution plus magnetic recording aids.
Summary of Contents: Ultra linear 6L6 design and operation of the Williamson, a direct coupled amplifier; Williamson type amplifier using 6AS5, 40watt 845 push-pull amplifier, valve phono and line preamps, valves and loudspeaker damping, design and construction of reflex and horn loudspeakers.

Volume Three - August 1952 to June 1955
Seven power amplifiers, eighteen preamps, twelve loudspeaker designs, including four horn types and binaural recording techniques.
Summary of Contents: Simple valve phono stage, transformerless amplifier using 6082, 20watt 5881 amplifier, 10watt 6V6 amplifier, stereo valve preamp, high quality valve phono stage, a preamp for the Williamson, low distortion tone control preamp, binaural or stereophonic?, transistor phono amp, corner horn loudspeaker, concrete horn loudspeaker.

Volume Four - July 1955 to December 1957
How to plan an audio system, twelve amplifiers and preamps, solid state techniques and circuits introduced and six loudspeaker designs.
Summary of Contents: 18watt 5881 amplifier, 4watt single-ended tweeter amplifier, budget 11 watt amplifier, versatile bass/treble control, transistor theory, transistor preamp, transistor techniques, battery powered transistor phono preamp, loudspeakers explained.

Volume Five - January 1958 to December 1959
Stereo comes to full flower with four FM Multiplex decoder designs, seven power amps, eleven preamps, a commercial killer, five loudspeakers, and theory articles by Olson, Crowhurst and McProud.
Summary of Contents: Stereo valve multiplex decoder, 7watt EL84 amplifier, valve active crossover and 20watt treble amp/50watt bass amp., monaural, binaural, monophonic and stereophonic explained, heterodyne FM multiplex adapter, transistor preamp, 60watt EL34 amplifier, high power audio amplifiers, hi-fi loudspeaker enclosure.

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"Loudspeakers: The Why and How of Good Reproduction, G.A.Biggs. This easy-to-read classic, last revised in 1949, introduces the reader to crossovers and other complex issues, such as impedance, plots and decibels, frequency response, power curves, volume, watts, insulation and vibrations, cabinets and baffles, tone, room balance, transistors, crossover networks, negative feedback, Dopplers and a host of other, more advanced topics. A provocative and fair survey of the government's role in sound recognition.

"1946-1960."

1946-1960... 40 Pages. (Oswestry 10 9AF)
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<tr>
<td>NAD 501</td>
<td>£180</td>
<td>A break from the MASH tradition, the Philips powered 501 gives excellent results. Apr'94</td>
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<tr>
<td>ROTEL RCD965 DIS</td>
<td>£350</td>
<td>A smooth and easy sound make this one of the best value players around. Jan'94</td>
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<td>QUAD 67</td>
<td>£790</td>
<td>A new breed of Quad. Lacking nothing in verve or excitement. May'93</td>
</tr>
<tr>
<td>SUGDEN SDT I</td>
<td>£850</td>
<td>Airy and spacious with a rare quality of ambience. Mar'93</td>
</tr>
<tr>
<td>NAIM CDI</td>
<td>£1598</td>
<td>Single box, 16 bit player. Close to the two box CDS, has vital 'tingle factor'. Apr'92</td>
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<tr>
<td>TEAC VRDS-TI</td>
<td>£499</td>
<td>Good solid CD transport with a powerful sound, and reasonably priced too. Feb'95</td>
</tr>
<tr>
<td>ARCAM DELTA 250</td>
<td>£750</td>
<td>Transport with sync-lock facility. Good partner to BB50 May'94</td>
</tr>
<tr>
<td>ORELLE CD10-T</td>
<td>£799</td>
<td>Very involving, unforced and natural when used with Orelle's DA-180 DAC. Feb'94</td>
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### DIGITAL TO ANALOGUE CONVERTERS

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<tr>
<td>DACULA</td>
<td>£376</td>
<td>This little devil from Select Systems really gets its fangs into the music. Dec'93</td>
</tr>
<tr>
<td>DPA LITTLE BIT II</td>
<td>£450</td>
<td>Clean and confident sound with good resolution and focus. May'94</td>
</tr>
<tr>
<td>ORELLE DA-180</td>
<td>£599</td>
<td>‘Analogue’ sounding converter, best with matching transport. Feb'94</td>
</tr>
<tr>
<td>P. T. ORDINAL</td>
<td>£695</td>
<td>Pure sound, smooth and free from hardness. One of the best at any price. Jul'93</td>
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<td>£1450+</td>
<td>Pink Triangle’s own one bit DAC reaches new standards in digital. One of the very best. Mar'94</td>
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<tr>
<td>DPA 1024</td>
<td>£6000</td>
<td>Even better with DC supply and new filter options. July'94</td>
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### TURNTABLES

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<tr>
<td>SYSTEMDEK IX900</td>
<td>£230</td>
<td>£330 with RB250 tonearm. A fine all-rounder and easy to upgrade. Neutral character. Sep'94</td>
</tr>
<tr>
<td>PRO-JECK 6.1</td>
<td>£435</td>
<td>Complete with Ortofon MC15 Super and can even play 78s for an optional £10. Sep'94</td>
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<td>TOWNSEND ROCK III</td>
<td>£799</td>
<td>The MkIII has a fabulously stable, solid image and tefnic bass. Feb'94</td>
</tr>
<tr>
<td>PRO-JECK 6.1SA</td>
<td>£999</td>
<td>A top flight turntable complete with Sumiko arm and Ortofon MC30 Supreme MC. Dec'94</td>
</tr>
<tr>
<td>P. T. ANNIVERSARY</td>
<td>£1200</td>
<td>Very neutral turntable. Excellent imagery and detail. May'92</td>
</tr>
<tr>
<td>SME MODEL 20</td>
<td>£2495</td>
<td>The last great turntable, bettered only by the £11,000 Model 30. Oct'92</td>
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### TONEARMS

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<tr>
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<tbody>
<tr>
<td>REGA RB 300</td>
<td>£139</td>
<td>Simple and superb; dynamic with solid bass. Various</td>
</tr>
<tr>
<td>SME 309</td>
<td>£568</td>
<td>Based on IV and V: Aluminium armtube and detachable headshell. Jan'93</td>
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<tr>
<td>SME IV</td>
<td>£850</td>
<td>Loses little to the fabulous V, possibly the best value for money SME. Dec'93</td>
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<tr>
<td>SME SERIES V</td>
<td>£1232</td>
<td>A masterpiece of precision engineering, with a cohesive sound. May'92</td>
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<tbody>
<tr>
<td>ORTOFON VMS-2E</td>
<td>£10</td>
<td>Warm, full bodied, punchy, fast, good tracking - what else can you get for a tenner. Nov'94</td>
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<td>GOLDRING 1012 GX</td>
<td>£60</td>
<td>Rounded bass, slightly forward midband, clean transients. A bargain. Jul'93</td>
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<tr>
<td>GOLDRING 1022GX</td>
<td>£80</td>
<td>Extra degree of dynamic range and speed over the 1012GX. Jul'93</td>
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<td>GOLDRING 1042</td>
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<td>ORTOFON SUPREMES</td>
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<td>£450</td>
<td>Soft treble, but a stonkingly good cartridge. June'94</td>
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<tr>
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<td>£650</td>
<td>We came across this one by accident; used on a Garrard 401 with an SME/IV it gave one of the best results we've ever heard. Dec'93</td>
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<tr>
<th>Model</th>
<th>Price</th>
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<tbody>
<tr>
<td>AIWA AD-S9500</td>
<td>£299</td>
<td>A stable transport, superb head and Dolby S make this a superb recorder. Feb'95</td>
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<tr>
<td>NAKAMICHI DR2</td>
<td>£500</td>
<td>Worth every penny, pushes recordings to the limit and remains unflustered. Feb'94</td>
</tr>
<tr>
<td>NAKAMICHI DR1</td>
<td>£780</td>
<td>Nakamichi sound quality, and manual head azimuth adjustment. Jun'93</td>
</tr>
<tr>
<td>NAKAMICHI CR-7</td>
<td>£1500</td>
<td>No Dolby 'S', but auto tape tuning and motorised head. The Best! Aug'92</td>
</tr>
</tbody>
</table>

### TUNERS

<table>
<thead>
<tr>
<th>Model</th>
<th>Price</th>
<th>Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAD 402</td>
<td>£160</td>
<td>Stunning budget tuner, with a warm and open sound. Can compete with the best. Jan'94</td>
</tr>
<tr>
<td>MISSION CYRUS FM7</td>
<td>£299</td>
<td>Clear and lucid sound. One of the best, regardless of price. Apr'94</td>
</tr>
<tr>
<td>QUAD 66FM</td>
<td>£490</td>
<td>Among the very best in terms of tonal colour and imagery. Remote controllable. Nov'92</td>
</tr>
<tr>
<td>NAIM NAT 03</td>
<td>£500</td>
<td>Warm and easy sound with a good sense of atmosphere. Good value. Sep'93</td>
</tr>
</tbody>
</table>
World favourites

NAIM NAT 01 £1377
BURNISTER 931 £4347

The best solid state tuner currently available. For better radio, live in the studio! Mar’92
Super high-end tuner with a super high-end sound. Exceptional clarity and detail. Nov’94

INTEGRATED AMPLIFIERS

NAD 310 £130
NAD 302 £160
DENON PMA-350II £220
ARCAM ALPHA 5 £230
PROJECT 7 £259
DENON PMA-450SE £270
ROTEL RA960BXII £325
AUDIOLAB 8000A £430
MISSION CYRUS III £499
STEMFOORT SF60 £549
DPA RENAISSANCE £595
SUGDEN A21a £639
AUDIONOTE OTO SE £1500

A full bodied sound and useful features put this budget amplifier ahead of the crowd. Jan’95
Lots of insight and detail, but could sound a little rough in the wrong system. Jan’93
Powerful and with deep rhythmic bass drive. Sep’93
Lots of life and energy; a good phono stage too. June’94
A smooth and rich sound and good phono stage place this integrated up with the best. Feb’95
A polite and refined sound with plenty of power makes the 450SE a good all-rounder. Jan’95
Suits a wide range of music always sounding confident and open. May’94
Good bass, great imagery, but can be sterile. Apr’92
Superb engineering, a solid cast chassis and a clear and spacious sound. Apr’94
Excellent bass drive and fine midband presence, powerful too. Sep’94
Rich and smooth, the Renaissance is one of the sweetest amps around. Dec’94
Class A transistor amp. Sharp, crisp, deep, tight, and it images well too. Feb’94
10 watts of the sweetest sound around. Use sensitive speakers though Aug’94

PRE-AMPLIFIERS

ROTEL RQ 970BXS £130
A SYNTH. PASSION £475
ROSE RV23-5 £495
DPA DPA 200S £495
MICHEL HISO/HERA £528
MICHELISISO HR £850
NAIM NAC82 £1945

Audiophile quality components and sound with a bargain basement price tag. Nov’94
Or £275 for the kit version. Unrivalled transparency from a passive pre-amp. Aug’93
Valve/Transistor hybrid. Smooth and clean, rich and spacious. Nov’93
Not quite the 50S, but there’s still nothing to match it at the price. Jun’93
Fine midband and treble detail and taut bass from this MC only phono amplifier. Oct’94
Impossible not to recommend. What more does your vinyl want? May’93
Remote control preamp. The NAC82 thrusts detail forwards in true Naim fashion. Apr’94

POWER AMPLIFIERS

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SUGDEN AU4IP £530
QUAD 606 £675
DPA DPA 200S £750
NAIM NAP180 £898
MICHEL ALECTO (S) £1300
MICHEL ALECTOS £1800
CHORD SPM 1200 £2995

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100 Watts of smooth, detailed, full bodied sound. And at a bargain price. Apr’93
140W powerhouse. Smooth and civilized, with the legendary Quad back-up. Aug’93
Not as cold as the 50S. Better than anything else at the price. July’93
Partner to NAC82. Has real drive and grip on loudspeakers. Apr’94
Valve like transparency, big warm easy going sound. Sep’93
The Alectos have a lucidity and three dimensional realism that is rarely attained. Dec’92
Massively powerful, dynamic and detailed sound. Among the best of solid state. Mar’93

LOUDSPEAKERS

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MISSION 760SE £150
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TDL RTL 2 £330
SYSTEMDEK 931 £330
HARBETH HL-P3 £479
ROGERS LS8A/2 £449
RE STRATA £499
MISSION 752 £500
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UKD CALLAS £850
SPENDOR SP3/1 £890
KEF REFERENCE 2 £1500
SPENDOR SP71S £1970
TANNOY D700S £1970
QUAD ESL 63 £3228

Replacing the Maxim 3; not as tight in the bass but still one of the best at the price. Aug’93
One of the best miniatures around, very musically involving. Jan’94
Glass fibre woofer gives a forward and open mid with good bass kick Nov’93
Bass on a budget. Solid, vibrant and spacious sound. Dec’94
Coherent and involving, these little gems really sing. Super value mini monitor. Nov’94
Neutral and revealing sound that produces a fine, cohesive performance. Nov’94
Big, enjoyable, room filling sound from this 2-way floorstander. Feb’94
Rel’s Strata offers excellent bass depth and power. Mar’94
Using High Definition Aerogel drive units the 752s are clear, crisp and focused. Oct’94
Sensitive enough to work with low power valve amps. Fast and detailed sound. Jul’93
Good solid sound and beautiful finish. 1.5W bass bading. May’94
Believable 3D images produced by this small dual concentric speaker. Jan’94
Excellent monitors with detailed, natural sound and plenty of atmosphere Feb’94
Powerful bass and high quality sound from a solid wood miniature. Aug’94
Beautyfully built and finished. Superb midrange and treble detail and clarity. Nov’94
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Hi-Fi WORLD MARCH 1995

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ALBUM OF THE MONTH
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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.

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

When reviewed, our measurements showed the Intek produces 45 watts, 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 K.588.1s 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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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 R300+K9, Denon 350 III amp., Marantz CD52 Mk2 SE CD player, Leak tuner and Castle Richmond MkI '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 certain is by using another DAC?

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 MkI 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 wire, Wonder caps etc., new valves and DCM Timewindow IA 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 setup 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.

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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 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

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 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.

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 1A loudspeakers. NK

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, crumby 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 MAGI. 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 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, Heckmondwicke, W. Yorks NF16 ON, 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.

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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

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

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 Fuller's Audio SE we haven't reviewed, but Steve Fuller (Tel: 0702-612116) told me it is a solid-state design that gives 10 watts per channel, but dissipates no less than 120 watts/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 Indexes. 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

stereos for playing 78s and shortly after buying the turntable he went out of business. When I ask other dealers to get me a 78s 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 DN167. 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
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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! For 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.

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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 Whorfodes. 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 £700 on a new amplifier, I am piecing together a complete system for about £700 which will probably consist of my favourite AMC CDs ($3.50), the Project amp at $260 and a pair of bargain Jamo Conet 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 Buck Templates 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.

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JBL 4K L-100 monitors, Signature series, £395 pair; Tannoy Chevening MF625, £275 pair; Rogers 2-way export monitors, £195; Yamaha B-2 power amp, massive dual supply, £495; Thorens TD-126 Mix, Thorens arm, brand new, £295; Vitavox 563 drivers, new + Vitavox Radial horns, used £955 Tel: 071 825 8966.

NAIM/LINN buy sell, 52. CDS, 230, 135, 140, SRO NOO etc. Tel: 0832 817932 (Bob).

QUAD 606, £400; Equinox pre-amp, £1,800, sell £650; Ruark Talisman speakers, £500; Blue Triangle Orndal DAC, £630; Micromega T Drive T DAC, £1,400. Tel: 0977 643629.

AUDIO INNOVATIONS series 300 Mk1 integrated valve amplifier. Fitted with upgraded valves, mint condition, boxed, only £500. Absolute bargain hence no offers. Tel: 041 (0) 23499 (after 6pm).

SNELL E11 speakers teak with Pirate stands, excellent, boxed, £600 Tel: 0255 675 115.

REGA ELA Loudspeakers, £265; Cyrus 3 amp, £630; or exchange for Naim 3, both mint boxed as new. Tel: 0638 508193 (eve until 10pm).

PAIR SUPERB LOWTHER Acousta horn speakers (walnut, original (Alnico) PMT units, £375; Garrard 301 mint, £150; Troughline tuner, perfect, £75; Quad and Leak Valves. See phone for details.

NAIM NAP 135 monoblock amplifiers, great sound, excellent condition, All leads, original boxes, £145 (pair), Surrey. Tel: 0377 452529.

DPA PDM2 box two DAC box Deltrac clocking unit, £1,600 ono. Tel: 0880 653 3165. (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 (weekender, 0621 85444 x 412 day).

CROFT MICRO A PRE-AMP with series five power amp, £650. Will not split, no offers Please phone Steve. Tel: 01922 640737 (Walsall, West Midlands).

NAIM NAIT 3, 2 months old, £400. Tel: 0235 765986.

QUAD 22 control unit and two amplifiers restored (high quality metal film resistors, polypropylene capacitors, electrolytics), PM II stereo tuner (value (recent Quad service), all excellent condition, best offer secures Tel: 0736 60367.

TURNABLES TRANSCRIBERS, hydraulic reference arm and brush - kinematic arm, £350. Thorens TD-124/11V SME Decca, £350; outperforms 301/401. Thorens TD150 (Linn Mk II), £50. Mision 774 original damper arm, boxed, £75. Tel: 081 991 0762.

QUAD A2405A 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 - Northam).

AUDIO INNOVATIONS second audio trios (ECC 88/2A3), £1150 or would take first audio trios in p/x; DPA E600 ono, can demo. Deliver within reason. Tel: 041 450 2490 (day, London).

KEF Kefs-1S2 Rosewood Reference series, vg (new £1,000) asking price £210. Tel 0177 428842 (Brighton).

ENTHUSIAST'S CLEAROUT, Leak amps, monitors Stereo 20s, pair of TL12s, 301 monitor pre-amp; Hybrid FM4 tuner, £750. Also ESL-63 electrostatic speakers, £1,500. Excellent condition, all boxed. Tel 081 888 6902 (Simon).

CROFT BEST EVER, the Megs pre-amp from Nottingham analogue for £600, extra large power supply and separate pre-amp box £2,050 ono. Leak stereo 20 pre-amp (price £1,500), £1,300.

MERIDIAN 563 DAC as new with 2 year warranty left with Audio Quest 2 interconnect, £495 ono; Ruark Talisman player finished in rosewood, mint condition, boxed £600 ono. Tel: 0242 574152.

AUIDOLAR DAC Mk1 boxed immaculate, £450; Ortofon Quasar cartridge (used) £200; Musical Fidelity MRX 606s + preamp & new price £475 possible p/x.

WANTED - BANG & OLUFSEN turntable: BEограм 7000 or 4500 in top condition. Tel: 0453 860223 (Glos).

WANTED ROGERS CADET II. Contact: Lars Berggren, Lohetag i B, S-633 63 Sklástunab, Sweden.

MISSION 753 loudspeakers, rosewood veneer, latest specification with upgraded plinths, immaculate condition and boxed. £250 + new price now £779. Tel: 0522 568330.


ART AUDIO VP1 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 BASKIT turntable, arm and K9 cartridge, barely used. £300. Tel 0248 351913 (eve. Bangor).

MISSION CYRUS 2, £195, Nakamichi BX1, £195; Linn Index speakers BX200, £200; Technics SL-P220, £125 Goodmans Counteract100 speakers £100; Castle Richmonds, 65, Dovers £145 (rosewood) Leak 200, Stereo 70 Troughline (stereo). Sandwich, £265, the lot, Garrard Turntable, £35 Tel: 091 3872025 (anytime).

SME V GOLD new boxed £1,195, Quad II (pair), £295; Quad 22 pre-amp, £25; Quad 4 pre-amp, £185; Musical Fidelity A100, £165: Quad ESL (serviced), £350, Leak Troughline II (stereo), £165.

BLK LNN LP12 Valhalla/Fidelity Research FR 6 tonearm vgc £495 ono; Counterclock SA20 power amplifier, Hybrid 40w x2 £950, Wharfedale Isodynamics headphones, £20 ono Tel: 0463 54619.

LEAK SANDWICH Mk1 speakers, excellent condition original boxes and interconnects, £1250; Leak Troughline Tuner 3 vgc mono £100; Wharfeadle hydraulic reference arm and brush - damper, £165 ono; Project 2 turntable + arm, £75 ono, various speaker stands and cables. Tel: 02924 41544.

MERIDIAN 563 DAC £1,650 or swap for Epos ES14 plus stands; DPA E600 ono, can demo. Deliver within reason. Tel: 041 450 2490 (day, London).

BREAVEAMENT SALE of Quad system: 506 power amp, 44 control unit and FM4 tuner, £750. Also ESL-63 Electrostatic speakers, £1,500. All in excellent condition.

GERARD 401 strobe platter, wooden plinth, near mint, £200 ono, SME 3009 arm vgc, complete with Shure cartridge, £750,offers please. Leak Stereo 70 amplifier, offers please. Tel: 0580 241208.

AUDIO INNOVATIONS $1000 pre and Mk2 power amps, power amps 25w each triode coupled: Snell KSx, $1000 step-up transformer 2 and 4. tier Appolo racks on items. Tel: 0412 232672. (Guildford, Surrey).

GARRARD 401 strobe platter, wooden plinth, near mint, £200 ono, SME 3009 arm vgc, complete with Shure cartridge, £750,offers please. Leak Stereo 70 amplifier, offers please. Tel: 0580 241208.

CROFT BEST EVER, the Megs pre-amp from Nottingham analogue for £600, extra large power supply and separate pre-amp box £2,050 ono. Leak stereo 20 pre-amp (price £1,500), £1,300.

Hi-Fi World MARCH 1995

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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, E81CC-01 Billington Gold.

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 valve listed in this advertisement. For matched testing please add £2.00 per valve (eg. £8.00 per quartet). We can supply sockets and CRTs.

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1 x DELTEC POM1 mkII £2,400 £1,200
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built, Partridge, Parmeko etc, £350 ono;
Tel: 0924 290749.

208 +209 remote control, £675, both boxed and in excellent condition, will consider p/x for KEF 105/3s.
Tel Southampton 738935.

Opportunity to buy these highly rated KEF RI07-101 B pre-amp, Meridian 104 tuner, M3 Active speakers and stands; Meridian Hi-Fi World March 1995

Cambridge CD2, boxed with remote control £695, Naim 202 remote control £675, both boxed and in excellent condition, will

2 semi-active speakers finished in standard 1200), £1,900. Also KEF RI07-101 B pre-amp, Meridian 104 tuner, M3 Active speakers and stands; Meridian

Linx Theta tuner (£475) £200 Albarry Reference r/c pre-amp (£400), £295;
Tel: 021 422 0340.

Krell KSA 100, E1250; Audio Research Banana plugs (offers).

BARTOLOMEO REFERENZA stereo power amp, hugely powerful 100 watts per channel, will drive any speaker, £1600 (cost £1750 new), boxed, mint condition; 2x2 metres of isola H/OPSI interconnect cable terminated with phonos, £280. Naim plugs (offers); 2 off bi-wired pairs of Naim speaker cable (£11 1.5 metres long, 1 off 8 metres long, all terminated with Banana plugs (offers).
Tel: 021 539 6972 (ev/weekdays, 0384 37186 (Bryan Newton).

CREED KSA100, £125; Audio Research SP3, £95; Pioneer PD191 CD, £450; Linn A12 Pro tonearm £850, Naim 1200 black £600; Toshiba 33' Dolby surround TV, £800, all excellent condition.
Tel: 020 8220293 evenings and weekends.

Garrard 301, very good condition, £130. Garrard 401, good condition, print £100. Early Quad Model M-3, 100, excellent print, worn for Philips TD-1241.
Tel: Adrian (0982) 662424 evenings.

Quad ESL – 3 Speakers. Outstanding Condition, £1500.
Tel: Cambridgeshire 01487 822093, evenings and weekends.

Linus L12 with recent specifications, Linn Ekos ¥150, Carina ¥2800, stereo ¥500, S/O Stk ¥450, and Wall Shelf ¥100. Tel: 0947 81286.

Audio L12 Exos Klyde Tramp Linn (£1,350), Kaim ¥2800/Spark (£1,50), Sada ¥9 (walnut) and Stands ¥250, S/O Stk ¥450. Tel: Mike 0884 – 32465.

Linus L12 Exos ¥1500, Kaim ¥2800, Spark ¥450.

Impulse H2 loudspeakers, mahogany, mint condition. Fitted with Spectra Defaix XPS and XLO patch wires. 18 months old. Cost new £2500, will accept £1500.
Tel: 081-291 1744.

FINESTRA PRE-AMP and Sumo Polaris power amp, powerful, beautifully balanced combination ¥15000 the pair, Hitachi PTZ2000 tuner ¥45, Sony CD-950, 2488s CD player ¥75. All boxed and in immaculate condition.
Tel: 0212 844246.

MUSICAL FIDELITY Reference 2 speakers. Walnut veneer finish, little used, £900.
Tel: 0926 818752.

TARGET welded speaker stands, 200mm high, ¥20. Marantz 9101 pre-amp, ¥450. Beautiful in combination. Tel: 0947 81286.

Krell KSA100, £125; Audio Research SP3, £95; Pioneer PD191 CD, £450, Linn A12 Pro tonearm £850; Toshiba 33' Dolby surround TV, £800, all excellent condition.
Tel: 020 8220293 (W Midlands).

LINN LP12 Valentia Afros lost black vinyl, ¥2400, in good condition ¥9000. Also KEF RI07-101 B pre-amp, Meridian 104 tuner, M3 Active speakers and stands; Meridian

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Nakamichi CR76 cassette deck purchased new from manufacturer by present owner 3 years ago. Superb example, £1,000. Buyer collects. Tel: 0275 206 767 4-10.00pm

Transfiguration AFI Moving Coil Cartridge, low hours in ARO arm. Mint ¥350.
Tel: Mike 0895 440602. Mobile: 0860 155521.

Armstrong 625 FM Receiver. KEF Reference 101 loudspeakers £80. All excellent, pristine, boxed with instructions. Tel: 0246 23786 evenings (Chesterfield).

Leak Troughline 3 stereo tuner. Recently renovated by G.T. Audiophiles £190. Denon T720 tuner £80 ono. QED Z-14 speaker switcher £15.
Tel: 0287 631779 (North Yorkshre).

Audio Innovations 200 pre-amp (passive line level input), superb sound. £80. Small Loudspeaker stands on spikes. £10.
Tel: 081-289 2172 Bromley, South London, Answerphone.

For Sale: Linn Lingo ¥550; Linn Eos £2900. Daytime Phone: 0628 640445 ext. 385; Evening Phone: 0344 483842.

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 amplifiers, some scratches on case top, £150. Goldring 1042 MM cartridge, 30 hours use, £40.
Tel: 0916 722 218.

Michell ARGO pre-amp with Hera power supply. Or, Omega DA180 DPA converter, £250. Ono. Both sound superb, boxed and in excellent condition. Upgrade forces sale.
Tel: 01734 875964.

WANTED CYRUS 3 Amp or Sugden AU41 pre and power and Royal Abbots. For sale or exchange Mission 755, NW10 £450 and Sugden A21 Int. amp £300.
Tel: 0222 732 732.

Quad II power amps with Haller pre amp inc. Quad 22 and all original books £350.
Tel: Hereford 0432 268484.

Castle Pembroke MKII speakers, mahogany, with stands, £175. Musical Fidelity P10 power amp £150. QED £300 preamp with Super Analogue Phono board £175.
Tel: 0666 71387 (Norths).

Linus Kabers, unmarked black, with Long Line Tie-Wire Cables, upgraded to latest standard at Linin factory. £650. Sugden T48 MK II FM push-button Tuner, excellent condition. £25.
Tel: 0497-789890.
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<tr>
<th>Product</th>
<th>Description</th>
<th>Model</th>
<th>Price</th>
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<td>Sony DTC 750 DAT</td>
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<td>Atlas power supply</td>
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<td>Pierre Luen JTS/2795V</td>
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<td>Rialto DELPHI n4v</td>
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<td>Wharton Tri-Planar 8</td>
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<td>Gradient subwoofer (for ESL 63)</td>
<td>Cellostron SL 600 ii + stads</td>
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<td>VPI VPI-16/5 reclocker mix</td>
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<td>Mission 753</td>
<td>Yokohama FX 355</td>
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QUAD 66 Pre-amp with remote control (list £863) £550. Also 66 Tuner (!) £350. Both V.G.C. with original packing. Tel: 0625 25301 (Cheshire).

DAYSFROM VALVE Stereo Amplifier with handbook, down on one channel. Matching Tuner A.M., L.W., S.W., F.M., Mono. £75 the pair. Armstrong Valve Receiver, model 127, A.C. all original. Tel: Milton Keynes 674193.


LINN LPI2, Lingot/Tampolin/Circus and o.n.o. May split. loudspeakers plus target stands. £799

KRELL KSL balanced line stage, £995, Tel: Chris 081-993 2006.

little use 60. Wanted Audiolab 8000T Kevlar units) bi-wired 0220.00 o.n.o. TOKEN chrome edged Gale loudspeakers. Wanted by PRIVATE Collector, Tel: 0780 64149 Stamford, Lincs. Amp 05.

QED DIGIT/Positron/Digiflex, 9 £350. Tel: Merseyside 0860 109014 negotiate).

WANTED QUAD ELS original design, good working order, preferably Quad serviced. Also Quad 34 or 44 Preamp. Tel: 0782 733885 with details and price.

AUDIO SYNTHESIS Pro Passion. All Victorian, unmarked £232. Acoustica Spectra 110 Electrostatic Hybrids £500; MOD Squat Line Drive £200. Tel: (0843) 80430. FOR SALE. TEAC X-1000R 4 Track open reel tape deck, boxed in excellent condition, hardly used. Dust cover £95.00. Tel: 0270 651415 (Crewe).

SDI SPEAKERS complete with Linn K600 cable (2 x 7m) too big for location 0500 £125.00 (Birmingham).

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