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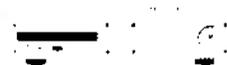
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58 Durham Road, London SW20 0TW
T: +44 (0)20 89 71 39 09 F: +44 (0)20 88 79 79 62
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Editorial

Editor

Roy Gregory

Contributors

Tim Britt
Anke K. Bronner
Mark Childs
Martin Colloms
Dave Davies
Dennis D. Davis
Steve Dickenson
Peter Downard
Richard S Foster
Jason Hector
Andrew Hobbs
Jimmy Hughes
Jason Kennedy
Curtis Leeds
Paul Messenger
Reuben Parry
Alan Sircom
Chris Thomas

Photography

Dave Davis

Cartoonist

Simon Marsh

The Editorial Office can be contacted at:

Hi-Fi+ Editorial
25-27 Whittle Road
Ferdown Industrial Estate
Wimborne, Dorset
BH21 7RP
United Kingdom
Tel. (44)(0)1202-875315
Fax. (44)(0)1202-875314
Net. www.hifiplus.com

Advertising

Louise Worswick
Tel/Fax. 01202 875107
Email. sales@hifiplus.com

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Design

Creative Byte
Poole, Dorset
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E-mail. info@creativebyte.co.uk

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Magazines often refer to products as "benchmark" performers, or confer "benchmark status" on them. In fact, in this issue alone, the Wilson Duette makes a serious claim for just that appellation, the Linn LP12 is perhaps the most durable of all such standards, while the Arcam/KEF system is a premeditated attempt to establish just such a mark. It made me wonder about the value in, the use (and abuse) of such products.

There seems to be a natural assumption that a benchmark represents the best product available. In fact, that misunderstands the concept; instead it should be considered a measure, a mark against which others can be compared or assessed, a standard to inform our view of relative performance. Thus, their virtue rests in their stability and familiarity: the more people who've actually heard a properly calibrated reference, the greater its value.

Instead, what we actually get is a row of notional targets, many experienced only secondhand through reviews, and a "stand 'em up, knock 'em down" mentality, because every target is a potential Aunt Sally, its inferred status something to be stolen or inherited, a rosy glow to reflect upon the usurper. Examples are legion, but perhaps the most notorious was the review that declared the giveaway Linn Basik cartridge as superior to the then £400 Koetsu Black. No matter that the cartridges were both used in a Linn Ittok (an arm unsuitable for the Koetsu's high mass and low compliance) or that the Koetsu in question was a used sample, bought as a grey import from the Far East, with a suspension tuned to the high humidity encountered there. Was the reviewer really suggesting that the Basik was better than the Koetsu? No, the real message read, "If the Basik is better, just think how much better the \$343 Linn Kharma must be".

To be useful, such comparisons need to be rigorous, their operational environment and methodology repeatable – and above all they need to be devoid of sub-text and agenda. In assessing their value you first need to consider what they're actually telling you – and is it an answer that's really useful; is this process designed to inform or prove a point? As a reader, properly used benchmarks offer useful way-points in navigating the product jungle. Just be aware that occasionally signposts get turned around...





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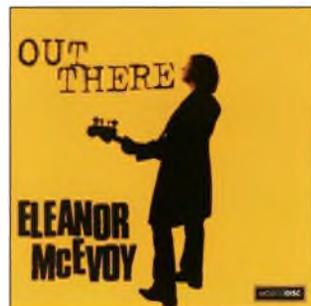
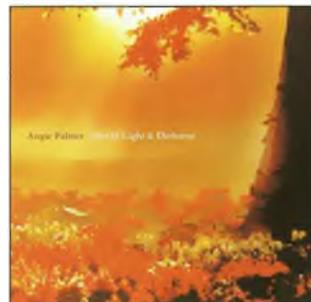
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IN ADMIRATION OF MUSIC

Careful with that axe Eugene...



by Jason Kennedy

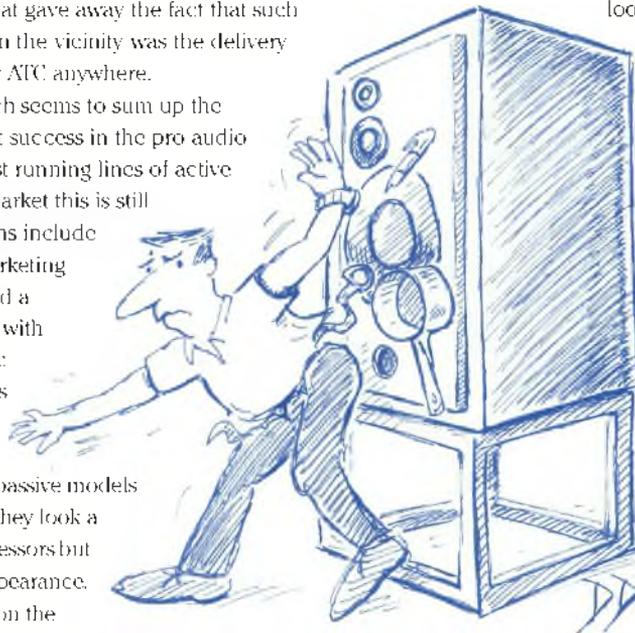
What do the following have in common? Lou Reed, Bod Ludwig, Dave Gilmour, AIR Studios, Doug Sax, Enya, Mark Knopfler, DTS and Bristol University. I'll tell you, they all use ATC loud-speakers in studios around the world and have been picked almost at random from one of, if not the most, prestigious customer lists that any hi-fi manufacturer can boast. Yet ATC Loudspeaker Technology is hardly a big operation, in fact it employs around thirty people in a very unassuming facility near Stroud in Gloucestershire. I went to see the place and its people recently and very nearly drove right past – the only thing that gave away the fact that such a successful company was in the vicinity was the delivery van, I couldn't see a sign for ATC anywhere.

This low profile approach seems to sum up the company, despite significant success in the pro audio world and one of the longest running lines of active speakers on the domestic market this is still a little known brand. Reasons include a laissez faire attitude to marketing that eschews advertising, and a product that refuses to bend with the wind of aesthetic or sonic fashion. Its domestic speakers are going through an upgrade phase at the moment and the entry level passive models therein have been released, they look a little better than their predecessors but haven't changed much in appearance. There's a bit of post forming on the

baffles and a silver tweeter mounting plate but no-one is going to buy them for their looks alone.

The success of the company must therefore be more to do with what its speakers sound like and how well they cope with the demands of musicians, engineers and broadcasters. ATC was started in 1971 by Australian Billy Woodman, a professional musician and engineer who had worked for Goodmans where he developed edge wound voice coils. For ATC he took this a step further and developed square voice coils, and the machine he started off with can't have

looked a great deal different to the one in the factory today. It's not high tech but it squares copper wire as well as anything in the right hands. ATC began with a 12inch PA drive unit and followed it with a three inch midrange dome, the latest version of which can be found on all of ATC's three way speakers. Billy started making complete loud-speakers in 1978 when the first example of the 50 litre box that is now the SCM150 was produced, a floorstanding design, the original S50 is in some ways more attractive than its current successor. ▶



The vertex approach to removing system faults releases untapped performance. This is not a proposition, its essential if you want the best from your hi-fi. ▶

▶ But then again a lot of things looked better in the seventies as long as you forget the Allegro.

The fact that the company has such a strong professional market has a marked impact upon the way it builds its domestic speakers, essentially it builds the same degree of bomb proofing and linearity of response into all its speakers. This can be seen when you take the six and a half inch mid/bass unit out of the new SCM19, it has a wacking great 9 kilo magnet, the same lump of iron that you will find on ATC's fifteen inch bass drivers. This is an unusually large motor system for any drive unit let alone one of this size in a £1,499 loudspeaker and it confers a phenomenal amount of control and power handling.

While the majority of speaker companies tell you that a speaker which measures flat will sound horrid ATC take the opposite view and voices its range to be as linear as possible. As a result the ATC sound is not one that suits everyone, I found it pretty aggressive on first exposure and there are plenty who feel that they are just too analytical. In practice it's a balance that refuses to flatter yet great recordings played on low distortion source components prove that it's not the



speaker that is making the treble sound the way it does. When reviewing some ATCs in the nineties I noticed that they make a very strong case for modern recordings, in other words more up to date albums sound better than older ones via these speakers. This would tally with the

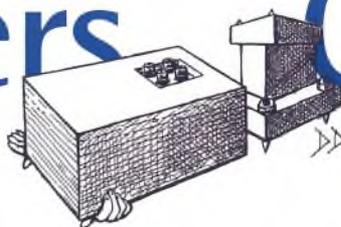
professional association that the brand has, in other words if those mastering recordings have this type of monitor then they will balance them to suit. It's the opposite philosophy to that espoused by those into tubes and horns/high efficiency speakers approach who tends to favour recordings made when the recording

industry used that type of monitoring.

The benefit of the linear response however is that you can hear the technology that was used in the studio and if it was tube powered it sounds all the sweeter. Of course if compression is used on the recording that too is just clear.

Whatever we think of ATC speakers the fact that they can be found in so many studios means that its influence can be heard in almost any decent music collection, and if the people that mix our music think that Stroud's finest have got it right it's no use us arguing. ➤

Speakers Corner



by Paul Messenger

I try to avoid reporting 'away fixtures' – judgements I'm expected to make when away from my usual home comfort zone – because such judgements are often unreliable at best, positively misleading at worst. The reason has much to do with the difficulty of reliably making subtle distinctions under

entirely unfamiliar acoustic (and electrical) surroundings.

Get a particular piece of kit back home, operating in a familiar environment and over an extended period of time, and things don't always seem to pan out the same. Such was the case with Naim's CD555, which had sounded ▶

"I'm impressed by the way Vertex AQ adopts a holistic system-oriented approach, underpinned by a consistency of philosophy and methodology. Good results may be obtained without going the whole hog, as I have done here, but the bottom line is that this stuff really works..."
Paul Messenger, Hi-Fi+

"...they all put evacuating internally generated energy at the top of their mission statement. Their sonic impact is not subtle. My advice; investigate sooner rather than later."
Roy Gregory, Hi-Fi+

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▶ significantly superior to the CDS3 when I heard it at the formal launch down at Ultimate Home Entertainment Solutions near Stroud last April, but seemed much less obviously so when I got to spend some quality time with both back home.

The new 555PS power supply had already brought a substantial improvement to the CDS3, and using the new Hi-Line interconnect had put further icing on the cake. But graduating from a CDS3 to a CD555 in the context of my home system brought a rather more modest improvement than that initial dem had led me to expect. The '555

is the better player, no question, as it has a clear advantage in bass weight and authority, and a somewhat wider dynamic range (through a lower noise floor). And there's no denying that the fancy motorised lid, chunky top plate and shiny 5-series finish all play a part in making the 555 feel and look significantly classier than the CDS3, but it didn't seem to offer any greater musical insights along with its more generous sound, so I can't as yet say that the considerable price difference is justified on purely musical grounds.

I'm still very positive about Naim's Hi-Line DIN-to-DIN interconnect, which definitely delivers a substantial sonic improvement over the company's standard item, but those wobbly decoupled pins within the DIN plug are a bit of a curse. They're very reluctant to line themselves up accurately with their sockets, and making it quite awkward to carry out comparisons. (To be fair, my cable sample was one of the very first to be produced, so some teething problems are quite excusable.)

Much of the engineering rationale behind the Hi-Line cable is to do with improving the mechanical performance of its constituents. Another company that has been working on mechanical effects in cables is Vertex AQ, and after

waiting for about a year I finally got my hands on a DIN-to-DIN version of the Solfonn interconnect. This new Solfonn is altogether more convenient to use than the original phono-to-phono pair I purchased a year or two back, because it uses just one damping block, at the mid point along its length, instead of the four – one at each end of each separate conductor – that were used for my original phono-terminated pair.

This simplification means that these latest Solfonn's now cost rather less than before.

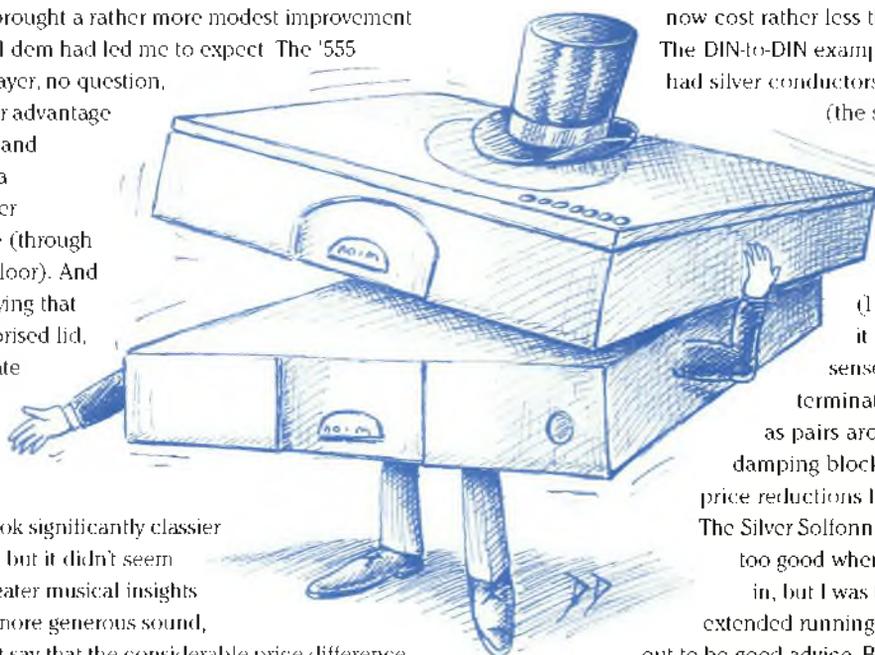
The DIN-to-DIN example I received had silver conductors and costs \$499 (the same as Naim's Hi-Line), while a copper conductor equivalent is available at \$299.

(I suggested that it might make sense to build phono-terminated cables as pairs around a single damping block, giving potential price reductions here too.)

The Silver Solfonn didn't sound too good when first plugged in, but I was told it needed extended running-in, and that turned

out to be good advice. By the time I got round to comparing it with the Hi-Line, it was really sounding very good indeed. It has a slightly different overall character – a little more restrained in the treble, and rather more expressive in the mid-band – and on balance I slightly preferred the sound of the Vertex AQ interconnect overall. The weight of its in-line damping block can still be a bit of a nuisance, if rather less so than the Naim Hi-Line's wobbly pins.

Now of course I'm intrigued to find out what a Silver Solfonn interconnect would sound like with Naim's fancy new DIN plugs on each end. However, I reckon that picking the political bones out of that particular scenario will take a little time and my best powers of persuasion.



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Incoming!

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Dear Sir,

I've just read the latest copy of *Hi-Fi News*. I hope that your photographer, Simon Marsh, is feeling sincerely flattered. If not, he certainly should be!

Paul Stewart

Via e-mail

PS. Original is still the best.

Dear Sir,

It has always been my understanding that hi-fi was, essentially, the unobtainable quest to reproduce, via some sort of artificial mechanism, REAL WORLD music. On the basis of the article by Roy Gregory about the Wilson Audio MAXX2 speakers, it seems to me that these speakers totally fail this quest at the very basic level. When I attend the concerts at Snape Maltings it matters very little in which row or seat within the row I sit. Yes, there can be some difference in how the music is perceived but it is subtle, more to do with levels of volume and never involves the sort of traumatic changes described by Roy Gregory. My system may not reach even half of the cost of one of the MAXX2 speakers but I can roam my lounge, the adjoining garden room and even the kitchen in the happy knowledge that I will always enjoy what I am listening to. Sorry but the MAXX 2, irrespective of how great they may sound if I sit in my special chair with my head locked into position, seems to me to fail the most basic requirements of music reproduction.

Regards

Brian Pinder

Cretingham

Suffolk

I think your letter neatly encapsulates the challenge presented by the MAXX2. On the one hand they can offer an astonishing level of insight and a vivid sense of the life and presence of real musicians; on the other, achieving that performance places particular demands on the listener. As an exercise in loudspeaker design they are fascinating, but prospective purchasers must balance their expectations and listening style against those demands. Ed.

Dear Sir,

Living in the USA I only purchased my copy of Issue 46 a few days ago. I just finished my second reading of your extremely clear, well-written review of the Wilson MAXX2. Being an owner and fan of large speaker systems and having had an opportunity to listen to the whole Wilson line from the Duetto to the Sophia to the MAXX2 and the Alexandria at a dealer as set up and presented by Dave Wilson, the review brought up a lot of thoughts. So I thought I'd just throw out a few of them.

Literally a few minutes ago I was taking a careful look at the picture on page 18 of the mid-range module and I noticed for the first time after years of pictures of Wilson speakers that both the mid-ranges and tweeter are recessed about 1/2 inch by the foam surrounding them. This is unlike most front panels where the drivers are usually flush mounted to reduce diffraction affects around the drivers. Of course, then the diffraction affects occur at the front panel edges without extensive, costly design effort. It seems the Wilson configuration will produce extremely early diffraction affects at upper mid and treble frequencies, much earlier than the affects of the more distant front panel boundaries which will probably be good because the earlier these problems occur the more likely they will blend cleanly with the driver sound and the less likely they will cause audible smear. Then I tried to think of other speakers that might have similar affects. And I came up with one classic answer, the BBC LS3/5a. The KEP B110 is mounted behind the form face leaving a circular lip as for the Scanspack mids on the Wilson. And the KEP T27 tweeter is surrounded by a square device made of felt acoustically similar to the square lip around the Focal tweeter on the Wilson. I leave this for you and other to ponder any similarities and differences in sound propagation.

Let me preface my Wilson experiences by saying that I have issues 2 thru 46 of *Hi-Fi Plus* and am very familiar with you and your magazine. I find it visually lovely, informative and fun to read. All that I expect from any reviewer is consistency and honesty, which can be perceived with continuous exposure to that reviewer. I do not expect absolute agreement. That's nonsense. If it were possible there would only be vanilla ice cream in the world (my favorite flavor). I heard all the Wilson speakers at the Wilson presentation. I probably had a good seat for both the Sophia and Alexandria where I got ►

▶ to sit in the demo room alone for a bit. My worst seating was probably for the MAXX2. But I could not play any of my own software either in the Wilson demos or when I was alone. Dave Wilson and his team always carefully orchestrate their shows, even when music is playing unattended. And I can't make up my mind about your conclusions that only the ideal seat can be used to judge the speakers. In a way it means that it's almost impossible to judge your review since it implies that only a proper Wilson set up in one's own environment is a proper test. It almost makes you immune from criticism. While there is usually a best seat for a system, I think I can get its character pretty well from many room positions in almost every case and here you claim otherwise. Then again I have respected your comments over the years. And my experiences did appear to mirror some of your off axis comments, albeit I found less variation from my ideals off axis of the MAXX2 than you did. Basically I found all of them to be of a family from Duette to Alexandria, slightly colored in the sense that they did not sound what I perceive to be dead nuts flat, not in the sense that there were any overt colorations I could jump on, more like variations in seat position in a hall. I found them slightly less focused and detailed than I am used to with less bass slam and a little less dynamic too. Then again they were obviously very wide bandwidth with excellent power response in the sense that their character remained constant over a wide variation in output (and yes this may be inconsistent with my comments on dynamics). Also my reactions were only reinforced when I returned home and listened to my own system, a practice I find very valuable after auditioning a system I think has value. And of all the four speakers I liked the MAXX2 the least and in some ways I liked the Sophia the most. So I guess maybe given all the rave MAXX2 reviews and your report perhaps I should hedge a bit and wait until I get a better opportunity to listen to it properly positioned. Ah well.

Allen Edelstein

Via e-mail

Even in DW's demonstrations (carefully orchestrated as you observe) I think there's an attempt to provide a better experience for a greater number of people. If so, this could well dilute the differences between best and merely good seats. In a situation optimized for a single seat (and listener), the bell-curve of performance will be both taller and thinner, the best significantly better and subsequent drops in performance that much more obvious. Ed.

Dear Sir,

Regarding the B&W 800D review.

First of all, I wanted to congratulate the writer on an excellent review. Despite its length, I felt compelled to read the review through to its conclusion. As a result, I feel I received a thorough understanding of what to expect from this speaker,

not just from a short listening session, but from extended at-home listening. I also think I understand its foibles despite being sold on wanting one.

With regard to wiring – doesn't the difference in sound depending on configuration tell you that the jumpers are somehow inadequate? I have experienced the same thing (albeit on a smaller scale) with a Spondor S3/5 that I rendered moot with bi-wiring, but was wondering if the impedance or inductance or capacitance of the jumpers were enough to produce the observed effect, because I doubt very much that my initial thought – namely, that the electricity was reaching the tweeters before the woofers – is a viable explanation, what with electricity traveling at the speed of light and all.

Looking forward to hearing your thoughts on the matter...

I remain,

Peter Prisekin

Via e-mail

Varying the connection of a single cable pair to a bi-wired cross-over (tweeter, woofer or diagonally) definitely affects the sound, as does the nature of the bridging connectors. Increasingly now, cable manufacturers will offer short straps so that you can replace the metal bars soon often provided with the same wire as used in your speaker cables, a worthwhile upgrade. Nevertheless, I think this is a question that's well worth pursuing; I can feel a commission coming on and MC is just the man. Ed.

Dear Sir,

Just a line to say thank you for such a superb magazine, which I subscribe to no less.

Over the last few issues, I have have been waiting with baited breath for a review on the latest Elbow album, *Leaders of the Free World*.

Forgive me if it's in the pipeline, but if not, I'd like to take this opportunity to strongly recommend it. *Hi-Fi+* reviewed their previous album *Cast of Thousands* and quite rightly gave it a glowing appraisal which I was in full support of.

Well the latest one is even better in my opinion. The lyrics are a real work of genius; heart warming, very funny, desolate and sometimes all at the same time. The tunes are beautiful and totally original. With the right lighting conditions, the last four songs on the album can have me in a state of being close to tears. How anyone has the ability to string four such beautiful songs together on one album is beyond me. Oh yes and it seems to be pretty well recorded too.

Go on, give it a listen or two, I'm sure you will be glad you did.

Best wishes,

James Adey

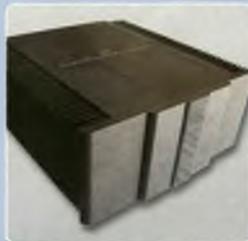
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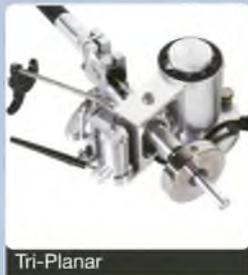
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Strange fruit...

Understanding the abiding appeal of single driver loudspeaker designs

by Martin Colloms

In one sense, the creative tension within hi-fi design, and loudspeaker design in particular, could be typified by the contrasting tendencies to greater complexity on the one hand and ultimate simplicity on the other. So, whilst one sector of the market pursues high-tech, wide bandwidth solutions with multiple arrays of exotically diaphragmed drivers, there is still an unmistakeable following for what we will call the single driver loudspeaker, or SDL for short. Undeniably a source of contention amongst audio enthusiasts and designers, they may often be manifestly imperfect if measured by established engineering criteria yet manage, in the context of musical communication and a sense of immediacy in the sound they reproduce, to reach significantly deeper into a performance than more conventional, heavily engineered and more technically perfect loudspeakers.

Audiophiles who have become seduced by the SDL approach choose to ignore the “experts”, trust to their own experience and unashamedly admire speakers of objectively limited performance – flaws and all. Along the way, they also often simply reject those same objective criteria they consider their experience has just rendered irrelevant. Consequently there has been precious little discussion as to the technical limitations and theoretical framework behind such designs, and just as importantly, what these may tell us about their undoubted and enduring sonic appeal.

The vast majority of hi-fi loudspeakers are multi-way designs, and employ several differently sized drivers working in conjunction with crossover filter networks. These lumps of passive electronics divide the frequency range, thus selecting the appropriate signals for each driver. This basic science has been practiced for 70 years now but still generally guarantees a degree of complexity. However, despite the acknowledged dominance of this approach there remains a rather special category where simplicity rules and the decision to use a single driver is the basis for loudspeaker system design, supported by a small, committed, and at times deeply passionate band of enthusiasts.

A designer adopting the SDL approach must deviate widely from the accepted path, eschewing the freedom in design and versatility that is the upside of all that complexity. Conventional design exploits the acoustic properties of different sizes of driver, and thus provided with a number of independently controllable variables, including the detailed design of the crossover network, the designer may manipulate and ultimately fine-tune the ensemble, from the drivers themselves to the entire operating system, to create a technically well behaved loudspeaker. The Ideal is generally seen as a balanced, neutral, natural tonality or timbre, associated with useful sensitivity, power handling, and frequency range. Often computers are brought into service and provided that the requisite

raw data is captured intelligently, synthesis programs can be quite effective in helping the designer solve what in practice may constitute as many as 20 simultaneous equations. Science may be relied upon to achieve largely consistent and generally respectable results, the best of these guided as always by a designer’s experience and (hopefully) good taste.

Certainly it is generally more arduous to design with just one driver owing to the enormous limitations that this fundamental decision imposes. An examination of the technical difficulties leads to the conclusion that certain compromises of sound quality and overall performance may well be inevitable with an SDL, and yet they survive on the market and are particularly popular with home constructors. There must be something special about the single driver approach for it to attract the following it does. Discovering just what that is, is the purpose of this investigation.

Complexity versus Simplicity

Conventional multi-way (MW) speakers also have their own, many compromises but by their nature these tend to be multifarious and individually of a lower order, thus the consequences tend to be more subtle and overlapping. Close examination is often necessary to expose them. For example a perfectly fine loudspeaker design, capable in most respects, was found to have a touch of compression, or a lack of natural, musical exuberance. ▶

► Further investigation revealed that of the several solutions that had been considered for the crossover network, the one employed may have technically been the most accurate, but also involved rather too many electrical components.

It is unfortunate that in loudspeakers almost every extra part used may detract slightly and cumulatively from the sense of immediacy and life in the resulting sound. Consequently for our example speaker, another version of the crossover was devised which allowed for the deletion of two thirds of the passive filter components. This shorter, simpler arrangement sounded distinctly different. One could argue that this should have been no surprise since on a first-order basis the exact frequency response and the off-axis power will inevitably have been altered by the redesign. Two significant subjective changes were however, apparent. Firstly there was a change in tonal balance due to the way the driver outputs were now integrated in the crossover frequency range, but secondly, after some aural accommodation had been made, the design was judged to provide more expressive musical transients and dynamics. This gain was laid at simplicity's door. In itself this experience underlines the losses and compromises that we accept almost unquestioningly from the vast majority of loudspeakers on the market today

In many areas of audio equipment design we know that complexity, unless very carefully handled, tends to result in a sound quality that is musically less

exciting and less involving. The loudspeaker is no exception, and if the designer could master most of the compromises associated with the simplicity of an SDL something special might well result.

What drives SDL enthusiasts is that often elusive, almost magical quality to the sound from simple systems,

especially loudspeakers, where there is an absolute

minimum of

components between the source and the listener,

delicacy, micro-

detail, nuances of dynamic expression benefit most,

contributing to sensation

of aliveness. Dynamics

may be explosive, timing

and rhythm may be

enthraling. For some

enthusiasts, once they get a taste for it nothing less will do.

Rice and Kellogg

Single driver systems impose their own demands on driver design and the successful realisation of these is critical to the success of those systems. While we may have been told that for a full-range speaker driver the perfect diaphragm or sound radiator should be infinitely rigid, a mythical pure piston, in practice even if we could make one, the naturally diminishing wavelength of sound with increasing frequency would mean that the high frequencies would emerge as a narrow beam leaving the reverberant sound in the room excessively dull.

So the full-range, single driver cannot be a perfect circular piston. That rules out the rectangular single panel electrostatic speaker too. Only thin tall electrostats and ribbons could generate the required spreads in the lateral plane and these cannot handle the bass. There is one well-known exception: the curved

front, full range electrostatic made some two decades ago by Martin Logan and called the CLS or curvilinear line source. (See the interview with Gayle Sanders in Issue 44 for more on this)

It is instructive to revisit the classical origins of the 'modern' cone speaker, to Rice and Kellogg working in the early 1920s, who created an exceptional full range SDL capable of a smooth low-frequency response, and whose characteristic was also susceptible to ordered design. They also considered the geometry, material, damping, weight and thickness for their cone driver to provide a relatively even, extended upper frequency range. Operating as a rigid structure i.e. a piston at low frequencies it was also tailored to break up or resonate at higher frequencies, this behaviour helping to reduce the effective size of the radiator with increasing frequency and counteracting the beaming problem. In general such structural resonances are anathema to the speaker engineer but are necessary for a full range device. In the case of a cone, factors such as the included angle and overall shape, the material composition, for example of relatively soft bonded fibre and additional surface treatment or damping coatings, may be adjusted to cool the resonances down.

Satisfactory smoothness and moderate coloration are the primary objective. While those necessary resonances can result in audible ringing, with a distinct tone 'colour' laid over the sound, irregularities in the frequency response amount to the same thing. Whereas the multi-way designer can fiddle away with those many variables so that a smooth frequency response may be wrung from the system, ironing out all those acoustic niggles including those resulting from the placement of drivers in a real enclosure, there is manifestly less to play with when you only have one driver to work with – and no crossover.

Later we will examine how successful these mechanical strategies are ►



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Every design detail is focused on a

► by examining an example from Eclipse – arguably the most perfect if not the loudest of that range – alongside a couple of Rethm SDLs.

Some of the largest and heaviest floor standing MW speakers can now attain virtually the whole, nominal audio bandwidth, from 25Hz to more than 20kHz. Aspects such as complexity, high current draw from the amplifier, and multiple drivers feature heavily in these creations. Conversely, the single driver designer may use only cone and motor design variables for the driver, working with the specific acoustics of the enclosure. Extended bandwidth is unlikely to be achieved; indeed 80Hz to 12kHz is a more realistic effective frequency range. Does such a limitation matter? Well, extended bandwidth is nice if you can get it, but in reality it by no means defines whether the resulting sound reproduction is interesting and satisfying.

Magnet technologies

Certain constructional details become important in the single driver field which would be regarded as a secondary in MW types; it is as if this purist, direct path engenders a greater degree of analytical acuity where issues previously thought unimportant or obscured now become significantly influential. For example, we know from the developmental history of the Tannoy Dual-Concentric that the type of magnet material used can influence sound quality; some favouring the ‘magnetically softer’ AlNiCo alloy to the more modern ceramic or neodymium types with their very steep magnetisation characteristic (the B-H curve). Some revival Tannoy speakers have returned to AlNiCo, while manufacturers such as Nola are producing new designs that use this technology.

Experience with the Audio Note (Japan) field-coil polarised cartridge compared with the permanent magnet equivalent show similar results. That cartridge, energised by a dc power

supply, had a beautiful sound, sweet and open; not that the standard model was second rate in any way. Listening to the magnet contribution was strictly educational but certainly enjoyable. So much power was required to energise the electro-magnet that the cartridge body ran warm to the touch. One sceptic ventured that the sound difference was actually attributable to the increased temperature, but the fundamental differences in quality and nature of the sound were considered to be greater than could be contributed by this one cause. Likewise, Dynavector choose to use AlNiCo in their flagship XV15 design.

Some SDLs also provide varied magnet options. These concern the way the necessary polarising magnetic field is generated and a few even offer a DC powered field coil magnet (eg. Supravox of France) said to provide subtly superior tone quality to permanent types.

Damping and cone resonances

There is a fundamental problem facing the cone designer whether properly recognised or not. The chosen sound radiating structure is constructed in the form of a lightweight shell element resembling cartridge paper (some actually are cartridge paper) and is generally susceptible to multiple resonances in its audio range. Their severity, and potential audibility depends on two main issues: the degree of resonance termination or suppression, and the ordering or distribution of the resonances. Damping used to be seen as a cure-all, and it was said that with enough lossy dope and damping from the suspension you could solve such problems. However excess material damping (and here we are not considering the low frequency region which is related to magnet strength) is now known to compress transient definition and dynamics, reduce loudness and impair good timing.

Ideally the cone would be held

Is Mono Better?

By way of a tangential experience showing how rules may be broken, I recently bought an early MJQ recording that happened to be in mono. I initially replayed it with the usual double mono set-up that results from my stereo system. At the time I had been examining the influence that stereo reproduction had on rhythm and timing. I then muted the input for one channel and tried the track again. Unquestionably the performance now sounded more intimate, more coherent and was significantly better timed. It provided a closer view of the relationship between the musicians, and was clearly more satisfying. To be honest I was rather shocked. For decades I had taken two channels as the de facto standard regardless of the source format. Milt Jackson's vibes are stunning on this disc, and in addition no more than perhaps 80Hz to 10kHz seemed to be required to experience this pre-stereo recording, optimally replayed on one signal channel? Single driver designers know this general effect well and concentrate on getting the central frequency range right; so right in terms of immediacy and lifelike dynamics, that the listener may be fully satisfied. Here the aim is to encourage listening with your heart and not your head.

relatively free, driven by an idealised mass-less force, and the intrinsic resonances would then have a minimal acoustic effect. However practical cones have inevitable additional masses added to them, for example those represented by the surround-suspension at the outer edge, and by the necessary mass of the metal and former of the voice coil winding, significantly complicating mechanical termination.

The driver designer will painstakingly experiment with cone shape, coil diameter, surround shape and cone material type, tailored to each chassis size. The cone structure is crucial. The physical composition must be stiff and sufficiently ‘mechanically crisp’ to transmit high frequencies so that they are radiated at good power, and yet have at least some damping to satisfactorily control resonances and maintain coloration at acceptable levels.

It is in the nature of the beast that treble is progressively lost with ►

► larger and heavier voice-coils. In addition larger cones tend to beam more at higher frequencies. Thus few of the larger full range drivers have made headway. On the other hand very small cones of under 70mm diameter could be regarded as a kind of cone tweeter with extended midrange, and are likely to have very low efficiency coupled with next to no bass. Some reasonable radiating area is essential to couple the cone to the air and launch sound waves with practical efficiency. Thus full range cones are typically found in the narrow range of 80mm to 160 mm effective diameter corresponding to standard driver chassis sizes from 100mm to 200mm.

Should we include full-range drivers that augment their upper range with a small auxiliary treble radiator cone (or "whizzer") in this discussion? While we now have two radiating elements, they are coincident and concentric and are driven by a common force from the single voice coil. Therefore it would be pedantic to exclude this type of driver and examples are common from makes such as Fostex and Lowther, but also remembering 1960's classics such as the Goodmans Axieltte and Wharfedale Super 8, both these using 160mm main diaphragms.

The small second cone gives some scope to extend the frequency range and maintain a wider radiation pattern at high frequencies. In one particular case (PHL) the main range is almost complete, extending to 12kHz and here a small piezo disc radiator, centrally mounted, adds just a trace of sparkle to the extreme treble. Again we consider that at heart these are still full range drivers. The pricing can be breathtaking, for example a silver

wound 30cm PHL with the piezo augmentation retails to the constructor at \$3,000 a pair, and you'll need large enclosures! These SDLs offer 96dB plus sensitivity with a sensible impedance and good radiating area. The low frequency parameters conform to the Rice Kellogg formula and reasonably extended bass may be obtained.

Can your magnet be too big? Or, where has all the bass gone?

Now let's consider the other primary variable for a single driver, the choice of magnet strength. It is commonly but incorrectly thought that the bigger the magnet the better. From one point of

view you may legitimately argue that stronger magnets result in more efficiency, more output, easier amplifier loading, lower distortion and superior dynamics; a formidable set of advantages.

Unfortunately there is a very particular problem. For a given acoustic design, sealed box, reflex or horn loaded enclosure, and for a given driver moving system, including the cone and the surround/suspension, there is a specific, optimum magnet strength that will provide a natural balance between the bass and the midrange. Once you establish this reference point, you will find that as magnet strength is reduced the mid power falls as expected, but at the same time the bass power actually rises, and the overall frequency response quickly goes out of kilter, sounding

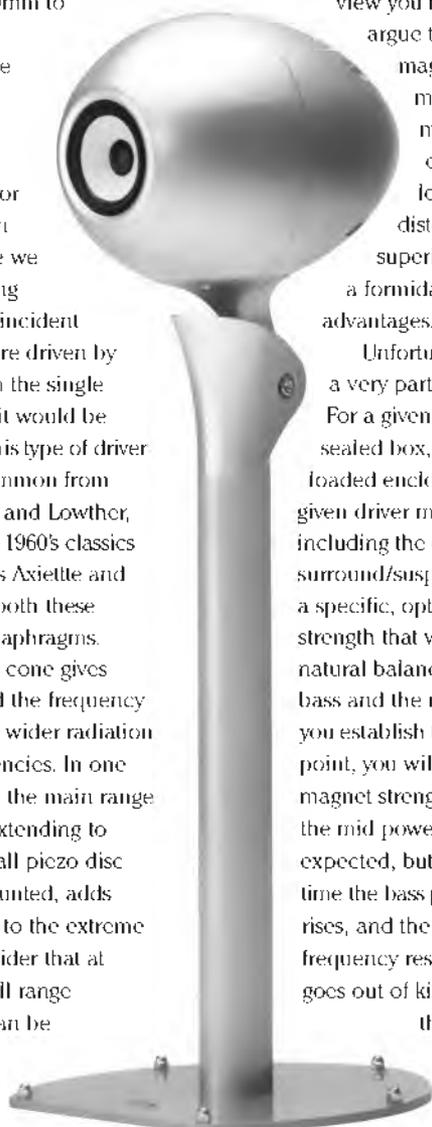
thick and boomy. Conversely if the magnet

strength is increased the midrange gets louder 'cleaner' and perhaps 'faster', but the bass region which had previously supported an optimally tuned system, will now become over-damped quickly losing power and ironically making that mid excess seem all the greater.

It is a fact that a number of efficient SDL drivers are sold on the basis of huge magnet power without proper regard for how they are to be mounted and matched at low frequencies to form a complete loudspeaker system. There are a few examples where low bass is quite absent and the resulting loudspeaker has a markedly 'forward' mid range. While they may sound rather exciting at first, such speakers may ultimately disappoint. In fact, in my opinion, a number of full range SDLs suffer from exactly this aberration.

Traditionally the single driver approach might be exemplified by Lowther, a specialist producer where outright sensitivity is the order of the day. Originally designed by Paul Voigt in the 1930s it was intended for full horn loading. A Lowther driver, acoustically coupled with a suitable rear mounted low frequency horn/pipe may offer an extraordinary 105dB per watt axial sensitivity, and even with a really small amplifier may provide reasonable, room filling sound levels. But without full front horn loading, low-frequency output is likely to be rather weak.

Conversely it is possible to make a compact stand mounted SDL, exemplified by the recently launched Eclipse 510, of just 87dB/W sensitivity. This would need a potentially destructive 250watts to match the Lowther's peak volume capability. But this little stand mount design will take 40W while the Lowther voice-coil will smoke at around 8W power input. And in any case, why should the Eclipse model be so less sensitive? It's an instructive question with which to start our technical examination. ►



The Eclipse 510 Compact Single Driver Loudspeaker

Undoubtedly divergent from the classical high efficiency SDLs, which are typically 10 to 15 dB more sensitive than this Eclipse, the 510 sounded more like an ordinary loudspeaker. By ordinary I mean normal; that in tonal balance and overall bandwidth, even in respect of its moderate bass extension, it was more than tolerably neutral and accurate. In fact the TD510 is so well conceived that within its admittedly limited loudness compass, no concessions need be made in respect of its single driver technology. Bass, mid and treble are presented in good order, colouration is quite low and I found that it made for a pretty painless introduction to the SDL arena.

Like the other Eclipse models the enclosure is conceived as an ellipsoidal egg shape, finished in a fine pearlescent lacquer. Of excellent, modern appearance, the costly but important stands, uniquely engineered to complete the speaker are highly recommended and in my opinion form an integral part of the system. Priced individually the TD510s cost \$600 each, with the matching stand adding a further \$300.

The centrally mounted 100mm single cone driver has an 80mm diaphragm of quite shallow flare, equipped with a lightweight copper/aluminium voice coil. The ferrite (ceramic) magnet is screened for home theatre use, and before this review I heard a really effective surround sound system built with these low diffraction speakers where the sound localisation was the best I have yet experienced. The TD510 has a 6 Ohm impedance with a low claimed sensitivity of 83dB/W. Maximum power handling is 20 watts continuous.

Sound quality

The Eclipse is immediately likeable, tidy, very expressive, with excellent microdynamics, good medium level dynamics, and was found to be extremely fast. The timing was exquisite, quite revelatory for several listeners used to conventional multi-way loudspeakers. To hear a well recorded small jazz combo at work was gripping, hearing how these tiny cones capture the



relationship between the musicians so well, this greatly increasing listener involvement and enjoyment. Mid and treble transients were reproduced with exceptional clarity, its obviously excellent impulse response effortlessly tracking fast musical sounds, with a crisp definition revealing of tone colour and delivered

with super fast decay. That speedy decay helps resolve the die away of reproduced sounds, both their nature, and the acoustic space in which they reside. Small percussion bands sound so live that you could wish for no other choice. Reich's *Music for Mallet Instruments* was superbly layered and textured, with counterpoint and syncopation revealed in equal measure; in fact it was quite mesmeric.

On its \$600 ultra rigid, hard-point locked stand, the low diffraction form of the Eclipse also ensured pinpoint stereo imaging of excellent coherence and stability. This potential was seriously degraded on an acoustically reflective floor so carpets are essential. In addition the midrange became thinner and harder sounding when placed above a reflective surface.

The stereo image also possessed

considerable depth, and when it was held below the overload level, very good transparency was available. Up to moderate power the bass was quite good, extending to about 50 Hz, free of boom. Anything of larger scale or operating with more power rapidly caused those little drivers to overload, the bass choking up and the mid became muddy and gruff, though not grating or edgy.

Colouration was quite low, though voices were a tad thinner than reality, lighter pitched and with a mild emphasis for 'ee' vowels, with Tori Amos for example. The mid was slightly forward sounding as a whole and while treble extension was as good as you could reasonably require, to 15kHz at least, it was rather directional over the final octave. Consequently the TD510s required careful adjustment of their orientation with respect to the listener to help optimise the perceived treble. In terms of the room sound, and the reverberant energy the speakers provides, this was considered to be duller than usual because the treble output is more directional than a typical two-way design. Nonetheless through careful orientation a good tonal balance can be achieved.

On the bench...

So much for the way it sounds; how well does it measure? I ran my B&K reference microphone over this little speaker and found a moderate 87dB/W sensitivity, better than spec, where the industry average is about 88dB (but rising). The impedance is actually a kind 8 Ohms average with a minimum value of 5.5 ohms. This is a fairly easy load by today's standards so quite a few valve amps would be happy with this match and would need to supply no more than 20 or 30W/ch. At just 80mm for its active ►



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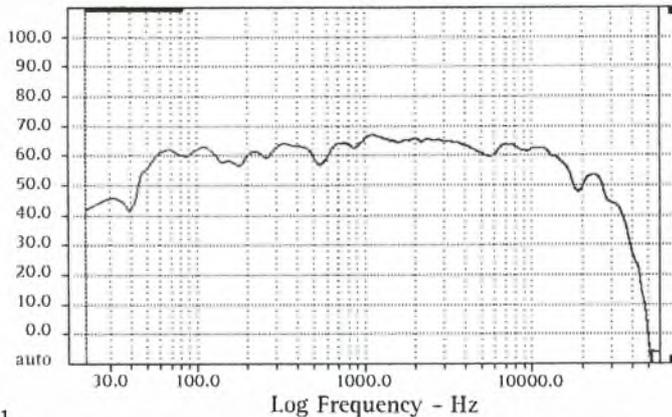


Fig. E1

cone diameter, a full-range output is theoretically possible, if at moderate power, and this Eclipse has achieved it. On axis I got 50Hz to 16kHz ± 3 dB, which is as good as many far more sophisticated offerings. (Fig. E1)

Response was really smooth up to 700 Hz, the piston range, above which there is a mild plateau lift of 3dB extending to 4 kHz ; what I would call a mildly 'forward' midrange defining the subjective loudness. The treble continues at good power to 13kHz but falls to -15dB by 20 kHz, in practice not a significant defect (even if it would be pilloried in a more conventional design). There are a few moderately damped treble peaks caused by break-up resonances, at about 7 kHz and 11 kHz but they drew little notice in the listening tests. Given the small radiating diameter,

it could be regarded as a medium size cone tweeter, and in context the off axis treble was quite satisfactory. For 30 degrees off axis it measured about -8dB by 10 kHz

The results suggest a maximum continuous power input, of 20W/ch with a maximum sound level in-room, of 93dB for a stereo pair; corresponding to chamber music level. That tiny rear port overloads above a few watts, but this defect often passes unnoticed.

The impulse responses are exceptionally time coherent, fast and well damped. A transient weighted waterfall representation of energy decay versus frequency shows that it is also a very clean performer on transients. (Fig. E2). The back of the graph is the steady state response and this is nicely consistent as the waterfall display decays

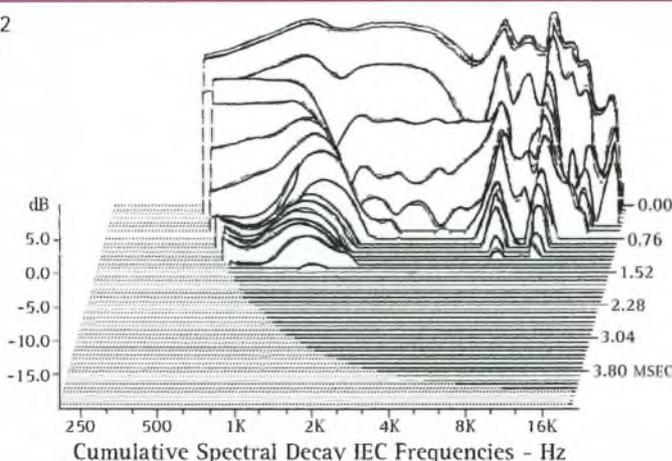
into the floor of the graph. The clean decays across the horizontal axis confirm that it has a linear phase as the single driver theory predicts. The two moderate resonances in the treble are also shown.

Over a longer analysis window, some moderate decay resonance, coloration related features were seen, some from the cone and some relating to the interior enclosure volume, but not from the shell structure itself. The latter performs very well in respect to stored energy and thus provides a notably clean aural signature. The mechanical decoupling of the driver and its inherent vibration from the possible sound radiation path represented by the surface area of the shell is clearly effective.

In context of our thesis that there are unique virtues to single driver design, the Eclipse 510, within its significantly limited dynamic compass, does show the fundamental properties of excellent timing and rhythm, coherent transients and pinpoint stereo focus. Moreover the direct coupling of the single voice coil to the amplifier provides exceptional clarity and impressive transient definition.

In some respects the 510 is as perfect a single, full-range cone driver as it is possible to make, since it beats all comers in the class for extended low and high frequency range and tidy high frequency radiation. None are as well-balanced or have as low coloration. Eclipse have made very quick, clean impulse/energy responses king in this design, and it shows in both measurement and sound quality. The penalty for a vented box direct radiator of this type and small size is moderate efficiency and low maximum sound level. The bonus is a remarkably even and plausible sound from a stylish and compact performer. (Eclipse are experimenting with a sub-woofer to extend the dynamic range and the bass but who knows how much this may compromise the inherent speed and coherence of the single driver achievement.)

Fig. E2



The Fourth Rethm Single Driver Loudspeaker

By way of contrast we took on a second and rather different SDL by Rethm, viewed by some as the logical inheritor of the Rhedeko crown, but built in India by a US company and in fact related more closely to implementations seen for Lowther. Indeed Lowther equipped models are available, although our versions were fitted with French Supravox drivers, pure single cone devices. I was scheduled to check out the Third Rethm but logistical problems delayed its arrival for a couple of months and I was instead loaned the \$2600 Fourth Rethm.

Having not seen it before nothing could prepare me for the unusual and intriguing appearance of this tall, very slim floorstanding loud-speaker. A bit like the Lloyds building in London, it comprises an exposed folded pipe summounted by the forward facing Supravox cone driver, the whole assembly flanked by two veneered panels. Some elegant metal brackets hold the components together in a skeletal fashion. Input connection is via DNM style 2mm sockets and there is a ground connection if you want to try it out. I was supplied with 4mm adapters to take my cables. This design is of nominally 8 Ohms and very high sensitivity.

The custom driver is well crafted with a die cast frame and a ferrite magnet. The 180mm chassis carries the 130mm pulp cone with a multi-ridge doped paper suspension and a low mass, small diameter voice coil, estimated at 19mm. Again, there is nothing between the amplifier and the voice coil and no tweeter parts.

Sound Quality

Accustomed to conventional designs I found first exposure to this Rethm somewhat shocking and disconcerting, to such a degree that for a while I thought the speakers might be broken. It

was both an act of will and an act of belief to continue. In desperation I decided to try out unfamiliar material to try and train my ear,



avoiding that instant judgment easily made when playing well-known tracks.

Human hearing can be magically forgiving and after some serious acclimatisation I was able to move to moderately neutral territory and begin to hear what this speaker was about. But I was still aware of significant deficiencies in the sound: virtually no extreme treble or bass, a very muted mid-bass that turned up occasionally depending on the programme content, and a very 'forward' midrange. Coloration was obvious in several areas of the working range. Yet quite soon this, the smallest Rethm, got right under my skin. It was convincing and entertainingly dynamic, rendering conventional speakers compressed and dynamically dulled. It was also very fast, very upbeat, highly involving even at quite modest sound levels – which is actually how it sounds its best. Drive it harder and its sense of poise is progressively lost, it becomes blurred and increasingly raucous. Run at a modest volume, the Rethm can be delightfully light textured, sounding

delicate and faintly distant. It also sounded more 'live' this way. Its stereo focus was not as precise as the Eclipse but was still quite presentable, coupled with its impressive sense of inner coherence.

While not really loud, its rendition of the drum kit in a NAIM recorded jazz track was spectacularly reminiscent of the live instrument in its attack and natural dynamics. The sound was also very clear, the kind of coloration present proving not to significantly obstruct the recovery of natural reverberance, or the sense of space.

In spite of its spectacular warping and avoidance of what are normally regarded as base-line loudspeaker qualities of low coloration, wide and uniform frequency response and decent sound levels, the sound was powerfully interesting and musically involving. Driven to an automobile comparison, the experience of the Fourth versus say a mid range B&W or KEF is like that of a Lotus Seven compared to a 'Benz E320. It definitely delivers a healthy dose of SDL magic.

Simultaneously illustrating the virtues and the vices of the single driver, high efficiency format, it allows us to examine why this type of speaker essentially has no bass. On the face of it this seems contradictory. Examining the Fourth Rethm, we have a large enclosure, a folded pipe with a port or exit of considerable area for the low frequencies. The driver is ostensibly a seven-inch unit of very high efficiency (several percent compared with the industry average of less than one percent). Just a few Watts of peak programme power per channel can deliver over 100dB sound levels in the listening room, where the average slim two-way tower speaker would need a healthy 60 Watts a side.

The low power requirement means that voice coil current remains very



'arc angels'



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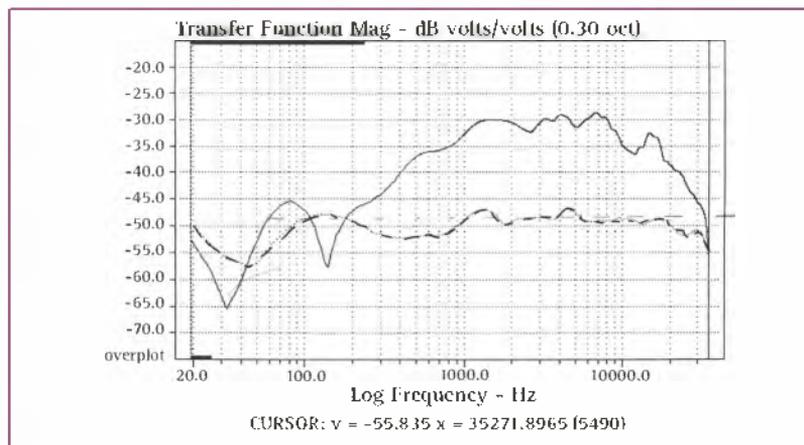


► low, greatly enhancing dynamics. The cone barely moves, it is gripped so tightly by the electromagnetic forces of the powerful motor. Low current and small cone excursion implies very little heating of the voice coil wire. Micro and macro dynamics benefit greatly from these factors. High efficiency coupled with the single cone, 'direct drive' crossover less concept expressed here contributes to the subjective power and performance of the genre.

But there is a catch. As we have shown, Rice and Kellogg established that a moving cone speaker was actually capable of a naturally flat, extended lower frequency response if and only if, the overall characteristics had been set, e.g. box type and volume, driver cone mass and suspension stiffness. The magnet also had to be the right strength. If it was too weak, then the resulting speaker system rapidly becomes bass heavy, even boomy. Too powerful and while other noted benefits can accrue, the bass section simply goes away, becoming so 'over damped' as not to be of any use in the overall performance.

Looking at the comparison between two drivers, identical but for the power of their motor magnets, the low frequency graph is quite shocking when you consider that an equal watt into the two drivers provides only 70dB of sound level at 35Hz from the efficient driver compared with 80dB from the inefficient one.

This is why no matter how much capital and care is spent on such a sensitive lightweight full-range driver, speakers in the Rethm class cannot produce significant bass. It also explains why their midranges are generally rendered so prominent. Even at its best, sound reproduction is manifestly imperfect. But who is to say what is right, or what one person will prefer compared to his neighbour? The audio establishment has come to believe that a smooth, wide frequency response is vitally important. This can be achieved in a loudspeaker almost



independent of size, but at what cost? Design steps taken to deliver 45Hz bass from miniature 7-litre enclosures means that mechanical and magnetic distortion will rise. Thermal compression also occurs at high volume levels due to voice coil heating; such windings are designed to tolerate up to 200 degrees C for short periods. With such a design, high currents must flow in the amplifier, in the speaker cables and the internal crossover network. By these mechanisms, bit by bit, the expressive dynamics found in live music are eroded when reproduced by a lower efficiency loudspeaker.

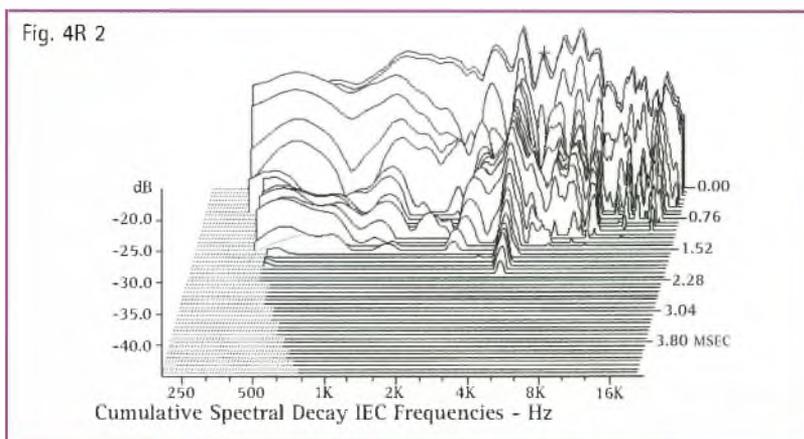
On the bench...

Measuring a very high 100dBW axial sensitivity at one metre this is undoubtedly a very efficient loudspeaker. From the reference frequency response measurement, the Fourth has a strongly

prominent upper midrange, about 800Hz to 9kHz, this being the 100dB part and responsible for the sensation of loudness. However the response falls rapidly below this range, to -6dB by 500Hz, and -12dB by 330Hz. There is a bit of bass at around 80Hz, 15dB below reference level so this drive-unit really only reproduces the midrange and the lower treble. Thinking of the listening test it is amazing what the car will put up with when the clarity is high and the distortion low.

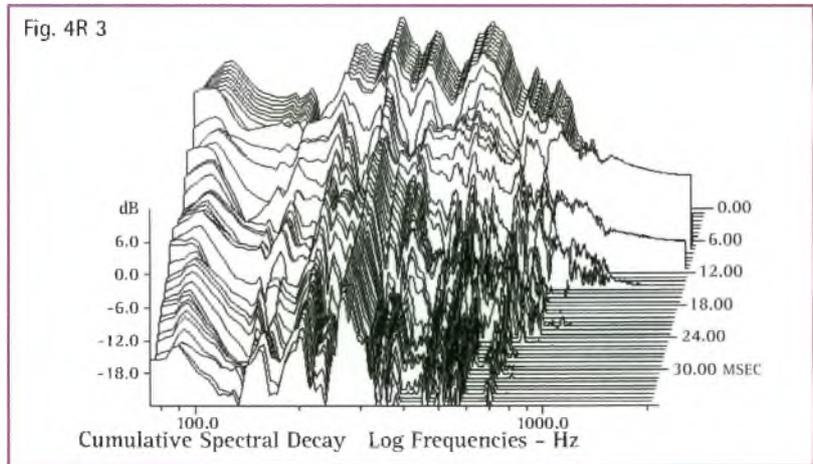
The graph above compares the frequency response and efficiency of the Rethm to a more classically voiced design using a similarly sized main driver – in this case the venerable LS3/5a. It's astonishing that the car can compensate sufficiently to find either acceptable, albeit not in direct comparison!

By nearfield measurement, the driver rolls off at low frequencies



▶ from 600 Hz, this delayed by a resonant peak 500 Hz from the line, and falls to -25dB by 80 Hz when broadly averaged. The port output essentially spans 20 Hz to 600 Hz with some contribution at -6dB in the 80 Hz region. Off axis this larger cone fell a little more at 10 kHz, averaging -12db for 30 degrees. At 45 degrees it was -7dB by 4 kHz, responsible for some dullness from the reverberant field in the room.

It is instructive to compare the waterfall transient response for this model with the Eclipse. Fig 4R 2 shows a good result up to three kHz and then there is a fairly strong resonance seen in the falling ridge, plus more 'clutter' at higher frequencies. Fig 4R 3 nicely demonstrates the appearance of the



significant resonant characteristics for a pipe loading, this showing the bass pipe output alone. This kind of long decaying, uneven response in

time and space imparts characteristic colorations which would make the overall sound useless, for example, for monitoring programme balance.

The late comer... the Third Rethm

As this project drew to a close, importer Martin Moorcroft threw a spanner in the works by turning up with the Rethm loudspeaker I was supposed to have assessed in the first place, the much larger model 3. Just to add spice, I was informed that the ferrite 'ceramic' magnet of the smaller example had been replaced by the rarer and more costly AlNiCo. Cobalt is now in short supply, which along with the relatively low magnetic power of the alloy accounts for its rarity and cost; 50 years ago it was the most common permanent magnet.

As the magnet characteristics constitute a significant component of the speaker transfer function (the complex relationship between the electrical current sent from the amplifier and the force delivered to the cone) the purity of force delivered to the cone can affect sound quality and will vary with magnet choice. In theory an electromagnetic field may sound even sweeter and more transparent than that provided by a permanent magnet, while it said by enthusiast that Alnico provides the

closest approach to such an ideal.

Sound Quality

Unsurprisingly, I found the two Rethms to have a lot in common, given the fundamentally similar loudspeaker drivers and the use of a folded pipe for low frequency loading. Sacrificing some of that up-front lightness and speed, the Third surprises with

much reduced coloration and a rather fuller sounding lower midrange. Many would still say that, like the Lowther single driver derived systems, it delivers more of an 'AM' rather than 'FM' radio bandwidth. In contrast to the Fourth, the Third was tolerably well-balanced, even tending to richness. Its particular pipe configuration changes the rules, its contribution being both more gentle and more even; coloured yes, but not glaringly so. This bigger line is audibly less honky than that in the Fourth.

The Third sound can be charming, as the usual SDL traits – a shouty mid, an often nasal, caustic lower treble and a tizzy upper treble – are generally absent. It sounds quite smooth, almost self-effacing. The treble is subdued yet possesses a gentle natural tonality and remains well resolved.

Subtle shadings of cymbal type, size and brushwork are conveyed well while at times a drum kit may be reproduced with a convincing sense of life, if on a small, slightly distant



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20 - 22 Cadham Centre
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► scale. Low-bass is essentially absent, the upper-bass sounds rather muted but tidy, yet remaining very well timed and coherent.

I won't dwell too long on the effect of the AlNiCo magnet, since the enclosure had also changed for the two speakers, but I did feel that this driver sounded clearly sweeter, more even in quality over the frequency range, with an improved sense of perspective and instrumental layering. With the sense of greater scale from the increased line length, and superior grip in the lower-mid came an improvement in power handling, and a lowering of distortion. In consequence the Third offered a significantly greater dynamic range while the magnet material contributed more natural texture and tonality. Even so I missed some of the quirky yet upbeat, lighter fisted nature of the Fourth. In some respects the Third is a hard speaker to summarise. Its virtues are partly disguised in a degree of understatement, yet those SDL aspects are still clearly present, in particular when you step down from this reproducer to a normal multi-way type.



Conversely the bass alignment is greatly over-damped, and this strongly modifies the frequency response trend. My spliced axial measurement

(Fig. 3R 1) was backed by a spatial average analysis taken in the listening room, and this showed the frequency response essentially begins in the upper-bass, at 180 Hz. By near-field measurement, the reading from the driver alone shows that the frequency response falls at the expected 6dB magnet flux controlled damped rate, but from as high as 450 Hz.

Output is respectably flat from 500 Hz to 9.5 kHz, with the remaining treble expressed as a single, moderate peak at about 15 kHz, fortunately not rising significantly above the main range. In contrast to the Lowther devices, the Supravox cone is well controlled when assessed in 1/3 octave, hearing related analysis, measuring $\pm 3\text{dB}$ from 600 Hz to 9 kHz and this clearly accounts for its smooth, broad sound in the midrange. (Fig. 3R 2)

Measuring the pipe output at low

frequencies it was multi-resonant, with peaks at 600 Hz, 260 Hz, and in the range 75 Hz to 150 Hz, with this latter band peaking by 4dB at 120 Hz. For lower frequencies the port output then notched severely by 25dB, until a weak recovery was staged at 30 Hz this in fact due to the entire air mass in the line loading the driver. (Fig. 3R 3)

The multi resonant nature of the pipe loading is also clearly seen in the impedance graph, with a trail of quite well spaced peaks at approximately 80 Hz, 115 Hz, 180 Hz, 240 Hz and 300 Hz before finally petering out. (Fig. 3R 4) Minimum impedance is fairly low at 5 ohms, but averages at 6 ohms, a relatively comfortable amplifier load, particularly in view of the very high sensitivity.

Completing the frequency response appraisal, the overall out-put comprises a smooth midrange extending from 200 Hz to 2 kHz. The range above is also tidy – in energy terms a little soft, depressed by a couple of dB, to its natural limit of 9 kHz. Tests made in the midrange at moderate power inputs showed that distortion and compression were very low, as they should be. The low frequency output falls below 200 Hz, reading -6dB by 100 Hz, sustained for a few dB by the line pipe mode at 80 Hz before the fall continues, to -12dB by 50 Hz and -18dB at 30 Hz. Like other high efficiency SDLs the Third Rethm

On the bench...

As I ended up lab testing both Rethms, I found the main differences related to the bass pipe, its size and length, but not the reference sensitivity. Those differences resulted in considerable shifts in sound quality. Judged by my B&K lab control, the Third also produced a very high 100dB per watt [2.83v input]. Front hom loaded models can achieve more, for example, the Avant Garde Duo three way, but nevertheless this is an exceptionally high value for a modestly sized, direct radiator driver, whatever the bass loading.

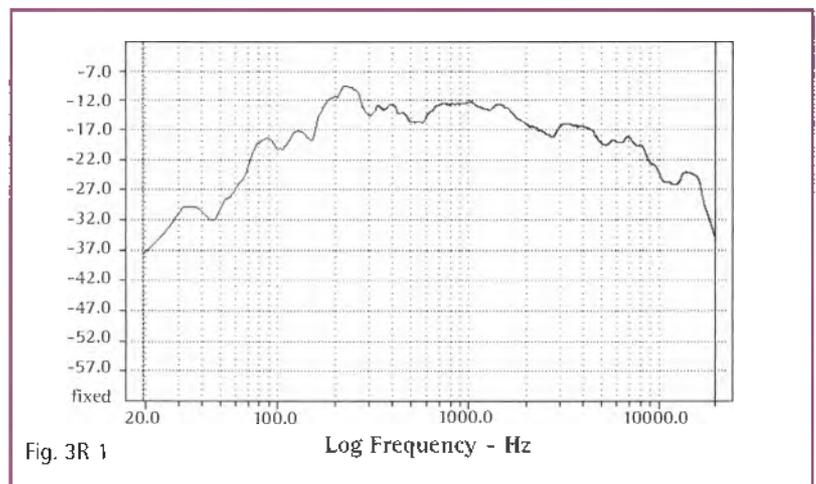


Fig. 3R 1

Log Frequency - Hz

▶ cannot deny the laws of physics; no particular line or labyrinth like horn/pipe loading can provide much bass from such a high magnet damping coefficient.

Conclusions

This article has encouraged me to examine and experience both the language and behaviour of several interesting and contrasting examples of the SDL art. Almost all reviews ever written on this subject have avoided the technical issues. Having conducted full laboratory testing of three contrasting models has, in this instance, shown clear correlation between the measured, theoretical and observed results. In the process we have assembled a body of technically sound explanations that offer some considerable insight into both the strengths and flaws inherent in the various approaches. The analysis certainly helps shed light on the reasons behind the previously observed and almost fanatically faithful following for SDLs; why some recognise a quality of articulation and musical expression not generally heard in conventional loudspeakers, but at the same time, explaining why others will find an SDL unacceptable. Certainly they have the potential to make best use of some exquisite, low power triode amplifiers; even to benefit from their often less than ideal output impedance. The latter can help release the over-tight magnetic grip of high-sensitivity drivers and thus restore a little much needed equilibrium to the bass-midrange. Indeed you need such a high-sensitivity speaker to really enjoy such specialised triode amplifiers as the 300B based models or the even silkier still sounding 2A3 designs, as they simply will not play loud enough with ordinary speakers.

The drier, less-coloured and intrinsically better balanced Third Rethm was quite different to the upper-mid prominent yet rather exciting Fourth with its highly attenuated but just audible bass line. We also tasted another kind of SDL in the ovoid and superbly built

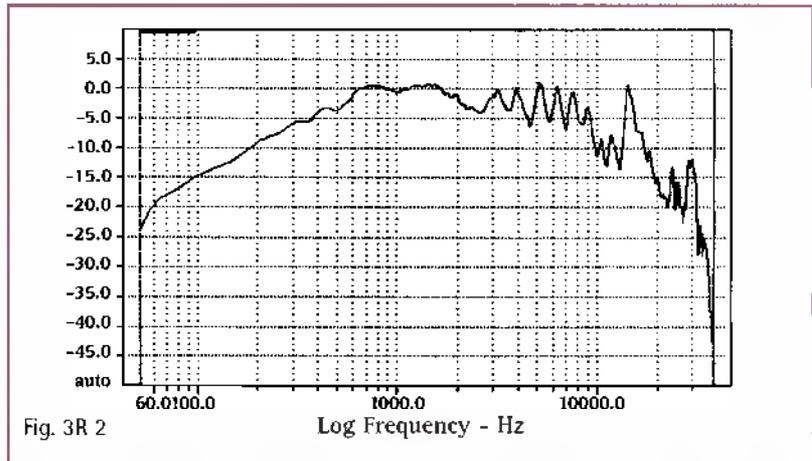


Fig. 3R 2

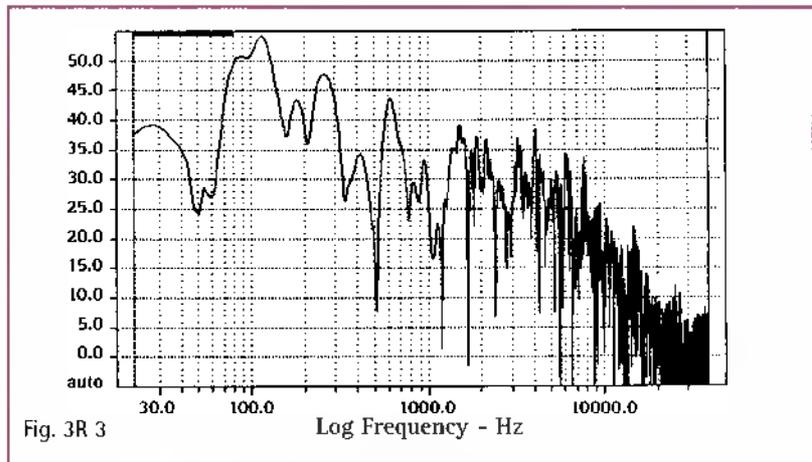


Fig. 3R 3

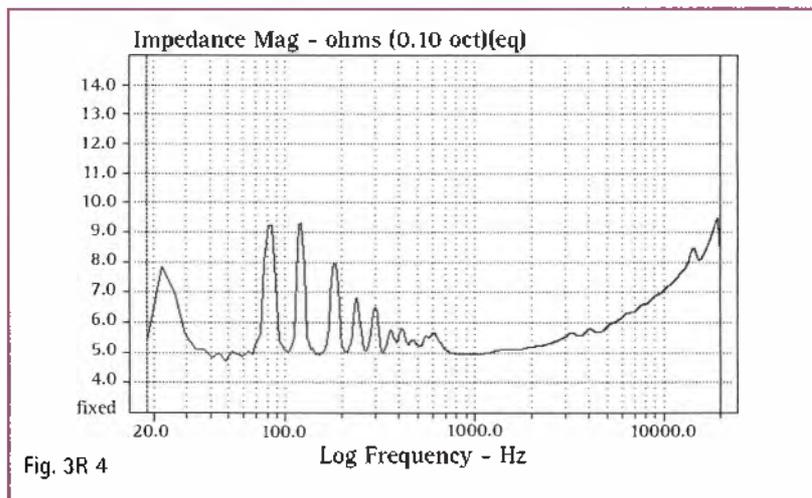


Fig. 3R 4

shape of the 510 from Eclipse, where the Rice-Kellogg formula has been followed to the letter, thus providing a 50 Hz to 15 kHz bandwidth and respectably uniform frequency response. Here the trade off is a significant limiting of the subjective

benefit of those apparently expanded micro-dynamics, both in respect of articulation and expression. Yet even this quieter design convincingly trumps many larger and more sophisticated designs by virtue of its pure clarity. ▶

DEFINITIVE AUDIO



Main image: KSL Kondo Neuro Line Integrated Valve Amplifier £23,500



- L to R:** 1. Kuzma Stabi XL £10,000 2. Art Audio Concerto Stereo Amplifier (GE) £4400 3. Living Voice IBX R2 (Burr Oak) £4400 4. SME 10 / SME V £4115
5. Living Voice OBX RW (Santos) £7200 6. KSL Kondo Ongaku Integrated Amplifier £49,000 7. Magnum Dynalab 106T Valve Tuner £3600
8. KSL Kondo Gakuoh 300B Mono Amplifiers £48,500 9. Resolution Audio Opus 21 CD Player £2950 10. KSL Kondo V-z (1m) Interconnect £750

► coherence, pinpoint stereo and speed. However here the Achilles Heel is loudness. It simply will not play to sufficiently realistic volume levels, and while I have noted the supplier's suggestion to add a sub-woofer, I fear that the benefit of its pure simplicity - that absolute virtue - would be compromised by such an addition. For some listeners they will operate

as a kind of comfortable near-field headphone system, while using five for surround helps to some extent, but the essential compromise will still remain.

There should be no absolute rules about listening, about the appreciation of music, or how audio signals should be reproduced. The better single driver loudspeaker systems challenge conventional wisdom as regards both

design and musical reproduction, yet they reward in their own particular way. When it comes to deciding whether or not they might suit you, there is no substitute for personally seeking them out and discovering whether you comprehend and value their particular perspective, their dynamic and expressive language and accent.

The Reson Third Rethm – Or, why I like single-driver loudspeakers

by Paul Messenger

When did you first realise that all audio components were not equal, and that some could sound significantly better than others? As I recall, it first happened for me at about 14 years old. I was stuck at boarding school in the early 1960s, at the height of the boom in the transistor radios that represented our major source of pop music. My tranny was a very modest example, but one of the kids in my year – seriously spoilt by presumably guilt-ridden parents – had something called a Hacker Sovereign.

A massive beast by the standards of the time, it featured VHF (later known as FM) as well as MW and LW, and while it might not have been hi-fi in any accepted sense of the word today, it sure showed up all the other kids' radios – including the occasional Roberts and some fancy National Panasonics that had been bought in Asia. A decade or so later I found a secondhand Sovereign sitting in a shop window, and snapped it up with possibly the best £15 I've ever spent, because it has sat on a window ledge ever since, entertaining and informing me every time I take a bath.

The reason behind this extended anecdote is that my aged secondhand

Hacker still sounds remarkably good today, especially when reproducing human speech. And I firmly believe that an important ingredient in that fine speech reproduction arises from its essentially simplicity and use of a decent sized, full range elliptical drive unit. True, it doesn't do much bass or treble, but the broad mid-band, which is where all voice information is found, has a lovely time-coherence that is very realistic and communicative.

Nobody will deny the fundamental bandwidth and dispersion constraints inherent in speaker systems based on single (or even multiple) "full range" drive units (the inverted commas are quite deliberate). But that old Hacker radio in the bathroom constantly reminds me not to underestimate the virtues of the "full range" driver. And having experienced at least a dozen such designs over the years, I'm quite convinced that their success on the coherence swings is fair compensation for what they lose on the bandwidth roundabouts.

That said, full-range driver systems fall into two very distinct types. One

group of compact models use the conventional 'direct radiator' approach. These tend to have relatively low sensitivity, and give beautifully focused imaging. They include several UK models based on small diameter metal diaphragm Jordan and Bandor drive units, and also the Japanese Eclipse range.

At the opposite extreme are significantly larger and more costly horn-loaded designs, using drivers from Lowther, Fostex and others. Prominent UK brands include Beathorn and Ferguson Hill, but there are plenty of others around the globe, including the unusual looking Rethm range, one of which is the main focus of this report. These designs usually have massively high sensitivity, which seems to bring an extra frisson of dynamic literacy and believability to the party, but they also tend to add a generous and rather less welcome soupçon of mid-band coloration too.

Rethm's enclosures are actually made in Kerala, India, and four of the five models are normally fitted with UKsourced Lowther drivers. However, European distributor Reson (the Swiss/German operation which once handled Rehdeko) has instead opted to use drive units from veteran French



► brand Supravox – and, moreover, ones equipped with Alnico magnets.

I reviewed the baby of the range, the stand-mount Fifth Return, for another magazine about eight months ago, with rather mixed results. Basically, I liked quite a lot of what it did, but had to acknowledge its small size was a serious handicap in terms of bass weight and extension. Strenuous attempts to augment the bottom end with a high-quality subwoofer were only partly successful – although plenty of weight could be added, some of the overall delicacy and coherence was lost – but I was impressed enough by the mid-band performance to want to try one of the larger Returns.

Importer Martin Morecroft thought I might enjoy the £4,500/pair floorstanding Third Return, and brought a pair down for me to try. Like all the Returns, it's a curious looking device. Owing as much to plumbing as joinery, the construction sandwiches thick top and base sections, heavily shaped from laminated wood, between two tubes that form the horn that loads the rear of the driver. A third tube actually runs through the middle of the much wider front tube, so the overall horn length is roughly three times the height. The Alnico magnet driver has a 120mm paper cone and a pleated fabric surround. Reson fits three fiddly little 2mm sockets in place of the usual 4mm pairs, the optional third one allowing the driver chassis to be earthed to the amplifier. The bottom surface of the speaker has three little cones for floor coupling.

No review was scheduled for the Third Returns, so I was therefore able to treat them as a 'holiday speaker' – a refreshing change from the more conventional designs that usually sit at the end of my system. And 'refreshing' is very much the right word to describe this speaker. It doesn't do deep bass, nor high treble, but provided considerable

care is taken to achieve optimum positioning, it does deliver considerable midrange magic, with the sweetness of an Alnico magnet alongside the wonderful dynamic expressiveness and tension that only horns seem to achieve, together with better than expected evenness and smoothness too.

I tried out a number of different locations, and most of them tended to leave the upper bass rather lean while supplying a strong boost in the lower mid-band, 200 – 300Hz, creating obvious audible coloration. The ideal positioning was eventually found when the backs of the speakers were spaced 19cm out from the wall behind, and around 60cm in from the side-walls. Under these circumstances, measured under far-field averaged conditions, the broad mid-band, 120Hz – 1.8kHz, held within ± 2 dB limits – a truly remarkable result for a high sensitivity (c. 100dB) horn speaker, and one that ensures much lower coloration levels than one usually encounters with this type of speaker.

No less important is the fact that the roll-off either side of the mid-band (again measured under far-field in-room conditions) was mostly gentle and progressive, and well matched either side of the mid-band, so that ± 4 dB limits encompassed a 70Hz – 8kHz bandwidth. While it would obviously be nice to have an extra octave of realistic extension at both the top and the bottom ends of the audio band, it's surprising how quickly the ears adjust to this curtailment; meanwhile the brain readily forgives this limitation because it's too busy relishing the superb mid-band delicacy and coherence.

Going back to a top class multi-way speaker will bring back the full bandwidth sound, but will also lose a little of that 'direct coupled' coherence. One

inevitable consequence is that the Third Return works best with smaller scale, mid-oriented material. It's great with speech, choral and simple music using acoustic instruments; rather less impressive with organ, dance and heavy rock material.

Less obvious perhaps is that this speaker can be ruthlessly revealing of source quality; delivering excellent results when a recording – or for that matter a broadcast – shows good basic coherence, which is often the case with simple material and live FM radio concerts. At the same time, the excessive processing often found in many modern CDs can sound unpleasantly artificial. Notwithstanding its limited bandwidth, this speaker proved very capable of revealing the differences between mains and battery supplies, between valve and solid-state amps, and between analogue/vinyl and CD sources.

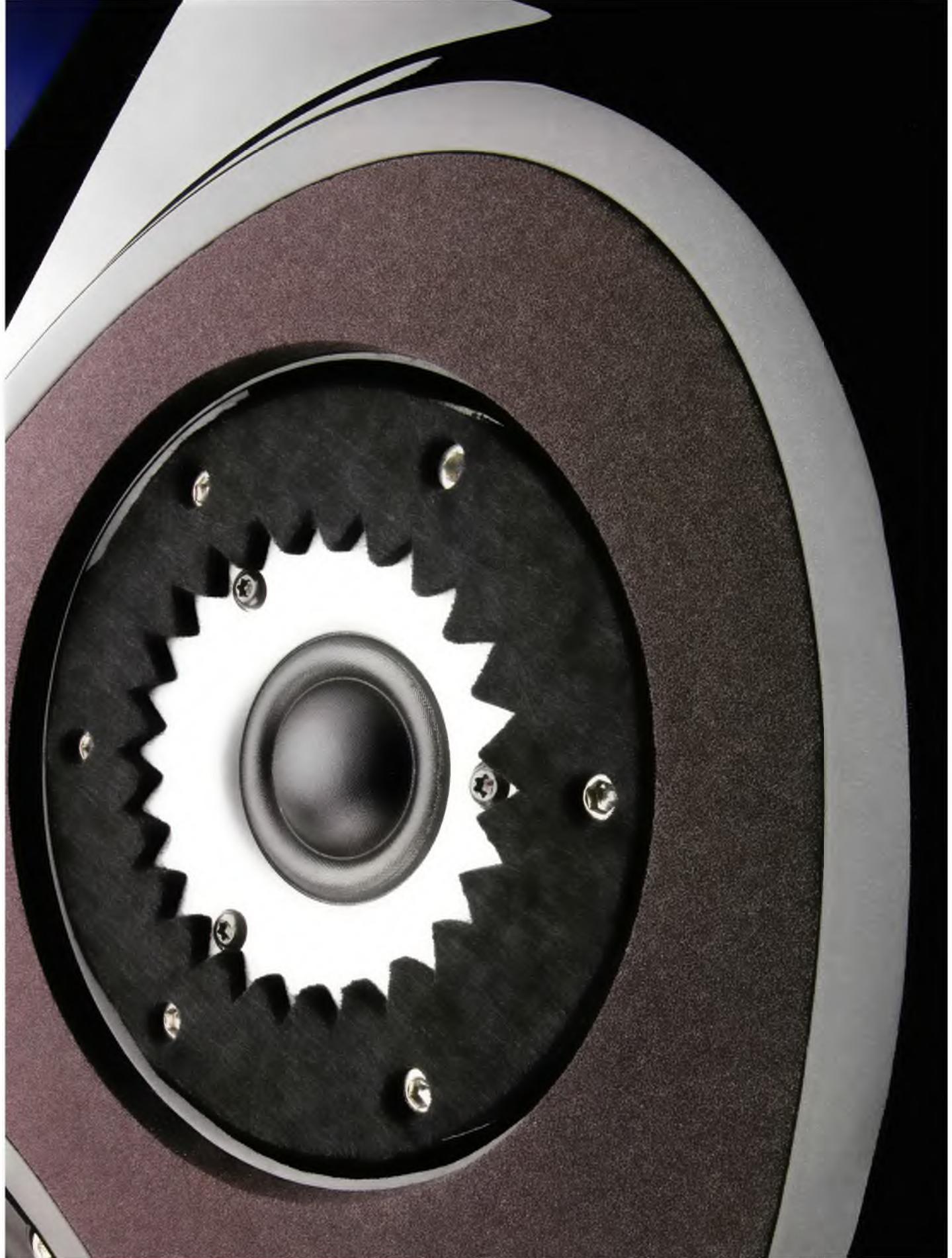
An unusual looking speaker with an equally unusual performance envelope, the most obvious role for the Third Return is to partner low powered valve amplifiers, due to its massively high sensitivity and easy-to-drive impedance. But its fine mid-band evenness, and the smooth roll-offs above and below, ensure relatively modest coloration, alongside the undoubted dynamic and coherence virtues of a single driver horn system. This might be an unusual speaker, but it's also a hugely enjoyable one, which makes a very refreshing change from the multi-driver norm.



Contact details:

Eclipse UK
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Wilson Audio Duette Loudspeaker

by Roy Gregory

Once upon a time – well, 20 years ago to be exact – the world first clapped eyes on a little speaker that couldn't. Mind you, that didn't stop it trying. Wilson's WATT, with its truncated shape, minimal frontal area and rigid, non-wood cabinet established so many trends that it could and should be described as revolutionary. It set new standards for focus and transparency; and it set a new benchmark for price. At a little over £5000 it was three times the price of a Celestion SL700 – and you got a pair of stands with those!*

Besides which, as I've already hinted, the WATT was wonderful yet flawed, its truncated structure matched by an equally truncated bass response that led to a number of attempted fixes (official and unofficial) before the eventual arrival of the Puppy sub-woofers, an addition that proved so successful that the two became almost inseparable. But whilst the Puppies added the necessary weight to the WATTs' performance, they placed an equal burden on the wallet effectively transforming a high-quality compact monitor into a floor-standing speaker with near full-range performance and a price tag to match. Now, eight generations into their evolution (and six for the subs) the WATTs have ceased to be an individual item, the combination simply referred to by all and sundry as System 8. Yes, you can still buy the head units separately but the public mated them into a single entity many years ago, and what the public puts together only a fool of a

* Which is why I was surprised to hear Wilson expressing doubt about the perceived value of the new Duette. At a little under £9K for the speakers (and with two decades of elapsed time and inflation in between) there's no doubt in my mind that these offer something of a bargain compared to those early WATTs.

dealer or manufacturer tries to part...

All of which sets the stage for the introduction of a new, compact speaker to perform picket duty on the performance parameters of the Wilson Audio range. But never let it be said that David Wilson doesn't learn from his experiences. The new model is an entirely different beast to the WATT, in thought, finish and action.

Whilst the Duette moniker nicely describes the product's physical nature as a two-driver, two-way system, it operates descriptively on more levels than that. Here's a speaker that offers an introduction to the dual foundations of the Wilson ethos, both Wilson Audio's approach to audio reproduction and the company's almost obsessive standards of fit and finish. Likewise, the Duettes are equally at home as objects of desire for high-end aspirants or as extra, even secondary speakers for those who already own the likes of MAXX or the X2.

If the idea of using £9K speakers in a "secondary" role seems somewhat fanciful, just follow the logic. Wilson's customer base is largely US-centric and extremely affluent. Given the importance of multi-channel and multi-room systems in that market, the company wants to offer customers who have already subscribed to the Wilson philosophy the opportunity to enjoy that thinking and its associated technologies without diluting the quality of their experience. The WATCH series handle the multi-channel requirement admirably. Now Duette

deals with multi-room demands – not to mention all those second, third or fourth homes...

Living in the impoverished UK, this might all seem a tad removed from reality, but it's a background that's essential to understanding the thinking that's gone into the Duette; thinking that at once makes it a remarkable product, and for European audiophiles, arguably

the most accessible and important Wilson to date. The WATT was (and still is) an astonishing success story, often imitated but never bettered by a host of lookalike pretenders. But now, its sonic performance (as a compact two-way) and even its sales success risks being eclipsed by this new sibling – the Duette really is that good!

Most Wilson speakers have placed a heavy (some would say crushing) burden on the system to which they're connected and the acoustic space in which they're used. When it's right it's wonderful; when it's wrong – you'll know all about it. There's no escaping that monitor DNA. That's what made the WATT startlingly transparent and dynamically coherent; and at the same time super critical of program and set-up (and potentially frustrating as a result). The Duette starts from a different premise altogether. Let's face it, even the super-rich audio enthusiast can't turn over every room in his mansion to the demands of precise speaker placement and massive driving amplifiers. A speaker designed to succeed in such a role is going to need to be easier to place and easier to run – without compromising performance. ▶

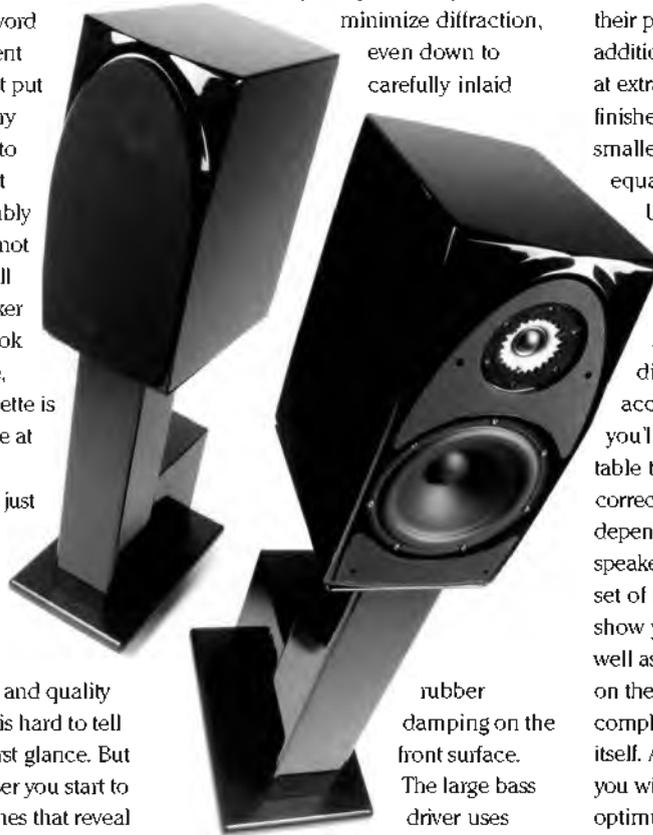


► Which is precisely what makes the Duette so special; the very qualities that make it work in its “secondary speaker” role also make it more accessible and attractive to high-end aspirants. This is one Wilson where the cost of ancillaries really needn’t exceed the cost of the speaker itself. And if the word “secondary” seems redolent with compromise, let’s just put it in perspective; secondary in this instance is relative to speaker systems starting at £40K and going considerably higher in price. Also, let’s not forget that in order to fulfill its function the new speaker has to sound as well as look the part. Make no mistake, sonically speaking the Duette is more than just competitive at the £10K mark – it’s a star.

On the surface, this is just another expensive two-way. It lacks the startling shape and constructivist aesthetic of a WATT, and in these days of Chinese manufacturing, the depth and quality of one piano black finish is hard to tell from another, at least at first glance. But once you look a little closer you start to recognise the subtle touches that reveal the depth of thought that’s gone into this product. David Wilson designed this speaker from the ground up to work in what he terms “hostile” environments whilst still delivering his signature sound quality. Once you move away from the ideal of free-space siting, then early reflections and boundary reinforcement impinge on performance, so the departure point for the design became bookshelf mounting. Of course, anybody who remembers AR loudspeakers will know that US bookshelves are considerably larger (and presumably sturdier) than their UK equivalents. The Duette too is larger than you might think, a 9” two-way getting on for a cubic foot and a half in volume. And that’s all useable space; the crossover

comes separately, but more on that later.

The cabinet is built from a carefully structured mix of Wilson’s proprietary X and M3 materials, combined to create a rigid yet critically damped enclosure. The two-inch thick baffle is carefully sculpted and profiled to minimize diffraction, even down to carefully inlaid



rubber damping on the front surface. The large bass driver uses a paper cone

designed to deliver the speed and scale that normally escape compact systems using smaller drivers. The massive motor assembly helps maintain dynamic range and efficiency, while the lightweight cone and careful profiling help maintain output up to the crossover frequency: The driver is loaded by a large, rear-facing aluminium port. Tweeter is a Wilson/ScanSpeak co-development of that Company’s increasingly familiar one-inch ring radiator, a design that happens to share more than a few mechanical characteristics with the Focal inverted domes, so long synonymous with Wilson’s speakers. The carefully constructed grille fits snug to the baffle and is built on a carefully

profiled X material frame rather than the more usual MDF; yes, the speaker sounds better without it, but the difference is far more subtle than usual. Both the Grille and the cabinet are each available in four different shades, allowing interior designers to specify their preferred combination, while an additional 12 paint colours are available at extra cost. The end result is a superbly finished cabinet that succeeds in looking smaller than it is, as well as being equally attractive grille-on or off.

Unpack the Duettes and one of the first things you’ll come across is a set of small steel cones. Look closely and you’ll see that they come in three different heights, each stamped accordingly. In the 80 page manual you’ll find a set of diagrams and a table that enable you to select the correct combination of cones depending on the height at which the speaker is placed, as well as an extensive set of frequency response curves that show you the effect of that height as well as vertical or horizontal placement on the speaker’s balance. It sounds complicated but in reality it’s simplicity itself. All Wilson are doing is supplying you with the information to judge the optimum position for your speakers from amongst the options available. So, if you’ve got a shelf at 4’ off the floor and another at 1’6”, the diagrams show you just how those different placements are likely to affect the speakers’ frequency response, as well as selecting the correct combination of cones to tilt the listening axis correctly.

Of course, the accuracy of that tilt angle will depend on the precise placement of those small, steel cones. Wilson could just indent or mark positions but that would mar the finish, an important consideration if you have to allow for upright as well as horizontal, mirror imaged placement. So instead they sink tiny magnets into the cabinet, under the paintwork, which ensure that the cones are placed (and stay) in ►



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▶ the right position. Those magnets are in both sides and the bottom of the cabinet, thus ensuring the best possible performance whether you stand the speaker up or lay it down, all without a visible blemish. Brass discs are also provided to protect the surface on which the speaker stands. Like I said, they haven't just thought of everything, they've provided elegant solutions to each practical and sonic problem.

You see further evidence of this in the crossovers. These are external and fully potted, the resulting bricks weighing 8.4kg each and matching the speakers for finish. Given that the speaker cabinets themselves weigh in at a significant 17.6kg each, separating the crossovers offers practical as well as sonic benefits. As well as making placement easier and the speaker smaller, who wants to try and mount a 60lb speaker at head height? Each crossover has four pairs of terminals: one pair for input, two for output and the last for adjusting the tweeter level – this is done by strapping high-quality resistors across the terminals, just like on Wilson's bigger speakers. A purpose built and clearly labeled umbilical is provided to pass signal from crossover to speaker.

Delve deeper into the instruction manual and you'll also find an extensive section on building the speaker into a cabinet or wall, for which Wilson will supply a fixing kit, again ensuring optimum termination and mounting in even this least promising of scenarios. You'll also see a section on stand mounting, and this is where things get really interesting. As much as the Duette name refers to the speaker's two-way topology and the fact that you can place it horizontally or vertically, it also indicates that this is one speaker that is equally happy placed close to the wall or mounted in free space, as a discrete supplier of high-quality background music or as the optimally placed outlet for a dedicated two-channel set-up. Which brings us back to that name and perhaps its most important

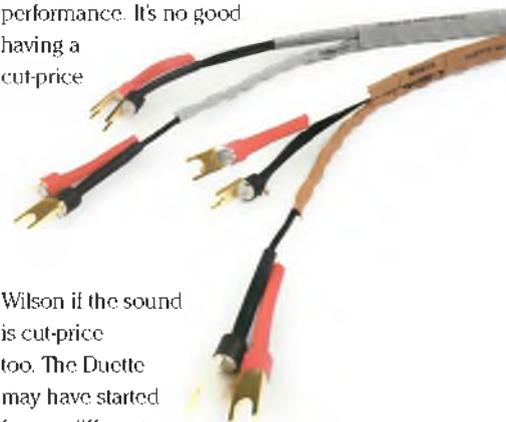
interpretation. It's this versatility, this duality that makes the Duette such an attractive and novel product. Incidentally, that's what they've dubbed the crossover – the Novel – I guess because if you stand it on a shelf that's just what it looks like; something thick, brooding and heavyweight like a Burgess (but definitely not a Maclean).

Wilson (naturally) offer a set of dedicated stands for the Duette, constructed from a solid X material column linking thick aluminium top and bottom plates. The upper plate is machined to accept the brass discs and cones that support the Duette in its shelf-mounted guise. The bottom plate is spiked and its top surface rebated to accept the cross-over, tucking it out of sight behind the column. You also get a different (white) umbilical and an alternative set of tweeter resistors for free space mounting. If you want to go with the stands but place the speakers close to the wall, stick with the brown umbilical and original resistors. For audiophiles afflicted with small listening rooms and used to the conflicting spatial demands of system and family, this array of options is almost dizzying.



Add to this positional flexibility an efficiency of 89dB, a 4 Ohm impedance (with a reasonably benign minimum at 3 Ohms) and a bandwidth that will stretch down to a -3dB point at 36Hz in room and you can begin to see the appeal. Whilst Wilson suggest a minimum amplifier power of 7 Watts, I'm not sure I'd go that far. I think sensible options start at around 100 Watts of solid-state power, about half of that if you are using valves (those big lumps of iron at the outputs

of tube amps do have their uses). It's an operating envelope that embraces any number of affordable, audiophile integrated amps, bringing the real cost of Wilson ownership well within reach of a huge potential audience for whom the brand was previously nothing more than a wishful pipedream. But the real kicker comes with the musical performance. It's no good having a cut-price



Wilson if the sound is cut-price too. The Duette may have started from a different departure point, taking a different route to its goal, but whilst that goal is ultimately shared with the other Wilson speakers, it's made choices and picked up tricks along its own particular developmental path that give it its own distinctive character and presentation. No it can't match the absolute transparency and super revealing qualities of a MAXX2. Nor can it match the various floorstanding systems' sheer dynamic range. But the Duette has tricks of its own and the result is a less extreme view of the musical event and crucially, one that many listeners will find easier to live with.

Listen to the Duette and the first thing that strikes you is just how understated, immediately accessible and downright inviting it sounds. Indeed, it delivers so much simply plonked down straight out of the crate that you might be fooled into thinking that you've struck lucky and leave it at that. But rest assured, this is just your first lesson in the reality of the Duette. This speaker never sounds bad; but don't let that convince you that it ▶

▶ can't sound even better. Nor is set-up the trial of determination and fortitude demanded by other Wilson designs. An experienced practitioner will have the speaker set up and optimized in a few hours – about half of which will have been spent unpacking and assembling them. Still, seemingly small adjustments in position can still elevate the performance from the merely excellent to the truly spectacular. Which is where, as a customer you can happily leave things, sit back and enjoy the results. But as a reviewer, a product like the Duette demands more than that. As well as assessing the way it sounds, you have to look at the why too, which is where this latest Wilson gets so interesting – and challenging.

Sit down and start to dissect the performance of the Duette and certain things should be immediately apparent (I've avoided the term "obvious" because as we'll see, very little that the Duette does can be described as obvious). First will be the way that the speakers simply disappear within the soundfield. Even with hard left-right recordings, the instruments never seem to be lodged in the cabinets, voices don't centre on the cones and the music isn't defined by the plane or the height of the speakers. Hand in hand with that comes the coherence of the soundstage – assuming of course there is one on the recording. Width, depth and height of the acoustic are all clear, as is the relative size and position of instruments within it. Importantly, the scope of that soundstage differs dramatically from one recording to the next, an important aspect when it comes to another Duette strength – scale. These speakers are so invisible, their stage so massive and their

dynamics so surprisingly effortless, that if you shut your eyes and play something full-range like an orchestra, they'll readily fool you into thinking they're much bigger than they are. Indeed, with adequate power (which means just that – not DI

from the national grid) this compact two-way will provide all the scale and impact many listeners will ever need. But the really clever bit is that the scale thing works both ways.

Small, intimate recordings are exactly that, never overblown or out of proportion. Instead, the Duette seems to expand or contract on demand and without apparent compromise; when it's soft it's very soft, but when it's big it's BAD. Play the RCA Soria *Carmen* and the speakers are unphased by this most bombastic of overtures, played I might add, with typically Gallic flair. These are not so much crescendos as orchestral detonations, yet the picture never gets confused or collapses, the space never wavers as the system scales the huge dynamic swings.

The first act opens onto a wide stage, the square in front of the cigarette factory, sleepy and barely peopled. Again, the speakers bridge the difference in scale and presentation utterly effortlessly. Likewise, as the chorus starts to people the stage, everything is held in scale and proportion, a trick these speakers achieve almost unnoticed. So, as easily and deftly as they track *Carmen's* voice, as intimately as they portray her challenge to Don José, they also preserve the privacy of it amidst the

swirl of the chorus and the tolling of the shift-change bell. All of which contributes significantly to the sheer believability and drama of events, the quality that lets you listen to the musical performance itself, rather than the performance of the bits doing the reproducing.

But, if you stop to think about those qualities, interestingly they are all external to the musical performance itself, enabling and presenting rather than comprising it. Try to look inside, to dismantle what is going on and how it's happening and things get much more complex. Let's take a fairly prosaic characteristic like detail as an example. Normally, it's immediately obvious that a speaker is detailed – but not here. Indeed, if you let someone listen to the Duette for a while and then ask them afterwards whether it's a detailed speaker, chances are they'll say something along the lines of, "Not really". Now ask them while it's playing; you can almost see them listen into the music, you probably will see them realise just how much detail there is. The difference is that the speaker isn't firing it at you. It's there all the time – you're just not aware of it unless you think about it and the beauty of the Duette is that that thought never occurs.

Listen to Gillian Welch and David Rawlings performing 'Revelator' (from *Time (The Revelator)* Acony ACNY0103) and you'll hear the two guitars, perfectly separate in space and tone, the images realistically proportioned, the harmonies so beautifully executed, the measured pacing and subtle building of the level and attack in the playing. Nothing stands out, but if you want to follow one part, appreciate perhaps the deft control and constrained power in Rawlings' picking for instance, it's there, just as clear as you like. That dynamic discrimination is what brings this track to life and gives it such power, the balance between Rawlings' attack and Welch's measured strumming. The Duettes allows it full rein delivering ▶



▶ the full, unfettered expressive impact of this raw recording and performance as a result.

Likewise, du Pré's *Elgar Cello Concerto* (the concert performance on Testament) quivers with life and energy, the drama and tension of the playing augmented by the tactile sense of sheer energy in the bowing, both of the solo instrument and the orchestra, especially the basses, but also by the extraneous noises and shuffles of players and audience. Vocal details in familiar songs, the sense of enunciation and the singer working their voice, their relationship to the microphone, these things and more are all there to be heard, but more importantly, to contribute to the sense and life of the performance itself. Those insights into the playing and technique of the performers – even just the effort that they're putting in – bind that performance to reality, breathing life into the recording.

What you are hearing is detail, but detail in the service of the music as opposed to being an end in itself. The result is astonishing musical coherence, built on layers of musical and dynamic nuance, the whole greater than the sum of its parts. Just like real music in fact – which is why the Duette is so instantly and easily gratifying. It's not just detail or dynamic discrimination, harmonic colour or structure, focus and transparency; it's all those and more, bound together into a single, coherent whole. What these speakers get right is the inner balance between all those attributes and the whole they create. Music ebbs and flows with a natural pace, unforced and unrestrained, rhythmically or dynamically. Sure, they don't have the bass depth, texture and power, the sheer impact and astonishing transparency of a MAXX, but within their dynamic envelope (which is far wider than you'd think) they are remarkably satisfying and convincing, and that holds true for the listening seat, walking around the

room or listening from the next room. This is one speaker that doesn't make a fuss or draw attention to itself, it just gets on with the job.

Although the majority of my listening was done on stands and in free space, I also ran the Duettes close to the



wall, and even with one on a stand and one on a shelf. Nothing I did disturbed that inner calm and sense of structure. Sure, you lose some soundstage depth and a little of the space and air around instruments, but the speaker remains entirely recognizable, its essential character and considerable musical strengths preserved intact. I also ran them with a wider than usual set of ancillary equipment, and whilst the Duettes were quick to reveal differences between source components or driving amps, they never allowed those differences to dominate the musical performance. I achieved excellent results with amps as varied as the SQF Pharaoh, the c-j CA200, the Linear Bs, and most memorably of all, the Connoisseur 4-2L SE driving the RADIA or briefly but spectacularly, the Karan KAM 1200s – a truly awesome combination.

Through it all, the Duettes' musical coherence reigned supreme, their sense of natural balance preserved undisturbed. David Wilson has indeed achieved his goal, mating the levels of musical insight demanded by his brand name with a practical package which, if not entirely unconcerned

by the niceties of site and situation, remains musically unimpaired. Under the least promising of conditions their performance is remarkable; optimized and ideally sited it really is spectacular. It might lack the immediately astonishing, stop you in your tracks clarity and precision of something like a WATT, but it offers a more inviting overall coherence in its place – and burgeoning satisfaction as a result. In the Duette we have a speaker system that works on many levels: it is a true Wilson, it is a compact that does scale, that does staging, that does dynamics. Above all, it does music. What we have here, finally, is the little speaker that can.



TECHNICAL SPECIFICATIONS

Type:	Two-way reflex loaded stand or shelf mounted speaker
Driver Complement:	1x 25mm fabric ring radiator 1x 9" paper cone
Sensitivity:	89dB
Impedance:	4 Ohms (3 Ohms minimum)
Bandwidth:	36Hz – 32.5kHz ±3dB
Dimensions (WxHxD):	283 x 467 x 349mm
Weights –	
Duette Speaker:	17.6kg
Novel Crossover:	8.36kg
Finishes:	4x Laquers as standard with 12 further options 4x Grille clothes
Prices –	
Duette Speaker:	£8900
Matching Stand:	£1800

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PLEGA

The Piega TC70X Loudspeaker

by Chris Binns

When it comes to the reproduction of bass frequencies, there has been little or nothing to challenge the superiority of the moving-coil loudspeaker since its invention nigh on one hundred years ago. The task of shifting large amounts of air in a (mostly) musical fashion has been well suited to the collection of magnets, paper and assorted rubbery bits that goes to make up a typical bass driver. But it is a different matter once we start to move up the frequency range; that mass of coils and diaphragms is not well suited to moving back and forth at 20,000 times per second, and the various alternatives that have threatened to out-do the moving coil tweeter have all been about reducing the weight of the moving parts. Enter then the electrostatics, ribbons, piezos and ionic devices that do offer a considerable reduction in the moving mass (and in the case of ionic designs, remove it entirely) and therefore offer potentially more accurate high frequency performance. So why are they not more common? Most of the alternative approaches have serious drawbacks when it comes to actual application (for example, the electrostatic which requires a high voltage power supply) and efficiency figures that make matching to conventional units difficult. And they are expensive to manufacture... Meanwhile moving-coil units get better all the time - particularly the latest wave of designs using exotic materials such as beryllium and diamond.

Ribbons however, are theoretically very simple in their operation. They are also electromagnetic, embodying Fleming's left hand rule, and have even been described as a moving-coil with just one turn. The first commercial unit

was designed by Stanley Kelly in the mid fifties, and was put into production with the help of Decca special products. While expensive, it was a considerable success, mainly because there was little in the way of competition from moving-coil tweeters, and source material at the time was only just beginning to explore frequencies above 12kHz



Although relatively unknown in the UK, Piega have been in existence now for twenty years, during which time the company has always been an advocate of ribbon technology for superior high frequency reproduction. The challenge was to bring those benefits to lower frequencies. Rather than utilising a larger ribbon and possibly compromising the upper range, Piega looked to develop a concentric unit with a midrange ribbon surrounding the small HIF one. This should effectively offer a point source that gets larger as the frequency goes down,

offering considerable benefits in terms of dispersion and spatial accuracy.

And so to the TC70, where two Scanspeak bass drivers complement the C2 mid/treble unit in a cabinet that is constructed from an MDF carcass shrouded by 6mm aluminium. The 180mm 'Revelator' units utilise the now familiar 'slit' cone to reduce standing waves in the diaphragm, and Piega make a big deal about MOM technology; this stands for magnetic optimised motor, and they claim that as a result 'it has been possible to increase the transient properties of bass loudspeakers for the first time' making it a better match for the ribbon system. The crossover utilises high quality components in a fourth order design (crossover points are unspecified but at a guess the ribbon goes down to about 450 - 500 Hz and cuts off sharply, the bass drivers seem to roll in with a more gentle slope) and is designed for bi-wiring. Both top and mid ribbons are direct coupled to the crossover without the use of a transformer. The cabinet shell (a U section) is extruded in one piece, while the front panel is machined to allow the drivers to screw to the MDF within. It also forms the front plate of the reflex port; a rectangular tube is created at right angles by an internal baffle. The perforated steel grille clips neatly into recesses between the front panel and the U section, and is available in a number of different finishes, while the aluminium of the cabinet has a natural 'brushed' texture. The cabinet is tapered toward the back and together with the metal presentation is both striking and elegant and gets an enthusiastic thumbs up from this household. The general standard of construction, fit and finish is excellent. ▶

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Comments from CES 2006:

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SM-101 Highlighted as Showstopper – Focus Audio suite highlighted as standout demo by Doug Schneider:

It's easy to hear why Focus Audio decided to become the North American distributor of Vitus Audio electronics: life-sized scale, robust dynamics and a beautifully fleshed out midrange summed up the sound of Focus Audio's Master 3 floorstanders matched with Vitus Audio's monstrous SM-101 mono amplifiers. Vitus Audio-designed interconnects and speaker cables were also used

www.stereotimes.com

Highlighted as "The best of the best" by Dave Thomas:

This is the third year that I have enjoyed the offerings of Hans-Ole Vitus. His products are among the best built and best sounding that I have ever seen or heard. Build quality borders on fanatical and the sonics are superb. Partnering with Vitus at CES for the first time was Focus Audio (the new distributor for Vitus). The system featured new Focus Audio loudspeakers, the dCS P8i SACD player, and prototype cables created by former Argento cable designer Anders Grove. The beauty of this gear must be seen to be believed.

NEWS! – Setting the new standard in cables by introducing our new cables series "Andromeda"

▶ Partnering equipment consisted of a Linn/Ekos with Lyra Helikon SL and Densen 400XS for sources, while amplification was provided by the Naim NAP 300 or a Cyrus pre-power combination, the latter having left RG much impressed at the Munich show. Cabling used was Nordost Valhalla, or Valkyra where bi-wiring was required.

From the first tentative moments with the Piegas (the speakers having been given a good run-in by the distributor) two things were very obvious. There was something special going on with the mid and top, accompanied (and severely threatened) by a horrific din at the bottom end. To put it bluntly, it sounded as if a sub-woofer had been left in the room and turned up to maximum. A friend of mine who witnessed these early sessions commented that any seventeen year old kid would have been mightily proud to have that kind of noise coming out of a Ford Escort... At this stage I had paid no attention to fine tuning the system and thus began the challenge of extracting the best from the TC70s.

Substituting the supplied feet with spikes proved a step in the right direction, while firing up the Cyrus system offered something of a known quantity with which to experiment. Basic measurements backed up my observations by highlighting a hump in the bass response at around 80-100Hz; there followed a considerable amount of time spent positioning the loudspeakers, first of all with relatively small adjustments around the normal listening area, and then a complete reversal of the whole room – and back again; all with disappointingly little improvement. Further investigation revealed a lot of energy emanating from the ports, which got worse as the volume went up. In a rash move I stuffed them (scientifically, you understand) with some handy tea towels. Dignified?

No. Effective? Highly. I realise it may seem rather crude, but it solved the problem more or less completely and enabled me to get on with the job of evaluating the performance of the Piegas's.

Which is, as I hinted earlier, really quite exceptional in some areas. With a bass response that was now considerably more even, the true qualities of



the TC70 could shine through. There was a directness to the presentation, particularly with the mid and top, that was reminiscent of a good horn system, but with no hint of colouration or 'quackiness' ...fast with incredible transients and very, very detailed. Quite often this precision, together with the ability to lay bare the threads and sounds that constitute a piece of music comes with a compromise; a lack of musicality. By offering all the constituent parts up to the listener

it is almost as if a process of dissection has occurred, and the music is never successfully sewn back together.

This is not the case with the Piegas where you can have your cake and eat it. There was all this wonderful detail, but portrayed in a way that enriched the listening experience rather than being a distraction or overly academic. The leading edges



of voices and instruments were beautifully expressed, followed by a truthful portrayal of the timbre and colour of the note, with an extension that just seemed to go up and up with none of the papery, wispy quality that occasionally afflicts even electrostatics. The space and ambience of recordings was also very evident, while all sorts of studio trickery and processing became blatantly obvious, although not to the detriment of the music. ▶

When a ribbon is not a ribbon...

There has always been a certain amount of confusion when it comes to ribbon drivers; by definition they consist of a single conductor suspended in a magnetic field, and it is this conductor that radiates sound. Practically speaking, this will take the form of a 'ribbon' of lightweight metal (such as aluminium) which is sometimes corrugated to aid movement, and can be a single strip as in the Kelly design, or formed from a sheet with slots cut out to form a longer path with greater surface area for lower frequency response, such as the Apogee panels.

A planar driver on the other hand, consists of a diaphragm or membrane that has a conductor applied or etched onto its surface, and although it might behave in a similar fashion is not quite the same thing, as there are weight considerations alongside the sonic character of the membrane itself. Examples of these are the Magneplanars, Infinity EMIT tweeters and various units manufactured by Japanese OEM suppliers such as Tonogon and Foster. However, the application of a voice coil does mean that the electrical resistance of the unit can be made a little more realistic; a ribbon by its very nature will have a low impedance, and a lot of designs used a transformer to step this value up. And then there were the full range Apogee designs that were so popular in the eighties, but that is altogether another story...

▶ Once properly set up and with the ports stuffed, the Piegas offer an extensive, stable, solid and convincing soundstage, and even way off axis the music remained totally detached from the loudspeakers. This indicates just how well Piega have managed the tonal and phase integration of the different drivers. Extension at the bottom goes down to just below 30 Hz or so, but lacks the dynamic definition that graces the mid and top. Bearing in mind the issues that I had with the bass performance I know that I am on shaky ground here, but there were occasions when the bass units did not quite have the required speed to keep

up with the ribbons, particularly noticeable when playing a track that relied upon a rhythmic 'kick' to maintain the timing and flow of the music.

The TC70s seemed pretty comfortable at most listening levels, remained satisfying at low volumes while being able to preserve musical dynamics when wound up. Thus I got just as much enjoyment from listening to Segovia, where the portrayal of the guitar was truly exceptional, as I did from playing the monstrous drumming from Peter Gabriel's *Passion*.



The difficult, complex patterns and sheer density of instruments was unravelled in a way that I have rarely heard – and held together remarkably well, even at quite antisocial levels. Ultimately, while the Piega axial unit is capable of state of the art results through the mid and treble, overall performance was held back by a merely 'good' result in the lower registers, which I felt were not tight enough to do justice to the ribbons,

lacking slightly in the crucial areas of speed, timing and pitch definition.

This is in many ways an awesome loudspeaker. I confess that it is difficult for me to be authoritative on the subject of that bottom end and there are a number of questions that remain unanswered: was this purely a case of poor room compatibility or did the circumstances highlight a poorly engineered reflex port? Certainly, I'd love to experiment with some damping on the port's thin front wall. After all,

I have used many larger loudspeaker systems (the Revel Salon and B&W 800 series come to mind) without similar problems, maybe this was just a case of bad luck. Even so, I thoroughly enjoyed the Piega's, their incredible strengths overshadowing their flaw. Their potential is such that if you are looking at loudspeakers of this quality and price, you really should listen for yourself, in the context of your own room and system, and discover just how good they are. ➤

TECHNICAL SPECIFICATIONS

Type:	Ribbon hybrid reflex loaded loudspeaker
Drive Unit Complement:	2x Seaspeak 180mm bass units 1x Piega C2 co-axial ribbon mid-treble unit
Sensitivity:	92db
Impedance:	4 Ohm
Bandwidth(Hz):	28 Hz – 50kHz ±3dB
Dimensions (WxHxD):	260 x 1020 x 290mm
Weight:	35 Kg ca.
Price:	£8000

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Phone : +65 735 1718
Fax : +65 6732-1684

Japan :
Audio Reference
Phone : +42 574 3185
audioref@d6.dion.ne.jp

Korea :
InBest Korea
Phone: 82-31-932-0606
jerome@inbestkorea.com

United States:
TMH Audio
Phone: 937-439-2667
info@tmhaudio.com

France & Belgium :
In Legato Audio
Phone : +33 6 61 52 61 89
info@inlegato.com

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The Meridian DSP8000 Interactive Loudspeaker System

by Roy Gregory

Outside of the bass loading on loudspeakers, there are relatively few existing companies who can lay claim to originating an entire product category or genre. Acoustic Research invented the three-point suspended sub-chassis turntable, but they're long gone (at least in any recognisable form) and their once-dominant table design looks like following them. I guess Sony and Philips can lay claim to – or admit responsibility for – CD, depending on your point of view. Beyond that, there are precious few candidates, but one is Meridian. Their original M1 loudspeaker was the first domestically available interactive (their term) loudspeaker, at least as far as I'm aware. But, to understand the interactive concept, first you need a grasp of the basics when it comes to active operation, as well as the practical issues it entails.

In hi-fi terms, an active system is one in which the output stage of the amplifier is directly connected to the drivers in the loudspeakers. It is interesting to note therefore, that any single-driver loudspeaker is de facto active in operation. Indeed, it's those very tactile, communicative, immediate qualities to which both MC and PM refer in this issue's single-driver feature that make active operation so attractive. They come from that close coupling of amplifier to driver and the control that results. But read about or listen to those single driver speakers and you will soon become aware of their bandwidth limitations. It was the search for extra bandwidth that led to the development of multi-way designs and deliver increased range they did – at the expense of a filter network designed

to integrate their outputs. That may not seem like that big a deal, except that it sits between the amplifier's output and the drive units. Also, being passive in nature, it's also subtractive, so that the only way in which it can match output levels is by reducing everything to the lowest common denominator.



It's a bit like hitting a snooker ball with a cue; active operation gives you nice, direct contact between your hand and the ball, the energy directly coupled by the stick, whereas introducing a passive crossover is a bit like putting a six-inch, floppy rubber rod in the middle of the cue! You lose the direct coupling and all the life, control and immediacy that goes with it.

Of course, you can build a better crossover – or you can do without. In a multi-way active system, the designer uses a separate amplifier channel for each driver, splitting the signal with an active, electronic filter positioned after the crossover. Whilst you still have a filter, it's no longer subtractive or placed between output stage and drivers. In fact, being electronic it can be additive, allowing you to compensate for (or

equalise) a driver's output. This is the way most sub-woofers work, countering the natural roll-off of the driver with additional power and thus output at low frequencies. Match the mechanical roll-off to the power boost and hey-presto, it's a flat frequency response.

With all these benefits, why aren't more speakers and systems driven actively? Because, like everything else, active operation has its downsides too. The most obvious is cost, with the customer having to shell out for all those extra amplifiers, cables and an electronic crossover – and then accommodate them. Unless you come from the penis extension school of hi-fi (the one with the most boxes wins) the domestic impact is potentially more serious even than the financial one. But less obvious, and in performance terms more critical, are the sonic demands placed on the electronic crossover. Sat between the pre-amp and the power amps, this operates at line-level, and if you don't want it to musically choke the system, it better be at least as good as the pre-amp in terms of sonic quality. Now consider how many really decent pre-amps there are out there (and what they cost) and you start to appreciate the problem. In order to work properly, any active system must be developed as a dedicated package of electronics and speakers. In other words we're looking for a designer who is equally adept at building pre and power amps as well as loudspeakers. Either that or a single company who possesses that pool ▶

▶ of talent or (even less likely) two companies that are prepared to cooperate. In fact, it's the latter scenario that has produced some of the more popular active systems from Linn and Naim, but although both companies continue to offer their own versions of the approach, they're becoming less and less common in the market place. Unfortunately, there's no way of escaping the fact that bolt-on active packages tend to be extremely expensive and physically inelegant.

Which brings us to Meridian and its interactive concept. The essence is simplicity itself; put everything in one box and you get over the problems of cost and complexity. After all, the most expensive part of any amplifier is the casework. Build the amps and cross-over into the speaker cabinet and you eliminate that cost immediately, as well as removing all those electronics from sight. What's more, by fully integrating the system you can truly exploit its advantages. Placing the amps right behind the drivers means that you hard-wire everything with the shortest possible signal paths, eliminating both the cost and the influence of the cables. But most tellingly of all, the fact that the speaker itself will never have to perform as a passive system means that the bass can be equalised from day one, allowing far greater bandwidth from a much smaller box – even allowing for all the electronics inside.

Meridian's first interactive speaker was the flagship M1, but the concept really reached fruition with the compact and elegant M2/M20 (reviewed in Issue 30). This stylish, svelte stand-mount was years ahead of its time, its slim baffle and D'Appolito driver array (long before Mr D'Appolito had claimed the innovation for himself) harbingers of things to come. But its diminutive dimensions combined with the simple

elegance of the tiny 101 pre-amp set an aesthetic standard that has seldom been exceeded.

As the years passed, Meridian added the two-way M3 to the range and totally redesigned the M1 into the sophisticated point-source array represented by the M10. The 20 and 30 duly followed, allowing user adjustment of bass equalisation and roll-off on the cheaper speakers, familiar from sub-woofers these days but revolutionary at the time.



The next steps in the evolution of

the interactive concept saw it following rather than setting the fashion. First came floor-standing cabinets, for all the same reasons that these now dominate the market. But the real step-change came with the advent of digital technology. Meridian were one of the first high-end companies to take CD seriously, launching the MCD player, followed by the MCD Pro with its

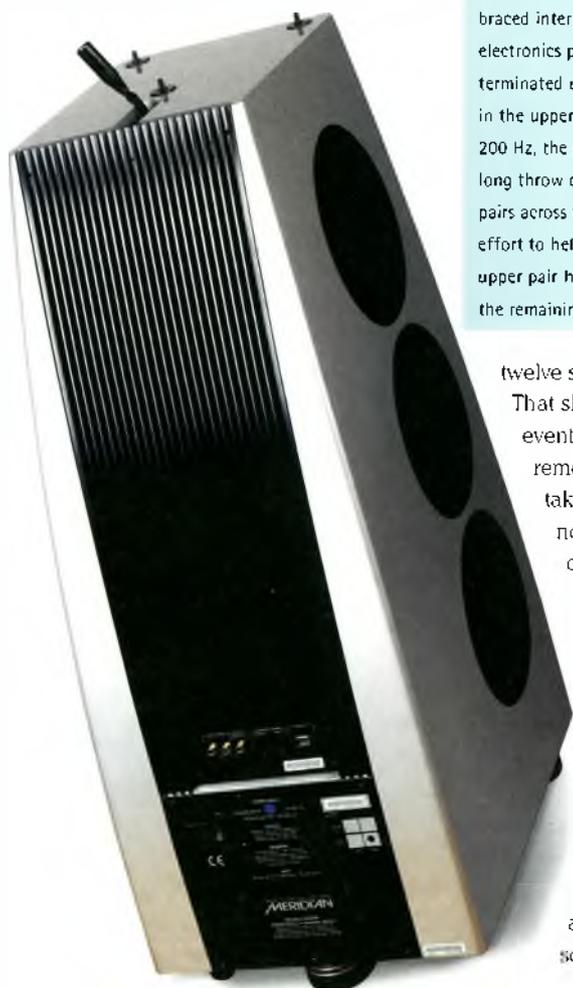
enlarged chassis housing an external DAC and additional power supplies. From there it was just a short step to incorporating digital electronics within the speakers. After all, it enables the designer to extend the concept one stage further, incorporating the pre-amp and control functions within the speaker itself, not to mention signal processing and the sophisticated room adaptation and placement options offered by DSP technology.

The first Meridian digital loudspeaker was the short-lived D600, but this was rapidly overtaken by the far more sophisticated DSP5000, the template for all subsequent Meridian digital, interactive designs. The spiritual successor to the M2, it is also the most affordable and successful model in the range. Above it came the larger DSP5300, and the flagship DSP6000 and their successors, the aesthetically and sonically much improved DSP7000 and the top of the line DSP8000 reviewed here.

The beauty of (and the problem with) a digital interactive loudspeaker is that it accepts only digital signals. That's great if you only want to listen to CD; get yourself a transport, use the supplied digital leads and you've got one serious three-box system. Adding anything more than a DAB tuner or a DVD player to the mix demands some form of digital pre-amp, while a turntable will need an A to D converter! Naturally, Meridian are happy to supply all the necessary hardware, and many of their speakers find their way into multi-channel and multi-room set-ups where their unique qualities offer significant benefits, not the least of which is their interconnectivity, meaning that the source components can all be locked away out of sight while the system is "driven" through one of the speakers. However, for this review I was more interested in the speakers' absolute capabilities rather than

their command and control versatility. So saying, we arranged to review a single stereo pair, eschewing even the matching DVD transport. There is a dedicated CD transport which offers superior performance, but it was only just becoming available as the review period came to a close, so I relied on either the Wadia 861SE or the Aurum Acoustics Integris CDP to perform transport duties.

Even so it was hard not to be impressed by the speakers' operational flexibility. The matching MSR+ remote control allows you to access all the control functions necessary to run a multi-source system. The source select buttons on the handset are even moveable so that you can choose their identity and order from amongst the 12 standard ones fitted when the unit arrives, and the



What's In The Box(es)?

Having made such a point about the interactive approach allowing smaller systems with lower levels of domestic impact, it's ironic that the DSP8000 is both large and visually striking, although it is also undeniably elegant. Still, such an ostentatious exterior is forgivable, even expected, in a flagship product. After the blocky asymmetry of the DSP6000 (one of designer Alan Boothroyd's few false steps) the tapered and curved profile of the 8000 is a model of powerful elegance.

This is a complex system, consisting of a lower, bass and electronics cabinet and a separate, spike decoupled head unit. The midrange and treble are handled by a 160mm polypropylene cone and a 25mm aluminium dome respectively, the latter silver wired. The compact sub-enclosure is constructed from pressure curved and laminated birch ply and despite its diminutive dimensions is heavily braced internally. It is joined to the electronics package by a four-pin XLR terminated umbilical that is housed in a slot in the upper face of the bass cabinet. Below 200 Hz, the signal is handled by six 200mm long throw drivers, horizontally disposed in pairs across the plywood enclosure in an effort to help cancel mechanical forces. The upper pair handle the range down to 80Hz, the remaining four taking over below that

and extending the output down to an in room -3dB point at 20Hz, making this is genuine, four-way, full-range system. The electronics package is built onto a curved heat-sink that constitutes the rear face of the bass cabinet, and is housed in a separate internal enclosure. The speakers accept an SPDIF input (two are available) and control, signal processing and crossover functions are handled by twin 100MHz micro-processors and Motorola DSP56362 chips before four 24bit 128x oversampling DACs convert the split signals to analogue and routes them to the five individual 100Watt amplifiers. As well as the IEC power input there's also a 5-pin Din socket labelled Meridian Comms, that enables the elements within an all Meridian system to speak to each other and coordinate their efforts.

The whole lot sits on a trio of beautifully constructed adjustable feet that can be fitted with spikes or skates, depending on the surface (just make sure the spikes are fully retracted if going with the latter). Additional rubber bumpers ensure that the tall speakers can't inadvertently topple over, their 105kg mass being perfectly capable of crushing incautious toddlers. The end result is a potent system capable of 118dB peaks on music material - remarkable given its relatively compact dimensions, concurs standards of finish and graceful appearance.

twelve spares that come with it. That should cover just about any eventuality! It's also a learning remote, meaning that it will take on the commands from non-Meridian units (satellite, cable etc). Meanwhile, nice legible displays on the front of each speaker let you know what you're actually doing.

Besides the basic control functions the MSR+ also allows you to configure the system (how many speakers, zones, start-up source etc) as well as operate the sophisticated DSP driven

tone and balance controls. Once you have command of the time domain you can literally tilt or angle the listening plane relative to the listener, a far cry from the level dependant balance controls of yore. I also found the tilt control invaluable in optimising the listening axis for my lowish listening seat. Frankly, this description only chips the surface of what a full-blown Meridian set-up can do, but demonstrates how, even in a simple three-box scenario, the control afforded by the onboard DSP can prove useful. As a result, set-up becomes a matter of optimising the speaker for its position - rather than the other way round. With a firm grasp of ideal placement within my room, and ▶

▶ no domestic limitations, placing the DSP8000s was a breeze. The only deviations from standard (apart from the application of tilt as mentioned) were the substitution of Nordost mains leads and Chord CoDac interconnects for the standard items. Both offered significant benefits, to the extent that upgraded SPDIF leads in particular should be considered an essential upgrade. The CoDacs, hardly pricy in the context of this system, delivered an astonishing increase in dynamic range, clarity, transparency and impact, unfettering the speakers' performance as effectively as the standard leads choked it. With the improved leads in place, the Meridians started deliver on the active promise.

Generally of course, trying to attribute value to an active system becomes a bizarre game of equivalence as you try to assemble passive alternatives of comparable cost, allowing an indeterminate loading along the way for the flexibility incorporated into the system. Fortunately, I'm not saddled with any such imposition; all I'm interested in is the absolute sonic performance – I'll leave it to potential

purchasers to assess the relevance of the versatility and adjustability to their particular needs and environment. Because one thing's for sure; the DSP8000s deliver one hell of a bang for your buck.

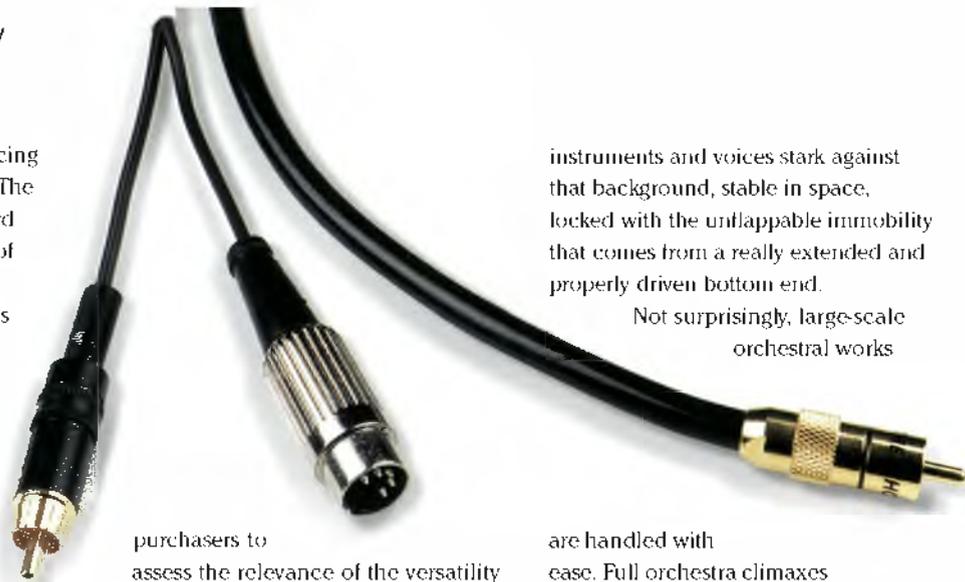
As soon as you play these speakers it's immediately apparent that they run full range. The precise, throbbing bass lines that underpin The The's *Mind Bomb* are wonderfully precise, full of shape and pitch perfect. Never confused by the drum beats, each note floats on the cushion of air that lets you hear beneath it and renders its pitch and tuning so apparent. The old adage about following bass lines simply doesn't apply; they're so clearly defined that no effort is required. Likewise, the huge soundfield that opens 'Kingdom Of Rain' expands way beyond the speakers, the weather effects beautifully layered in depth and height, the

instruments and voices stark against that background, stable in space, locked with the unflappable immobility that comes from a really extended and properly driven bottom end.

Not surprisingly, large-scale orchestral works

are handled with ease. Full orchestra climaxes once again demonstrate the stability and lack of congestion that accrues from the 8000s' active operation. In conventional systems, all too often a fortissimo bass passage will place such demands on the amplification that the mid-band will congest and the acoustic collapse. By separating the responsibilities between five different amplifiers and two distinct power supplies the Meridians delay the onset of dynamic collapse significantly, that headroom allowing realistic levels across a far wider range of material than all but the most powerful or efficient conventional systems. The full band-width coupled to the lack of any intrusive, dominant character naturally also contributes to that broad repertoire, making you realise just how limiting smaller scale systems can be when it comes to your choice of listening. The sheer body, substance and presence of Jacqueline du Pré's cello as she plays the Bach *Suites* is breathtaking.

It's also at this smaller end of the musical spectrum that the Meridian's limitations are more readily apparent, and where small systems get their own back. Whilst the 8000s can change scale easily enough, the immediacy and intimacy that comes from the very best systems escapes them. They never quite banish that gap between you and a solo acoustic performer, placing you in the control room rather than on the soundstage, looking in rather than ▶



Where next for interactive speakers?

Just as Meridian were quick to board both the digital and multi-channel technological bandwagons, hitching them firmly to their existing approaches and technology, they are firmly at the forefront of current digital development. Their well publicised invention of the MLP (Meridian Lossless Packaging) compression system illustrates the level at which they operate in the digital domain and opens the way for the next generation of multi-room and multi-channel systems. With the emergence of increased data rates and wi-fi transmission, it is only a matter of time before

wireless routing options finally reach the audio world. Such technology will finally allow interior designers to run an entire, building wide entertainment or information system from a single server, banishing signal cables once and for all. At that point, the real appeal of a DSP controlled interactive loudspeaker becomes clear. Suddenly, multiple or remote installations need nothing more than mains at each place you'll be placing a speaker, while the DSP capability will enable sophisticated compensation for less than ideal placement. Audio really will become out of site and out of mind. Perhaps the B&O analogy isn't so fanciful after all...

▶ inhabiting the same acoustic space.

As such, reverting to the synth slabs and stark contrasts of Nils Petter Molvaer's *Khmer* sees them settle back into their natural stride, the huge scale and brooding power a currency with which they are far more familiar. Likewise, the Elgar and Dvorak *Cello Concertos* demonstrate the Meridians' effortless ability to sustain the balance between soloist and orchestra, while opera recordings are simply stunning.

Where this leaves the DSP8000 in audiophile terms is an interesting question. Musically versatile and especially rewarding on medium to large-scale works, they go loud without fuss or strain and maintain their dynamic envelope at lower levels in a way that the DSP6000 notably didn't. This is by far the best Meridian system I've used, but is that enough? For the dedicated enthusiast I suspect that the answer to that is no, although not because of sonic shortcomings. Indeed, by their very nature I suspect that the 8000s will



comfortably better the sonic achievements of many a potentially superior system on the grounds of set up and installation alone. In this instance the hurdle isn't sonic as much as psychological; interactive loudspeakers lock you in, with no ability to juggle amps or cables in pursuit of interim "upgrades".

Market research...

Completing the review coincided with my next-door neighbour's 25th wedding anniversary and a not so secret party organised by daughter Emma. Just one problem; no sounds. The parents' regulation issue midi-system was suffering a regulation failure to read discs. What better opportunity, I thought, to let the Meridians strut their stuff – in front of a whole house full of 50-something professionals at the peak of their earning powers and recently divested of offspring. The DSP8000s were duly humped across the intervening space and installed in the front room, where they were stayed, along with the remote, for the duration.

At first, guests were a little in awe of the strange, man-sized visitors stood in the corners, but left to their own devices they rapidly

worked out that they were very good and capable of going unbelievably loud. When I left, they were still going strong after around six hours of constant hamvertime. Collected the next day they displayed not so much as a glass ring on their lacquered surfaces to betray a hard night's labour. (I'm not so sure that the same can be said of the assembled populace who, faced with a system shorn of the normal massive levels of distortion that make it seem loud, were only now discovering what "really loud" actually means.)

So, did anyone actually put their hand in their pocket and order a pair? That would have been expecting a little much, but the reaction, from men and women alike was universally positive – even besotted. This was a toy they could understand, share and yes, they'd really, really like a pair!

It's an all or nothing approach that flies in the face of *audiophilia nervosa* – a complaint that single handedly explains why so many expensive systems sound so bad.

A genuinely impressive full-range performer, the Meridian DSP8000 can hold its sonic head up high – safe in the knowledge that those who own it will be more than satisfied with its considerable performance. Those who don't might well describe it as, "B&O for those who actually care about the sound". Strange as it might seem, I think that Meridian themselves would be rather pleased by that balance of responses, encapsulating as they do the versatility, stunning visual design and musical virtues of the product. 

TECHNICAL SPECIFICATIONS

Type:	Four-way, digital interactive loudspeaker system
Driver Complement:	1x 25mm silver wired, aluminium dome 1x 160mm polypropylene cone 6x 200mm doped paper bass units
Amplification:	5x 100 Watts
Input:	SPDIF, 24bit 32-96kHz (a future upgrade will support 192kHz signals)
Bandwidth:	20Hz – 20kHz ±3dB
Dimensions (WxHxD):	400 x 1350 x 528mm
Weight:	105kg
Finishes:	Various gloss lacquers
Price:	Black or Silver £28750

Manufacturer:
Meridian Audio Ltd
Tel. (44)(0)1480 445678
Net. www.meridian-audio.com



The Dali Ikon 6 Loudspeaker

by Paul Messenger

To name a speaker brand after a deceased self-publicising surrealist might seem a strange decision, even for a Danish company. In fact the name Dali is an acronym for Danish Audiophile Loudspeaker Industries (or presumably the Danish translation thereof), which certainly makes rather more sense. UK distribution has been a little spasmodic down the years, in part perhaps because the brand started out allied to Peter Lyngdorf's Scandinavian hi-fi retail chain Audio Nord. Although Peter retains a financial interest in Dali, the company is entirely responsible for its own destiny these days, and this is probably one reason why it's keen to succeed in export markets like the UK.

Launched during 2005, the Ikons are a relatively new addition to Dali's several ranges. The key to the range is the use of vinyl woodprint enclosures to keep prices modest, while the drive unit complement is quite advanced, promising fine sonic value for money. This \$899/pair Ikon 6 was the first of the range to appear. One of five stereo pairs in the Ikon line-up, it's the middle model of three floorstanders, combining a pair of 6.5-inch bass/mid drivers with Dali's proprietary dome/ribbon treble module.

In fact a very similar driver configuration may be found in two earlier and significantly more costly Dali models. In 2002 I reviewed a Euphonia MS4, which cost \$4,200 and weighed 35kg; in 2004 I did the \$3,200 32kg Helicon 400. In which context this 18.6kg \$899 Ikon 6 looks like a remarkably good deal. Logic would suggest that at some stage in the not too distant future there'll be a real-wood, beefed-up 'Super Ikon 6' at \$1,500 - \$2,000.

Enough speculation. The Ikon 6 is here and now, and it looks like a lot of

high-class speaker at a relatively inexpensive price. A year ago I reviewed the slightly larger Ikon 7 for another magazine. It costs an extra \$100, stands 14cm taller, has an extra bass-only drive unit, and turned out to be an excellent all round package. The Ikon 6 is bound to be remarkably similar, since it used most of the same ingredients.

The four-driver front panel looks both impressive and complex, though don't be misled, as the core of this design is actually a relatively simple two-way at heart, albeit with a couple of extra 'half-ways' tacked on to help out at the frequency extremes.

Though purposeful enough, it isn't, in truth, the prettiest speaker around. The box is square-edged all round, with vinyl woodprint covering all but the silver-painted front, and some internal bracing. Our samples came in a new black ash woodprint, though light oak and light walnut are less sombre alternatives. They also came with rather inadequate packaging, which had already deteriorated markedly after being unpacked and repacked for photography.

However, the cash has not gone into prettying up the cosmetics here, but rather into maximising the engineering performance. Unusually for a large vinyl-covered box, the front panel

is constructed as a sandwich of two layers of MDF bonded by a lossy glue that affords some damping, and incidentally also facilitating the flush-mounting of the drivers. A cutaway on the website shows that the insides are reinforced by two cross-braces between the sides, and lightly lined by damping material. Hefty twin terminal pairs supply signal to a hardwired cross-over network mounted on separated fibreboard sections. Cast alloy feet provide secure spike fixing and extend the stability of the footprint to good effect.

The bass and midrange are handled by two apparently identical 6.5-inch (165mm) cast frame units, equipped with dish-shaped diaphragms, 115mm in diameter and made from a combination of wood fibres and paper pulp. The lower one only operates through the bass and lower midrange, rolling off above 800Hz, while the uppermost one handles both bass and midrange duties up to 3.2kHz. The latter then crosses over to Dali's proprietary 'hybrid tweeter module'. Similar to those found in the company's more upmarket models, though obviously manufactured to tighter cost constraints, this combines in one unit a 28mm fabric dome tweeter that starts operating around 3.2kHz, plus a 17x45mm ribbon unit that comes in at around 14kHz. The advantage ►



▶ of the extra ribbon unit, at least in theory, is that it should maintain wide dispersion and power response to beyond the limits of human hearing.

If the engineering content looks impressive, that's even more true of the measured performance. Measurements don't define whether a speaker will



sound good or not by any means, but they do provide

important indicators to whether a designer has done a good job or not, and that's certainly true of the Ikon 6. A sensitivity of 91.5dB is claimed, and although to I'd split hairs by knocking off the 0.5, this is still a very generous figure, especially alongside a confirmed 6ohm impedance. This speaker should be very easy to drive, even with modestly powered amplification.

No less impressive is the fact that the far-field averaged in-room response stays within +/-4dB right across the whole audio band, and is relatively smooth and even for the most part too. The most obvious exception is a peak centred on 1kHz which is bound to

add a little emphasis to diction. While the treble proper is beautifully smooth and extended, it's also rather stronger than average, which will deliver strong fine detail but might not suit all tastes and systems.

A good size speaker such as this can be expected to deliver a generous, lively sound when placed clear of walls, and that was certainly true of the Ikon 6. In-room measurements indicated that the speaker is best kept about a metre out from the nearest walls to give the smoothest bass delivery, though the bass alignment is dry enough to permit the speakers to be placed closer to a wall behind if domestic circumstances demand. Indeed, when measured under far-field in-room conditions, the bass holds within remarkably tight +/-3.5dB limits all the way down to 20Hz.

Unlike many large and relatively inexpensive speakers, however, it also shows superior transparency and delicacy, and a lovely coherence, perhaps reflecting the fact that this is fundamentally a simple two-way, despite the extras added towards the bandwidth extremes. There are obvious similarities to Dali's more costly and luxurious Helicon 400, and one could say that this Ikon 6 offers a very healthy proportion of the Helicon's performance at a very much lower cost. The sound does lack some of the smooth sophistication of its older sibling, and you don't get the lacquered wood finish or the cunning shape. But from a value for money perspective the Ikon 6 is an obvious front-runner.

Criticisms are minor. That bright

treble is also impeccably smooth and sweet, bringing an attractive openness to both spoken and sung voice reproduction, but because it's also quite strong the sound has a coolness and a slightly clinical character. This is compounded by that modest upper mid-band peak which tends to exaggerate detail somewhat, but can sound a touch edgy with it – Tom Waits' less than velvet tones seemed even more guttural than usual, but it was also that much easier to hear what he was singing about.

While this speaker might not possess the authority and transparency of genuine high end models, it's unquestionably one of the best sounding and most communicative speakers at anywhere near its relatively modest price, and represents stiff competition for much more costly alternatives.



TECHNICAL SPECIFICATIONS

Type:	Two and a half way reflex loaded
Drivers –	
Hybrid tweeter:	HF – 28mm textile dome EHF – 17x45mm ribbon
Low-frequency drivers:	2x165mm wood fibre cone
Reflex tuning:	36Hz
Bandwidth:	37Hz – 30kHz, ±3dB
Sensitivity:	91.5 dB
Nominal impedance:	6 ohms
Maximum SPL:	111dB
Crossover frequencies:	800Hz/3.2kHz/14kHz
Dimensions (WxHxD):	190x1000x330mm
Weight:	18.6kg
Finishes:	Vinyl woodprint (Light Oak, Light Walnut, Black Ash)
Price:	£899

UK Distributor:

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The Naim CD 555 CD Player

by Chris Thomas

It's a frightening thought to realise that I bought my first Naim amplifier – you could say my first serious hi-fi system – no less than 30 years ago. Since then I have used, written about and sold lots of Naim equipment and watched the company change, evolve and grow. Many of my most memorable musical evenings have been spent in the company of good friends and black boxes from Salisbury. During this time I have also used Naim products with many other components, with varying degrees of success. But one constant has been my taste for their top CD players and I have owned them all. I have also had a lot of experience with high-end players from other manufacturers, some of which have given me different insights and emotional moments of musical connection. But there is something about the way that Naim players string the music together that transcends their undoubted beat-to-beat rhythmic focus. For me they consistently connect on a very fundamental level, giving a view of the passage of music through time that feels right.

There are players that have bettered my CDS 3 in almost every individual area of performance, and some that offer an almost forensic dissemination of the music into component form which, while intriguing to the musician in me, has never been satisfying to my soul. I guess we all end up with the system that works best with the music we love to listen to. The problem is that there is a lot of very fine equipment out there but system synergy, on which the Naim business has been built, can be a ruthless taskmaster. Naim and their agents have always offered an incestuous system approach with a

prescriptive upgrade path for every situation that, as well as being very lucrative for the company, really does work. This takes the risk out of the equation and that is the real beauty for Naim lovers. They don't need to agonise over which direction to take or which cable to buy and often Naim devotees will spend thousands to achieve their upgrade without even listening to it first.

Following Naim's traditional approach, this is a two-box player that separates the transport and DACs from the power supply. Both boxes are rather dour looking but immensely rigid, weighty constructions with machined-from-solid sections all round. Naim have never subscribed to the separate DAC philosophy, preferring to isolate the muscle end of things and maintain as short a path as possible

between the transport and converters. In both the 555 and the PS 555 they have really gone that extra mile in an effort to isolate each individual section, both electronically and physically. There are high-mass brass suspension plates beneath the main digital

decoding PCB and power PCB as well as the analogue filtering and power boards. At the heart is the Phillips VAM 1234 CDM Pro2M transport mechanism, which is also mounted, in a heavy frame to enhance its stability. It sits beneath the player's most obvious external feature,

the motorised transport door which is a heavyweight alloy affair, counter-balanced internally at the rear with a tungsten weight. Cosmetics are obviously a matter of personal taste and although this addition certainly reinforces the fact that this is an expensive player, I don't find it the 555's most attractive feature. It is however impressively swish in operation. Discs are held in place by a magnetic puck, a lightweight alloy, trimagnet design. But, where other Naim players physically connect the puck, ensuring that it sits centrally upon the spindle and disc, this one has no such mechanical link. In fact, it can be moved several millimetres in any direction.

The disc itself is centred by the transport hub, but the chances of the puck being so are virtually nil. I can't help wondering about the sonic impact of such imprecision.

Two Bury leads, one for analogue and one for digital, connect the power supply to the transport, while the analogue outputs are via both a pair of WBT phono sockets and a 5-pin Din. Usually I would have chosen to use the RCA outputs but, with the advent of both the new Din "air" plug and the Hi-Line interconnect lead, I felt that I should stick as close as possible to Naim's preferred option, so they made me a 5-pin Din to two phono Hi-Line lead. Although I was initially slightly concerned at the fairness to Naim in breaking my Nordost continuum, I need not have worried as the Hi-Line slotted in effortlessly. After a couple of days I just accepted it completely. ▶



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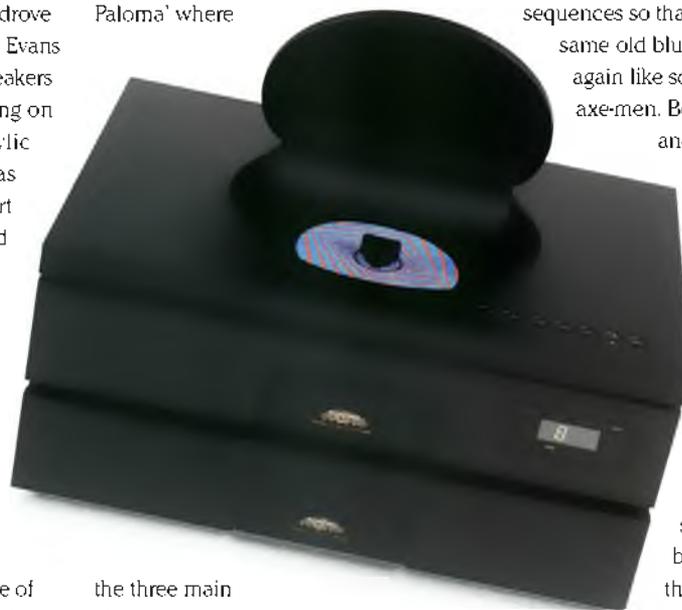


▶ I am well aware that the vast majority of CD 555s will be used through upper end all-Naim systems but my brief was to listen to its viability in alternative set-ups. The pre-amplifier therefore was a Lyra Connoisseur 4.2L SE and this drove both the Hovland RADIA and Tom Evans Linear A power amplifiers. The speakers were Focal's Micro Utopia Be sitting on a pair of Quadraspire QX 600 acrylic stands. Cabling, as mentioned, was Nordost Valhalla throughout, apart from the Hi-Line interconnect and the PS 555 power lead which was that supplied with the player. The whole system sat on two Naim Fraims with an empty shelf between components, while the power amplifier nestled on a separate Stillpoints component stand.

I didn't need too long to understand that this is a great CD player. There is an immediate sense of controlled power and bandwidth with every disc you play, plus a wonderful feeling of scale and width to the soundstage. It is so very sure-footed that it makes the CDS 3 sound rather lightweight and almost hesitant, which is some feat in itself. But what really struck me was the instrumental and vocal separation that the CD 555 brings. This is actually the best I have heard from a digital source and is one of the main reasons why this Naim is so emotionally rewarding. In many ways it is a player that deals in musical counterpoint and not just the rhythmic kind. While it is excellent at showing melody and a leading vocal or instrument, it has so much strength in reserve across its bandwidth at all times that it brings backing tracks and what seem like embellishments on other players to the fore and sets them against the dominant force of the piece in such a way that they expand the musical

dimension enormously.

Talk To Her, the music from the Pedro Almodovar film of the same name and written by Alberto Iglesias, features a track called 'Cucurucucu Paloma' where



the three main elements of the song are the softly vamped nylon strung guitar, the vocal and the cello. The CD 555 holds these in beguiling balance, in space and time; each element is



entirely separate and yet linked by the concept of the whole. In an entirely different vein is Jeff Beck's *Who Else* album, which contains music of such crazy rhythmic complexity that I find it impossible to listen to on most systems. Beck does it on purpose I am sure. He wants the music to be hard

edged and for you to feel uncomfortable when listening to it. For me he is still one of the world's greatest electric guitarists and he never plays it safe. Not for him an endless stream of twelve-bar sequences so that he can re-hash the same old blues licks time and time again like so many other vintage axe-men. Beck is a maverick

and uses an interesting playing technique where he strikes the strings with combinations of his nails and fingers and he can let a note grow like few others. The physical work he puts on the note as it flourishes is superbly opened up by the Naim and the rhythmic frenzy he creates behind is dealt with so calmly almost

rationally, that suddenly, tracks that flashed by at a breathless gallop make complete sense. The sheer speed of the CD 555 and its tautness and punch are mighty here. It goes about its business with seemingly limitless grip and such rhythmic fervour that the more polyrhythms you pour into it, the more resolute it becomes. Like some manic juggler, it can keep so many balls in the air at the same time yet allows you to examine each of them individually or enjoy them as part of the whole.

Rhythmically and tempo-wise this player can be quite delicious in the way the music ebbs and flows. It is as subtle and open to the smallest push here or emphasis there as I have heard from any source, analogue or digital, and supports this with tremendously fine focus of the tiniest instrumental detail or vocal inflection. It has ▶

▶ extremely good resolution and what I can imagine is an almost perfect tonal balance through an all-Naim system, although it can often sound just a little "dark" and shaded in mine. It may not have the very best high frequency resolution in terms of sheer detailed subtlety, although its ability to deal with the big and the small simultaneously is something that certainly sets it apart from other very good players. It is limited in pure depth although I doubt you will hear a more stable soundstage. This depth of image is not something that is likely to interest Naim devotees, but it does fascinate me, as it adds to the overall coherence of the musical picture. The CD 555 tends toward width, height and sheer presence and its scale and muscle can impose itself in many ways. When the music of Burt Bacharach is interpreted



by Ron Isley and arranged by Burt then you have the potential for something special. Ron must be in his sixties by now, yet at an age when the greatness of most artists' voices are distant memories, he is singing better than ever. He is still heavily involved and respected through the whole of Black American soul music in his alter ego of Mr Biggs, but on *Here I Am*, together with Burt, he has achieved something that, at times is truly precious. I have played selected songs from this album to the hardest of rock musicians and groin-based guitar shredders through the CD 555 and watched them melt. You can see them

thinking "I shouldn't be liking this stuff". But, as musicians, they recognise lyrical beauty and the Naim does so much with this music that it can bring a tear to the eye of even the most cynical. His version of the Carpenter's 'Close To You' is so delicate and so sparingly arranged and orchestrated that the Naim floats it in the air before you, leaving you afraid to breathe in case you miss a single nuance of Isley's remarkably intimate performance. On the title track 'Here I Am' he holds the song in a kind of suspended animation in the palm of his hand as it is so precious, makes it his own and

then gives it to you, as a gift. His voice is so exposed by the subtlety and quiet of the orchestra and his feeling for time and space so masterful that, as the strings gently swell and subside, you realise that this experience, this feeling and this emotional involvement is what makes quality hi-fi so worthwhile. The rest is just window dressing.

There is no question in my mind that this is a CD player of the highest order and deserves very serious consideration for all non-Naim owners who desire this sort of quality. Overall, it is the best player that I have heard, although I haven't yet heard the Zanden that RG keeps teasing me with. Naim owners will be unmoved

by my recommendations as they've already made up their minds, and let's not forget that the Zanden is about double the price anyway. At this level, value for money is entirely subjective but there is an upgrade path from CDS3 or CDX2, using the power supply with the older head units and then adding the CD 555 itself at a later stage, which may soften the financial blow. But I really enjoyed my six-week blast with this Naim and believe it is the finest product they have ever made. It does what Naim do best and their electronics should always do - communicate directly. I am very sorry to see it go; perhaps it will come back one day.



TECHNICAL SPECIFICATIONS

Type:	Two-box CD player
Formats Supported:	CD/HDCD
Transport:	Phillips VAM 1254 (CD Pro2M)
Output Level:	2.0V
Output Impedance:	50 Ohms max
Digital Inputs:	None
Digital Outputs:	None
Analogue Outputs:	1x5 pin Din, 1 pr single-ended phono
Dimensions (WxHxD):	432 x 114 x 314mm
Prices -	
CD 555:	£10,300
PS 555:	£3995

Manufacturer:
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The VTL TL6.5 Signature Line-Stage and S400 Stereo Power Amplifier

by Roy Gregory

Last year I reviewed VTL's flagship TL7.5 Signature two-box hybrid line-stage and was impressed enough by its performance and construction to give it a Product Of The Year Award. Marketed under the "Making Tubes User Friendly" banner, it employs the same sophisticated clean-box/dirty-box topology and non-intrusive control signalling first pioneered by the Levinson No. 32 pre-amplifier. It also matches that unit for configurable versatility and actually betters it when it comes to the user interface – definitely a first for a valve unit. At last, here was a product which combined the sonic benefits of tubes with the practical and operational sophistication delivered by the best solid-state designs.

It was accompanied by the equally impressive 300 watt per channel S400 stereo power amp. Mind you, it's hard to be anything other than impressed by a product that weighs in excess of 100kgs! With no less than 12 6550s (or KT88s) and a fully regulated circuit, to anyone with a some experience of big, complex valve amplification this might seem like an accident waiting to happen – but nothing could be further from the truth. The onboard microprocessor constantly monitors the tubes, re-biases them and even logs their operating hours. Should any of them exhibit a fault then the S400 shuts down and tells the owner which tube needs changing. That "User Friendly" line is clearly much more than just an attractive throwaway, and the S400 happily played away without so much as a hiccup the whole time I had it.

Well, now it's back, and this time with its natural partner, the TL6.5 Signature. Yep, hard as it is to believe, the S400 is kid brother to the Seigfried

mono-blocks, 600 Watts a side and each occupying an S400 chassis, but I'm not feeling short-changed. Three times the S400 has scaled the stairs to my listening room and that's quite enough thank you. The fact that the TL6.5 is also built into a single chassis comes as something of a relief, even if it does weigh a not insignificant 20kgs plus!

But then, if you are shoe-horning the best part of an entire TL7.5 into a single box, that's hardly surprising, and that's exactly what VTL have done – lopping a cool third off the price along the way. You can understand why I'm rather excited by the prospect...

Of course, it's not quite as simple as that, although the TL6.5 does use exactly the same fully differential audio circuit topology as its big brother, along with its low-impedance, solid-state output stage. Expensive as boxes are, you can't lose 33% of the price along with a chassis, especially as you've still got to accommodate all those parts. In fact, the 6.5 is something of a half way house. With an identical footprint and fascia to the 7.5's control and PSU chassis, VTL have added an extra 50mm to the depth to accommodate the audio circuitry and a slightly more modest power supply. Instead of independent transformers for each

channel, the 6.5 shares a single one, while the obsessive levels of regulation applied to the 7.5's audio circuit have also been toned down a little. Other cost saving measures include one less balanced and one less single-ended input, and only one pair of balanced outputs (although there are still two pairs of single-ended outs). The other major change is the move to more affordable, unshielded relays in the volume control resistor network. These make for slightly noisier physical operation (a soft clicking as you turn the volume control) but that's a small price to pay for the sonic superiority of this arrangement over the rotary pot alternatives.

Even with a few of the "extras" trimmed the TL6.5 is still exceptionally well endowed. It offers six, single-ended line inputs, three of which can be switched to balanced, two complete tape loops with monitoring and the aforementioned outputs. Fully remote control, you also get mute, fade, balance and phase reversal options. Each input can be adjusted for sensitivity, defeated if not in use or set to unity gain if connected to a home theatre processor, and unlike most products, these operations are simplicity itself and totally intuitive. There is even an RS-232 socket and remote trigger connections to switch on external equipment that can be staggered for sequence and timing relative to the 6.5. Once the unit has been configured the settings can be stored so that they are not inadvertently lost or altered – a potentially fatal situation where unity gain is



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involved. The review unit was finished in silver with its chassis extension in black. It can also come all black or all silver, although the latter is less than successful in aesthetic terms, tending to look rather squat and featureless.

The S400 was covered in some detail in the TL7.5 review so, beyond the features mentioned above, I'll keep things pretty short. The unusual, fully regulated circuit is also fully differential up to the output stage. It's entirely self-biasing and self diagnostic, the balanced input stage coupled to long-tailed differential phase splitter and a push-pull output stage. The soft start circuitry extends tube life while also allowing time for the auto-bias system to operate, a process that is repeated each time the amplifier is idle. Having completed its task the bias circuitry then drops out of the signal path completely. Once you've heaved and shoved the beast into place then operation is simplicity itself.

Even a complete tube change from the supplied 6550s to KT88s was accomplished in 20 minutes or so, including weeding out one faulty tube, and that on an amp that takes five minutes to soft start. All told, the S400 is a technological and operational tour de force, a high-powered tube amp that really does offer the reliability and stability of its solid-state cousins – but without the sonic costs that can accompany silicon signal transfer.

Passing experience with the Siegfrieds suggested that I'd prefer the sound of the KT88s and it was right. As impressively solid and powerful as the 6550s sound, there's a translucence, air and lighter texture to the KT's. Besides, with 300 Watts on tap, "power" isn't really the issue. But equally interesting was the changes wrought in the TL6.5. Trimming the power supply should rob the line-stage of a little substance, grounding (in the

musical sense) and authority, while putting the audio and power supply circuitry in the same box will probably impact absolute levels of resolution. Well, whilst the plea to the former is definitely a "guilty", without a 7.5 on hand you'd be hard pressed to notice a shortfall in detail and separation. Which is where the swings and roundabouts of system matching come in. Although the 6.5 does indeed lack the incredible

misses the point. This is pre-amp which is designed to be listened to, a tool for musical enjoyment. As such, it needs to be assessed and understood not in terms of individual attributes but overall balance. Swapping between different units, connected to the RADIA certainly showed the differences in performance and approach, but each and every time the 6.5 was reinserted into the system it brought a relaxed confidence and calm control to proceedings that led to its periods in residence growing longer and longer.



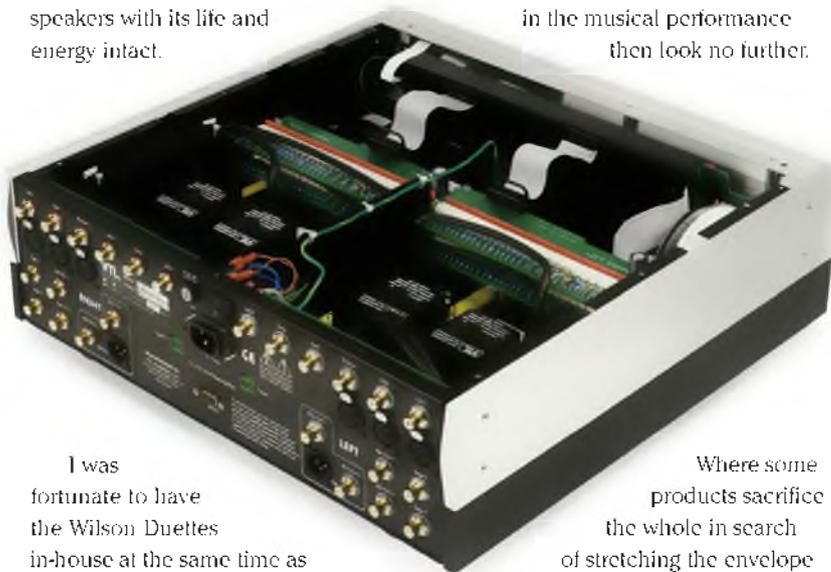
soundstage stability of its bigger brother, the solid sense of a floor beneath the players, the clearer than clear definition of soundstage boundaries and depth, it offers a livelier and arguably more agile view of solo instruments, more vigour to their bowing and blowing, classical or jazz. Likewise, if orchestral crescendos come from slightly less solid foundations, the effect is definitely subtle and suffers only in comparison to the likes of the 7.5. In all other company the 6.5 is impressive indeed, while the sense of pace, the speed of the response more than makes up for that last ounce of grounding with sheer impact.

Close comparison with the likes of The Vibe and Connoisseur will reveal shortcomings in the absolute resolution and transparency of the 6.5 (but that's no surprise) but that really

If the 7.5 is the master of imperturbable stability then everything is relative and the 6.5 holds enough of the family genes to stand stable against the competition. Add the S400 into the equation and you literally amplify the effect.

The 6.5's sense of colour life and substance dovetails beautifully with the S400's seemingly limitless headroom, while the KT equipped power amp has the finesse and air to make the most of the pre-amp's life and vitality. Together they're an object lesson in trickle down technology; keeping the things that matter and keeping your eyes on the prize. It's a perfectly balanced combination that makes music a vivid, involving experience, whether it's the majestic sweep of ▶

▶ orchestral dynamics, the intimacy of a Cello Sonata (it's the du Pré Bach that's playing as I write this) or the jagged insistence of a blues guitar. However, if you want a showpiece for this combination's stellar virtues then big band jazz should be where you look. It handles the solid rhythms and ripping brass with equal aplomb. But most important of all, it makes the music swing, it breathes life into the performance, it leaves you in no doubt, no doubt whatsoever, that this is dance music. From Basie to Ellington the 6.5/S400 takes it in its stride and passes it on with a judicious shove that ensures that the music exits the speakers with its life and energy intact.



I was fortunate to have the Wilson Duettes in-house at the same time as the VTLs (it's great when a plan comes together), another product that has the ability to put the music first. Listening to Jacqui doing her thing, played back via the Wilson Duettes and VTLs, the sheer substance and complexity of her instrument are wonderfully convincing. Her bowing, the effort she is putting into her playing, the intent and precision of the phrasing make the performance hers and inject it with life. The profound differences in approach and technique between her and Janos Starker are laid bare, but far from diminishing one or other performance, they simply add to the fascination. It makes me realise

that whilst £15000 for a power amp (even one as big, heavy and physically imposing as the S400) is a huge amount of money, adding £6K for the pre-amp begins to make it seem almost reasonable while the extra ten for the speakers creates a £30K system which (should you have that sort of cash lying around) will take some serious beating. As a combination each plays to the strengths of the other, extending the sense of musical balance inherent in the 6.5 and S400 pairing to devastating effect. If you want to pull recordings apart then look elsewhere, but if you want to revel in, wallow in, simply immerse yourself in the musical performance then look no further.

Where some products sacrifice the whole in search of stretching the envelope in one particular direction, this VTL combination is all about balance; it never loses sight of the whole. And just like real life, that balance is built on control and speed of reaction. The overarching quality that describes these amplifiers is effortless. Sure, you can stretch them with extreme levels or really loud musical climaxes, but if that troubles you there's always the Siegfrieds and the 7.5. What the 6.5/S400 combination does so well is bring the musical satisfaction, access and even-handedness of the flagship down to slightly more accessible levels. Along the way it has to lose a little of the big amps'

absolute authority and transparency, but I've a sneaking suspicion that many listeners will find the gains in life, immediacy and agility that result, more than adequate compensation (not to mention the extra 17 large lodged in their bank account).



TECHNICAL SPECIFICATIONS

TL6.5 Signature Line-stage

Type:	Hybrid line-stage
Valve Complement:	2x 12AU7
Inputs:	6x line-level (3 switchable to balanced) 2x tape
Outputs:	1x balanced 2x single-ended 2x tape
Others:	RS-232 2x 12V triggers
Gain:	14dB (single-ended) 20dB (balanced)
Input Impedance:	50 kOhms
Output Impedance:	25 Ohms
Dimensions (WxD):	445 x 135 x 425mm
Weight:	20.5kg
Price:	£6000

S400 Stereo Power Amplifier

Type:	Fully regulated tube power amp
Tube Complement:	2x 12AT7 2x 6350 12x K188 (or 6550)
Rated Power:	300 Watts (8 Ohms, tetrode) 150 Watts (8 Ohms, triode)
Inputs:	1x balanced 1x single-ended
Input Sensitivity:	2.2V for full output
Input Impedance:	57 kOhms
Dimensions (WxD):	290 x 610 x 610mm
Weight:	100kg
Price:	£15000

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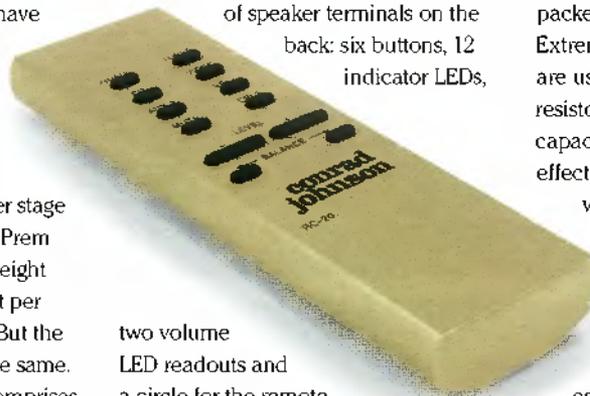
One of the finest power amplifiers I've ever heard is the conrad-johnson Premier 350. Yes, that's a bold statement and yes, it can be backed up – just try to find a bad review of the product from anyone, anywhere. But, it's a power amp, and that means you need a pre-amp to go with it. What happens if you don't have the space or the desire to have two (or more) boxes?

The conrad-johnson CA200 is what happens. That's because it's mostly Premier 350: with a remotely controllable passive pre-amplifier stage on the front. It's not a complete Prem 350, as it delivers 185 watts into eight ohms, compared to the 350 watt per channel of the big power amp. But the architecture is fundamentally the same. The power amp of the CA200 comprises a single J-FET voltage gain stage followed by a high-current buffer/output stage, featuring bi-polar output devices. This arrangement is chosen because of its low distortion and a high damping factor. As with all current c-j amps whether valve or solid-state, it's a zero global negative feedback design.

Here's where the fun begins. It's entirely wrong to call this an integrated amplifier... sort of. An amplifier that integrates pre-amplifier and power amplifiers into one box is an integrated, but this design – called a 'control amplifier' in c-j speak – does without the traditional pre-amplifier altogether. Instead, the CA200 has an input selector and a discrete stepped attenuator in front of the voltage gain stage. The closest analogy is a power amplifier with a passive potentiometer acting as 'pre-amp', combined in the same box. Factor

in a remote control and the usual impeccable conrad-johnson build, and you have a complete amplifier solution in one small, heavy, gold-fronted box.

As you might expect, functionality here is minimal. Five single-ended inputs, two tape or processor loops and 'pre-out' sockets, and a single pair of speaker terminals on the back: six buttons, 12 indicator LEDs,



two volume LED readouts and a circle for the remote control sensor 'eye' on the front. And aside from a juicy heatsink on the left side of the amplifier and some ventilation grilles cut into the top, that's it. The remote doesn't quite replicate the controls on the front panel, but instead picks out the five sources, two processor throughputs, mute and volume up and down individually. It also brings balance control to the party. If you lose the remote – not easy, it's weighty and well made in all its brushed c-j gold livery – you lose the ability to tangle with balance.

The eagle-eyed may notice a conspicuously absent part of the line-up – power on/off buttons. That's because there are none. That's right, no switch on the rear or on/off button on the front panel. There is an amber stand-by LED on the front and the amplifier defaults to that setting when slumbering (or if no

speaker cables are attached, so you can't accidentally use those 185 watts for arc-welding on the sly), but there is no way to actually turn the CA200 off without yanking the plug out of the wall. This may well be a first for minimalism.

The power switch is probably the only omission on an otherwise densely packed, damn heavy single box. Extremely high quality components are used throughout (metal film resistors, polypropylene and polystyrene capacitors – a c-j trademark – are in full effect here) and the sheer knuckle-

wrapping density of the casework all marks this amplifier out as a solid performer. It inverts absolute phase (like the Premier 350 before it), so invert the speaker cables to compensate. This is c-j being honest, not contrary; inside the amp, there's just one voltage gain stage... one stage, one inversion of phase. So, before you scoff at the phase inverting nature of these c-j amplifiers, think on this: a phase correct device will automatically have twice the number of components in its gain stage... is that really good for the purity of signal?

Purity of signal is paramount on this amplifier, almost obsessively so. With no gain in the line-stages and one of the best-sounding power amplifiers around as the basis for the amp proper, it would be hard to imagine the CA200 being anything other than a pure sounding amplifier. But this takes that purity to new levels. This is purity of signal like there's a lot less in the way of that signal than normal. Because, of course, there is. So, in many ways this is the crossover point between big, powerful



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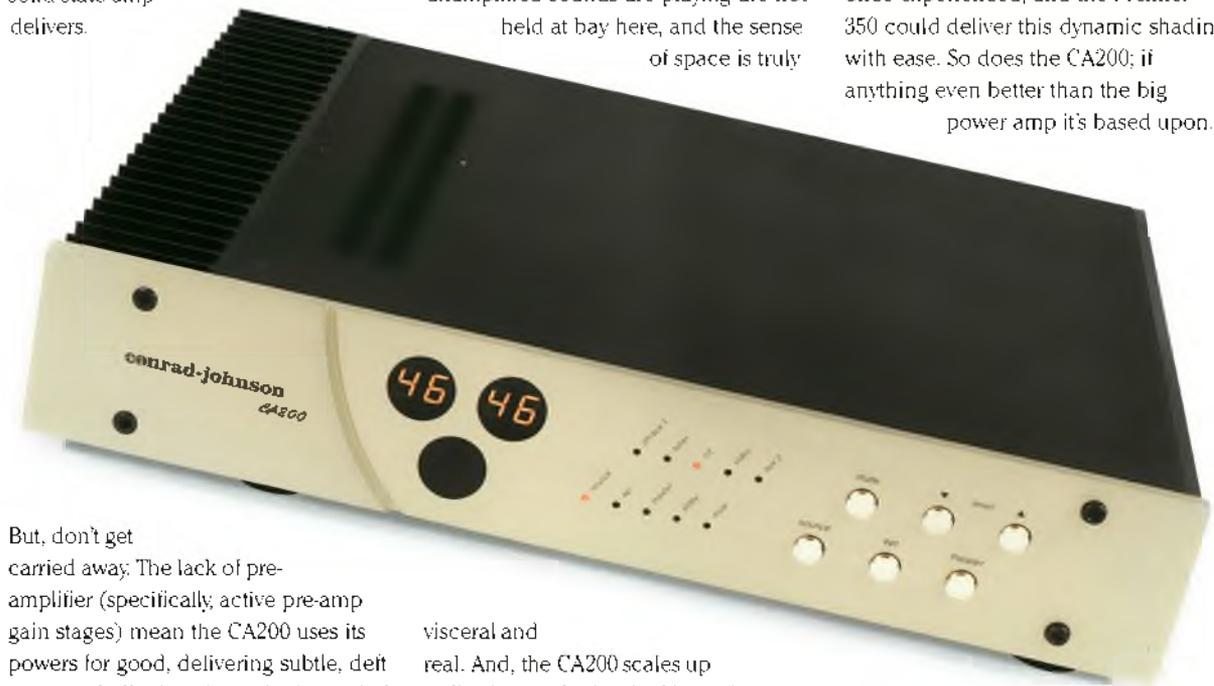
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► American amplification and tweaky, elegant minimalist stuff like the 47 Laboratory Gaincard. It gives you the 'disappearing' quality of amplifiers that queue in the nine components or less aisle, but also gives that authoritative sound that only big muscle can deliver.

Well, up to a point. The 185 watts may sound like a mighty amount on paper, and the amplifier does have some of the seemingly endless power on tap that a good American solid-state amp delivers.



But, don't get carried away. The lack of pre-amplifier (specifically, active pre-amp gain stages) mean the CA200 uses its powers for good, delivering subtle, deft tones and effortless dynamics instead of cone smoking demonstrations of big-boy grunt. An effectively passive line-stage with only a stepped attenuator in the circuit means ultimately lower volume levels than you might expect, but only a fool would trade this much grace for seemingly needless extra oomph.

This has one of the most transparent mid-bands you'll hear, or rather not hear, in an amplifier. It really sounds like you have directly injected your CD player into the speakers, with only the slightest impression of amplifier character in the way. The CA200's innate sense of directness and speed of approach to the music is what makes this amplifier. It's not designed to sound artificially tuneful,

or purposely fast. It just is tuneful and fast; as tuneful and fast as the music played dictates.

Part of this speed is due to the precision of the amplifier and this manifests itself most readily in the way the soundstage is presented. The oft-used 'holographic' phrase doesn't quite cut it here, because it's not sounding like a representation, it's sounding like the real thing. Those subtle little spatial clues that make you think live, unamplified sounds are playing are not held at bay here, and the sense of space is truly

valve pre-powers from the same brand is one of slight foreshortening. All of which backs up the fact that this is one of the most transparent one-box amplifiers available.

One of the best aspects of the Premier 350 is its dynamic range, in particular its ability to resolve micro-dynamics across a wide tonal range. The ability to define subtle differences in volume and tone at any given volume is a hard thing to do without once experienced, and the Premier 350 could deliver this dynamic shading with ease. So does the CA200; if anything even better than the big power amp it's based upon.

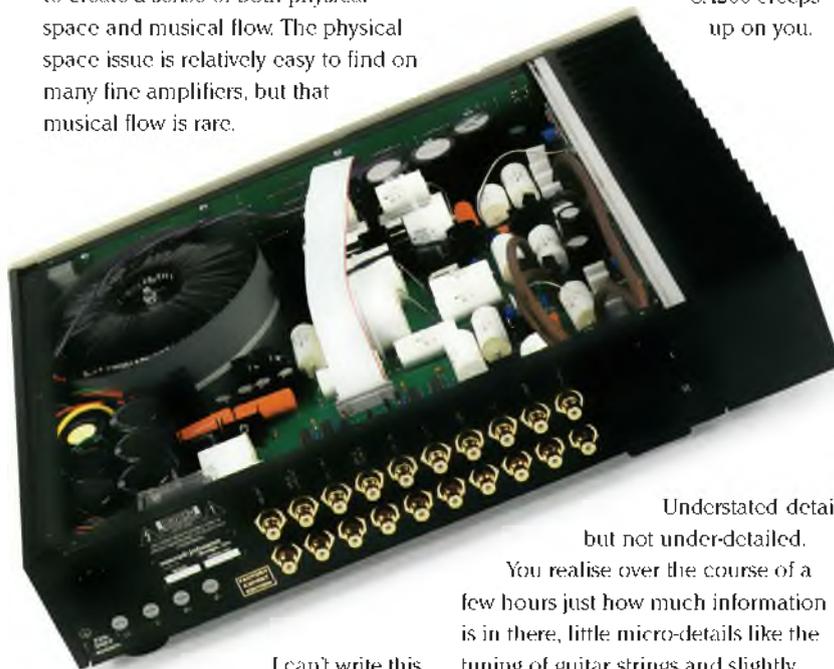
visceral and real. And, the CA200 scales up well; a lone guitarist plunking nylon on a stage is not blown up to ridiculous levels, but neither is a full-scale orchestra shrunk down to size.

Image depth is also well presented, with the sort of soundstaging more commonly found with valve equipment. Yes, this is the one place where the use of valves would improve the sound still further, but the gap between this and the valve based products in the c-j range is smaller than you might expect. For example, the Sixteen singing Bach's *Mass in B Minor* demonstrates this perfectly; the natural acoustic of this mid-1990s Philips Classics recording is wonderfully spacious and the difference between the CA200 and more up-market

Once again, that passive line stage in front of the power amp works wonders.

The big plus for the CA200 (amid a whole host of potential big plusses) is the coherence of the overall sound. One of the biggest limits to most solid-state amplifiers is their inability to make the music hang together in an organic manner. It seems (to valve lovers, at least) that this is what marks some electronics out to sound 'hi-fi' (others point to the steely sound of forthright solid-state electronics coupled to a bright digital source – but this is another feather in the CA200's cap, it manages to have a soaring high treble that is ►

▶ seldom annoying unless you enjoy subjecting it to death metal). The CA200's sound by contrast is as organic as hand-knitted carrot-flavoured bio-yoghurt, only without that sense of self-satisfaction. Even on multi-mic recordings that sound initially impressive but are ultimately musically dead (most of Sony Classics output for example), the CA200 weaves the instruments together to create a sense of both physical space and musical flow. The physical space issue is relatively easy to find on many fine amplifiers, but that musical flow is rare.



I can't write this without sounding like a complete pseudo-intellectual, but the musical flow extends in three distinct axes. There's a temporal flow, where music hangs together from bar to bar with such grace you begin to see how the choppy rhythms of Kraftwerk ebb and flow like a Bach invention. But, then there's also a musical flow across the sound of the band or orchestra itself, an almost unconscious feeling that everything is in its right place and the musicians are enjoying what they are doing. Then, there's a sense of flow across the range of the instrument itself, so the bass register of a piano has exactly the same tone and dynamic as the middle and upper registers. Here, the left hand really does know what the right hand is

doing. All of these things simply meld together and make the CA200 disappear sonically once again. Just like it does for the imaging.

Just like it does for the detail, too. The CA200 is an exceptionally good resolver of information. There's none of that sense of pulling detail off a player, or of having detail thrust upon you, but the sheer resolution of the CA200 creeps up on you.

Understated detail, but not under-detailed.

You realise over the course of a few hours just how much information is in there, little micro-details like the tuning of guitar strings and slightly dodgy, microphonic tubes in guitar amps become noticeable, but not annoying.

In truth, this is one of those rare one-box amplifiers that's hard to fox. You can stick almost any music through its line-stage and the amplifier is always sweet, always honest. There's a characteristic c-j sound, a mild sweetening of the overall performance, a nod towards the valve heritage of the company. It's not exactly 'warm' – the overall sound is far too honest to be anything as broad as 'warm' – but there's the hint of romance in the sound. Those who want their music like a lab experiment, pinned down and ready for dissection will look elsewhere. Those who want music to sound, well, musical should find

a lot to love about this little heavyweight.

Of course you can replicate this little heavyweight yourself and perhaps have an even more pure sound. Buy or build a passive 'pot in a box' preamp and connect it (using the shortest wires possible) to a Premier 350. You'll lose functionality and possibly gain hum but you'll copy that beautifully transparent sound. But, why bother... this does it all in a smaller box and more thorough manner.

And that's the thing about the conrad-johnson CA200 one-box (not integrated) amplifier. It manages to combine convenience with first-rate performance. This may be an expensive-looking option at first glance, but this is one of those times where first impressions don't count. Look at it from the viewpoint of sound quality and this is a hard act to follow.



TECHNICAL SPECIFICATIONS

Type:	Combined passive pre-amp stage and power amplifier
Inputs:	5x single-ended line-level 2x processor or tape
Outputs:	2x processor or tape 1x pre-out
Rated Power Output:	185Watts per channel
Dimensions (WxHxD):	483 x 84 x 388mm
Weight:	A lot heavier than you expect!
Price:	£6500

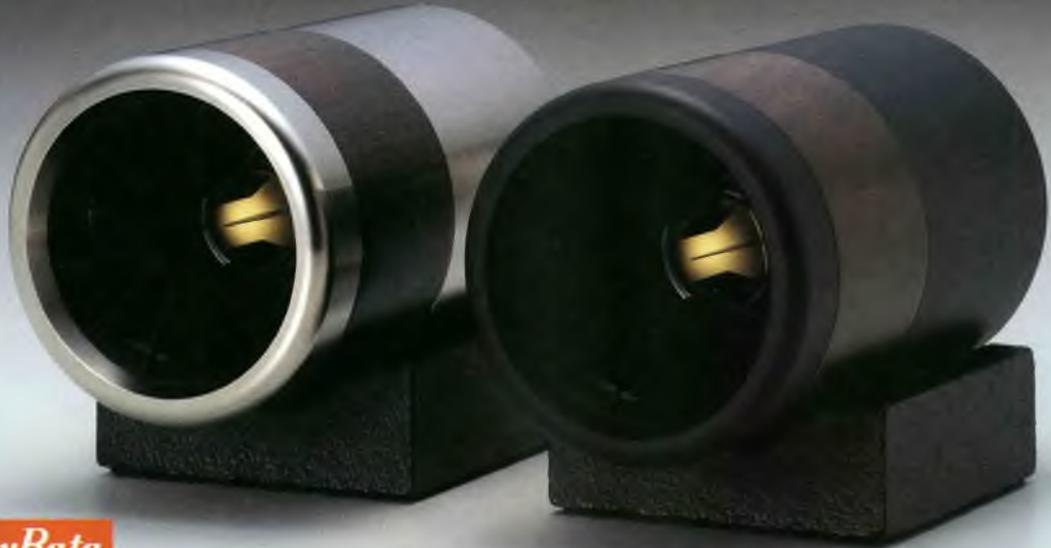
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Maple



The Linn Artikulat Active System...

by Jason Kennedy

Previous experience with Linn's Artikulat 350A loudspeaker had made me aware that this is very much my kind of speaker: big, active and weighing nearly as much as I do. So the chance to review them on the end of an all Linn system was immediately appealing – even if lugging them up the stairs again wasn't. As for the rest of the system, the Klimax Kontrol pre-amp chose itself, while front-end was none other than the LP12 Sondek. What with the rumours emanating from Glasgow that a new top turntable is due to replace this stalwart I thought it might be the last chance to give one of these legendary turntables a spin. I've heard plenty of them in the past of course, but I've never had one at home so I was intrigued to hear how it would sound in this age of largely metal and acrylic turntables.

Introduced in 1972 the LP12 reached what seemed its apex in the early eighties just as CD appeared. Over thirty-years after its inception the LP12 still exists in essentially the same form: there are still three pretty lively springs, a wooden plinth and armboard and a stainless top plate. It looks very nice and is eminently practical compared with the skeletal designs that are popular today, what with its dust cover and finger lift. A whole host of upgrades have been added over the years, changing everything from the power supply to the main bearing, but the platter is still covered in a felt mat and made of Mazak, a creep-resisting high-strength alloy (apparently).

Setting up an LP12 used to be considered a black art, but when Brian Morris set the turntable up chez moi it only took him an hour, including routing the arm-cable and fitting the

onboard electronics and base; so, hardly the intimidating ritual of legend then. This LP12 came fitted with an Ekos arm, Linn's top model since 1988. It is essentially a refinement of the



Itok with ball race bearings and sprung downforce working on a fabricated aluminium construction. The headshell has a third mounting hole for cartridges like the Akiva MC supplied, a low but not silly 0.4mV output design with a line contact stylus and ceramic boron cantilever. The Linto phono-stage is a pretty boring silver box that matches the Lingo power supply and provides very little in the way of adjustability. It is moving coil only and has internal switches for adjusting between high and low output cartridges. Impedance is fixed at 150 Ohms which one must assume is well suited to the Akiva. The Linto has two outputs but I know not why.

One clear strength of this front-end is an extremely low noise floor, the Akiva/Linto combination producing the least hum I've ever encountered with

an MC and phono-stage. They have the advantage of being built for one another, but it would be nice if other phono-stages could pull off this trick without having to be suspended in mid-air (to get them away from stray fields).

The Klimax Kontrol pre-amplifier is the real show stealer in this system, at least when it comes to looks. Its clamshell construction makes for a particularly solid yet slim-line case, a mere 40mm thick.

If you were to remove the cowl that overhangs the socketry you'd see that this is a pretty small lump considering that it's Linn's top line-stage. But size is of little import when you don't need a traditional mains transformer, the pre-amp running off of switched mode power supplies instead. Inputs are limited to three single ended and a single balanced, which seems a little

restrictive but suitably purist.

Not a sense you get from the remote handset which will operate all things Linn and beyond, if you can figure it out. I told Linn's Phil Hobbs that I thought I had achieved this and he asked me to show him how it was done!

At the end of this chain sit the mighty Artikulat 350A, the largest fully active speaker that Linn makes. Linn's top speaker, the Komri, which costs a similar amount, has active bass and can be made fully active with the addition of external amplification and crossovers, at some considerable cost. The Artikulat comes equipped with ▶



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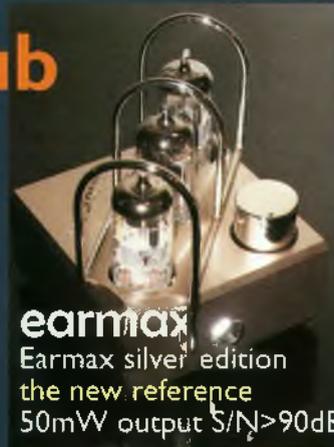
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▶ a pair of 200mm paper coned bass drivers, a 165mm mid-bass unit with a sandwich construction and three domes; midrange (75mm), tweeter (25mm) and super-tweeter (13mm). Each of these drivers has its own channel of Chakra amplification with 500 watts apiece for the bass units, 250 watts for upper bass and midrange and 125 watts each above that.

At the low end of the spectrum the amplification is controlled by a servo system that is used to monitor the bass drivers. This uses a piezo-electric sensor on the voice coil to compare the acceleration of the input signal with that of the cone, compensating for any error by differentiating the input and feeding a comparator prior to sending signal to the driver. It's this last detail that helps it get around the inevitable time error issues of earlier servo designs such as that used by Philips in its Motional Feedback design. To the casual active speaker enthusiast it seems a little odd that this measure should be necessary given that actives always have better bass than passives and are thus not exactly wanting in this department, but it does seem to allow greater extension and control than one usually achieves with this combination of drivers and box volume (50 litre).

Another unusual aspect of this speaker is the aluminium pod or '3K array' that supports the three polyurethane domes. Its shape (Linn calls it a 'Snowman' baffle because of the shape it forms with the driver below) and the shape of the scoop behind the higher drivers

has been very carefully calculated to give the best dispersion and thus a larger sweet-spot.

The Artikulat 350As cabinet is artfully shaped in the popular boat tail style and comes clad in real wood veneer, sat atop a cast aluminium outrigger plinth. The latter accepts large spikes and lock rings that when combined with the speaker's 54kg mass will make four holes in pretty well any flooring. The rear of the speaker is taken up with the amplifier casework which also forms its heat sinking, although in common with other switched mode amplifiers it does not run particularly warm.

Switches on the amplifier allow you to select bass roll-off points and shelves for both bass and treble output.

Connection is by XLR only, something that seems to be common to active speakers across the board and reflects the long nature of the cables that hook them up.

Getting this system to sound as good as it can proved a bit tricky. This is because the speakers really do plumb the depths and will excite room modes if given the slightest chance. On their debut chez

moi Linn's recording engineer and speaker engineer Phil Hobbs had come down to assist with set up, and despite my thinking that I'd copied what he'd done for the return visit I clearly hadn't. The upper bass was smeared and thick which had the effect of masking the

treble and making the sound dull. Play it loud

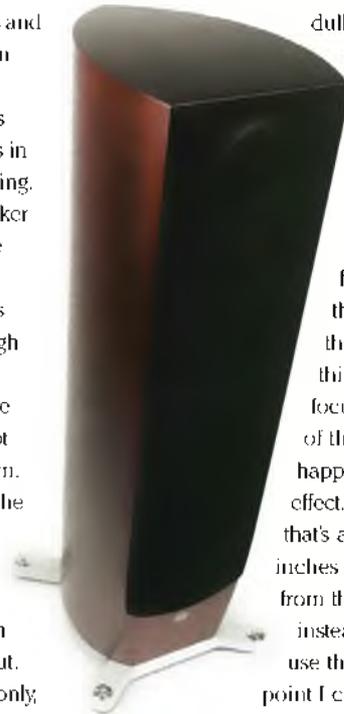
enough and the detail got through but at regular levels this was a bugbear and it took another visit from Phil to get them back to where they were. Then things dropped into focus and the timing of the bass started to happen with dramatic effect. Three inches, that's all it took. Three inches further away from the wall and now instead of having to use the 40hz roll-off

point I could run them full range and not only that, at higher levels an extra 2dB could be added to the bass using the shelf switch to produce a fully figured sound.

We did tweak a couple of other things, which helped as well. Mains cabling it seems is a strict affair with Linn. Its amplification doesn't go in for fancy leads from distribution blocks but wants to get to the wall as directly as possible. But once this lot was sorted things really started to bounce, the

level could be pushed up to brain squeezing point with a good clean recording and had the neighbours been in they would undoubtedly have

been moved. Albeit probably not in such a positive sense as the armchair was. ▶

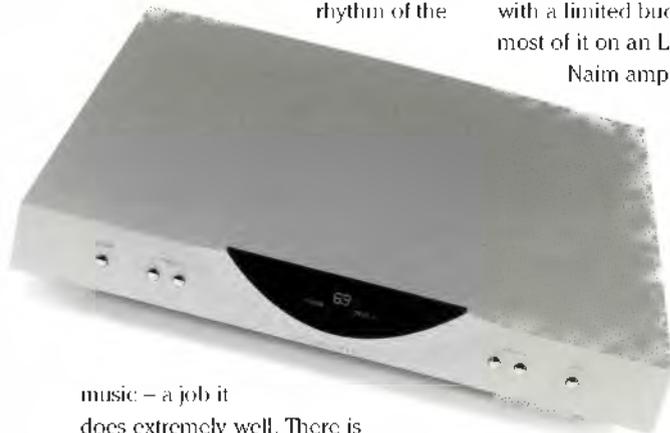


► This system will kick ass, but remains timely and resolute in the process. The loudspeakers take real advantage of the servo assistance and deliver bass that can only be described as prodigious.



I've heard active speakers that make this job seem easier thanks to greater sensitivity but I don't think they went this low or even this high in level terms without discomfort. Did I mention that, the Linn doesn't just go very high in SPL terms but does so without apparent distortion, giving your chest a good pounding in the process if you so desire.

As with all Linn components this system is not about making a lovely sound per se, but about communicating the energy and rhythm of the



music – a job it does extremely well. There is a short-fall in high frequencies to be found with both the record player and the loudspeakers (but not the pre-amp) and this can reduce the sense of detail and delicacy in the sound by the standards of the SME/viH front end and B&W 802D speakers that are usually in-situ. But there is no getting

away from the solidity of high frequency notes and the rhythmic integrity of the overall result. I found the Linn Majik system a little on the forward side tonally and when pointing out how much smoother this big system is was told that it's the timing that is the first priority and details like tone and imaging are a luxury that the Majik budget doesn't fully cover.

This system images well but not astoundingly so, probably because of the warm high frequencies, but delivers a good sense of depth and a decent recording is reproduced in suitably three dimensional fashion. Whether it is much more timely than the best of the competition would take a rhythm and pace enthusiast to decide. But it has to be said that the grip that this system can have on your musical imagination is powerful to say the least, even at levels below the trouser flapping. There was a time when *Popular Hi-Fi* would suggest to readers with a limited budget that they spend most of it on an LP12, the rest on a

Naim amp and use string and tin cans until they had saved up for speakers. I don't think they were serious but it illustrates the source first approach that Linn espouses, an approach that this system seemingly turns on its head; until you realise of course, the importance of a well-sorted front-end. The LP12 is as sorted as they come – and has been for longer than most. Priorities changing in Glasgow? Only on the surface.



TECHNICAL SPECIFICATIONS

LP12 Sondek

Type: Belt-drive transcription turntable
Speeds: 3/45 rpm
Dimensions (HxWxD): 445 x 140 x 356mm

Ekos

Type: Gimbal bearing tonearm
Pivot to Stylus: 229mm
Stylus Overhang: 18mm
Effective Mass: 11.5g

Akiva

Type: Moving-coil cartridge
Output: 0.4mV
Stylus: Uric Contact
Recommended Load: >50 Ohms
Weight: 7.4g

Lingo

Motor Freq Source: Low-noise crystal oscillators
Size (WxHxD): 325 x 80 x 320mm

Linto

Type: MC phono-stage
Input Level: 150 mV High Gain
480 mV Low Gain
Input Impedance: 150 Ohms
Gain: High 64dB, Low 54dB

Klimax Kontrol

Type: Unc-stage
Inputs: 1x balanced
3x single-ended
Outputs: 1x balanced
1x single-ended
Dimensions (WxHxD): 350 x 60 x 355mm
Weight: 9kg

Artikulat

Type: integrated 4-way active
Operating Volume: 50 litres
Total power: 1,750 watts
Dimensions (WxHxD): 312 x 1130 x 430mm
Weight: 54kg
Finishes: Rosenut, maple, cherry, black ash

Prices –

Linn LP12, Lingo, Ekos and Akiva: £5,950
Linn Linto: £995
Linn Klimax Kontrol: £6,000
Linn Artikulat 350A: £22,000

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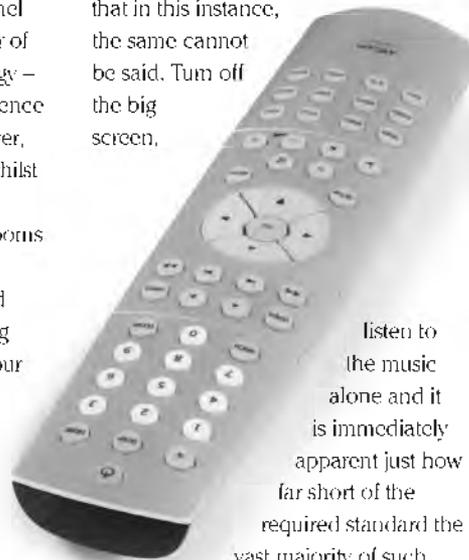
Seeking A Multi-Channel Standard... the Arcam/KEF Reference system

by Roy Gregory

Whilst “home cinema” and “AV” have become dirty words in the two-channel audio lexicon, the mounting pressure to have at least some sort of multi-channel capability is subtle but invidious. Whilst many of us are as likely to have looked at incorporating a reduction in replay channels as an expansion, the plethora of material available in multi-channel formats and the increasing number of artists wanting to use the technology – as well as have you use it to experience their music – is undeniable. However, the central conundrum remains; whilst the ideal scenario is to have two separate systems in two different rooms (thus allowing the kids access to widescreen, surround-sound Grand Theft Auto while we’re off searching vainly for the lost youth buried in our record collections) few of us have the space or the funds to furnish and house two complete systems with all the hardware that entails. What’s more, if you are going to take the multi-channel solution seriously as a music replay option, some sub-\$1000, 5.1 sub-sat in a box set-up isn’t going to deliver.

But, if we start from the premise of a single system capable of replaying multiple formats and multiple channels, incorporating images if required, it quickly becomes apparent that we’re entering uncharted territory. If you want a two-channel system there’s a set of fundamental rules or way-marks on the road to musical value and success. Experience tells us about matching technologies, setting budgets, the importance of cables, support and the critical impact of proper set-up. It also tells us that all these aspects become more and more important as bandwidth, cost and quality increases.

So, if we sit in a room surrounded by a mountain of expensive kit that collectively sounds like a bag of spanners we’ve got a reasonable idea of where to start when it comes to putting things right. However, even cursory exposure to the multi-channel music offerings at the many hi-fi shows tells us that in this instance, the same cannot be said. Turn off the big screen,



listen to the music alone and it is immediately apparent just how far short of the required standard the vast majority of such systems fall. It’s tempting to

take this evidence and simply dismiss the technology and myriad formats that go with it; except for the musical imperative with which I started this article. If there are artists out there who want us to hear their music in multi-channel then we at least owe them the time to discover if it’s possible and worthwhile to do so. So started the quest for an objective standard, a workable benchmark that delivered worthwhile musical benefits from multi-channel formats without relying on a screen to distract ones attention.

The first problem was to develop a roadmap or concept on which to base the system. In fact, this is considerably easier than it might seem. After all, many

of the same rules that apply to two-channel systems will also apply to a 5.1 or 7.1 set-up – but more so. You wouldn’t dream of using two different amps or speakers in a stereo system, so why do it in a multi-channel environment. Indeed, far from being a *laissez fair* opportunity for anything goes where multiple channels and DSP make up for inadequate room and system matching, proper set-up and integration of the system becomes even more critical. In order to function seamlessly and convincingly, a multi-channel system needs to project a coherent soundfield – and that demands a coherent system. Starting from that premise the basic rules become clear:

- 1) Each channel needs to use identical amplification.
- 2) Each speaker needs to use identical drivers (and offer identical dispersion) across as much of the audio range as possible.
- 3) A coherent cable loom becomes critical to success; no skimping on the rear channels!
- 4) With the above conditions met, more channels, properly set up and configured will deliver a more consistent soundfield.

But with five or more channels to play with it quickly became apparent that costs can escalate alarmingly quickly; making stereo replay look like a bargain. The challenge was to deliver stellar performance from readily available equipment that wouldn’t break the bank on an individual basis, even if the collective cost might be fairly daunting. Likewise, for this exercise the visual element (actually essential to navigate most multi-channel disc formats) was considered an expensive, noisy and ▶

The Music/Movies Divide

One of the things that quickly becomes apparent if you listen to most AV systems is that the sound balances and bass levels preferred for reproducing the train wrecks and tyrannosaurus footsteps so often used by manufacturers and enthusiasts alike to demonstrate their "rigs" are completely inappropriate for music. These events aren't rooted in reality and nor are the experience or sound effects that go with them. Instead they suffer from a more is better, "feel the room shake" attitude that completely distorts the energy spectrum and frequency response of the system. We all know how musically destructive even a little excess bass can be in a stereo system, but when it comes to the average AV set-up that's like comparing a penny fire cracker to a thunder flash!

Yet, such excess is actually unnecessary as well as undesirable. Physically assaulting the watchers with waves of sound is one way of reassuring them that all the money that went into amps and speakers is actually doing something, but

unfortunately it also drags their attention away from the imaginary world represented on the screen and back into their physical reality. Far from enhancing the onscreen action, it actually distracts from and diminishes its impact.

Approach the problem from the other direction and you'll achieve much better results. Balance the system for music and it will be far more coherent, integrating sound effects and dialogue far more credibly with the action on the screen, enhancing the experience rather than detracting from it. After all, in the two-hour span of the average movie, you only need to know that the thirty-second train wreck is louder than anything else – not that it drives the amps into clipping. Meanwhile, dialogue will be far more natural and expressive, timing (comic or otherwise) better, performances more emotive and convincing. For most movies this easily outweighs the one-time "benefit" of the extra loud bang. For music, concert videos or opera, this is a no-brainer. However, if you watch an exclusive diet of Vin Diesel or Wagner, you might choose to disagree...

The other big issue is incorporating pictures. To be really effective these need to be big and that really means some kind of projector. I'm afraid that the 43" plasma just ain't goin' to cut it, unless you sit about four feet from it. And the problem with projectors (and most flat-screen TVs) is that they're noisy and contain nasty little switch mode power-supplies that pollute the mains. The trouble is, you need access to pictures in order to easily navigate the various sound options on DVD discs and most SACDs. Put all this together and it means that if sonic performance matters then you'll be providing a separate spur on which to run your TV and ancillaries, as well as thinking seriously about some sound insulation if you take the ceiling-mounted projector route. If multi-channel sound is a serious consideration then a second, small screen simply to read menus becomes a worthwhile option, one that's built into many upmarket processors. It's not that pictures and great sound can't coexist – it's just that it needs to be managed with the appropriate care.

► problematic irrelevance – but you'll have to read the sidebar for the justification.

Scanning the market, I quickly settled on a combination of Arcam electronics and KEF Reference speakers, equipment ranges that ideally match my established guidelines. Given the sheer quantity and variety of cabling required, the Chord range offered an ideal balance of performance and value – and thus was born 'The Plan'. The Chord Co. possess an excellent, AV enabled demo room at their Amesbury factory: they're lovely people and helpful too. All of which, given the sheer number of boxes involved, the storage required and the opportunity to have cables constructed in situ, was simply too good an opportunity to miss, especially considering the sheer complexity of what was proposed. Thus Geoff Meads from Arcam, Chris Tuck from KEF and myself took over the Chord facilities for



the best part of a week, pooling equipment but also knowledge and manpower, with Nigel Finn in the role of Mein Hoste. Had we known the magnitude of the task facing us we might not have been quite so blasé...

The system I settled on consisted of Arcam's latest universal front-end, the DV137, capable of playing all the various high-resolution digital formats as well as outputting discrete analogue surround channels and 1080P or interlaced video

signals. That makes it a one-box, do it all source component for pictures and sound from just about anything short of a vinyl record. This sort of versatility is essential in any multi-use, multi-channel set-up. This was connected to the latest AV9 processor, a field in which Arcam have a well established and equally well deserved reputation for delivering superior performance at a reasonable price. This combination gave us disc replay and processing capabilities comparable to some of the most expensive options out there, without the bulk and price-tag to match; which is my excuse for employing no fewer than seven P1 185 Watt mono-blocks. Despite being top of Arcam's amplification tree, at \$1150 each, these are still pretty modestly priced compared to the competition. Whilst the various stereo or multi-channel options in the range offer more affordable alternatives, I really ►

▶ wanted to run the seven identical channels theme to its logical extreme.

Speakers were drawn from KEF's Reference Series: 205s and a 204c for the front three channels, four 203s for the sides and rear, while the 12", 500 Watt PSW4000 performed .1 duties. Of all the various options I chose the KEFs because their overall design ethos most closely matches my roadmap. Each speaker uses the same Uni-Q mid/treble driver and hyper-tweeter array, meaning identical sonic characteristics and dispersion from every speaker in the system, from the mid-bass upwards. I could have employed six of the 204s, which would have matched bass drivers across all seven speakers too, except that the system needs to operate in 2.0 mode as well, and two-channel replay would suffer as a result. This is partly a reflection of KEF's chosen design balance. This trades genuine efficiency and ease of drive for bandwidth, actually ideal in a system with proper bass reinforcement, but less so where the sub-woofer is absent. Likewise, using the floor-standing 203s for side and rear channels might seem like overkill until you realise that both SACD and DVD-A (the premium multi-channel music formats) both route full range signals to the rear speakers.

The whole system was wedged into a double width Quadraspire rack, while Chord employees beavered away to produce and run-in the necessary cabling. Fortunately they had a head start, which meant that everything was ready and waiting when we arrived, with Signature and the new top of the range Indigo interconnects used for

analogue and digital signal transmission and the new Epic Super Twin speaker cable, used shot-gunned to run the speakers single-wired.



The tri-wire links were replaced with Chord Signature alternatives. Everything was powered up via Chord Power Chords. That's 17 assorted boxes to accommodate and their packaging to store; you can see why we didn't do this at home. Of course, a permanent set-up is a different matter, but logistically speaking this simply couldn't have happened without the willing cooperation of the parties involved.

Which brings us to the set up itself. Having wired everything up and left it running for three days to bed in, sound balancing and speaker positioning could commence. This involved using an ITU angular spider, placed at the listening position, and a laser line to position the various speakers precisely. Having done that, levels were set using a precision SPU meter measuring to within 0.5dB. The room was also acoustically mapped in order to assess the likely best position

for the sub, with initial levels and roll-off set using FFT analysis. As always, final balancing of the low-frequencies was done by ear.

That didn't take long to describe, but it took all day to achieve!

Having said that, the end results were spectacular, exceeding everybody's expectations with ease. But the system is only half the story; you also need the software. Fortunately, this was less of a problem than it might have been, my high regard for SACD delivering a whole host of familiar discs offering multi-channel output options. These ranged from Living Stereo and Mercury 3.0 mixes drawn from the original tapes, through Mo-Fi's excellent 4.0 quad-derived remixes to modern 5.1 recordings from the likes of Kraftwerk and Peter Gabriel.

Telarc's classical sampler, selected by and with listen notes from *the absolute sound's* Harry Pearson proved invaluable. Throw in a few decent DVD-As and the standard concert and opera DVDs and there was plenty of material to choose from. Interestingly, one of the standard arguments deployed against multi-channel music is the death of material that genuine customers actually want to listen to. My experience suggests that multi-channel music formats, whether they incorporate a video element or not, are no different in this regard than two-channel recordings. There are good and bad examples of both, but we didn't exactly have to go hunting under ▶



Doing it on the cheap...

Whilst this system involves readily available products that are individually affordable, the sheer number of items required necessarily dictates a pretty steep final price tag. Even at £1000 a box – hardly excessive in high end terms – it would be £17000 without cables. But the beauty of the approach and the products used is that there are far more affordable equivalents further down the ranges which obey the same set of rules and offer the same coherent approach. In an effort to discover just where multi-channel music starts to make sense we established a parallel 5.1 system consisting of the same DV137, but this time driving an Arcam AVR350 receiver, a pair of KEF IQ9s, IQ7s an IQ6c and a PSW3500 sub-woofer.



The results were, in their own way, just as surprising. No it didn't get close to the big system, and the gap between two and multi-channel sound was somewhat narrower. Not surprisingly the added sense of scale and presence remained, along with the extra headroom and dynamic range, but what really intrigued me was the self same benefit in terms of pace and timing integrity. Performances made far more musical sense on the multi-channel



the life, the energy or the realism of the big one, nor the stunning coherence of its soundfield. But it was in its own way, equally impressive, representing the entry point for serious multi-channel replay. Add a PV9 and Arcam's seven channel amp in place of the AVR350, along with another set of IQ7s, play with the bass routing and I wonder just how far you could go?

set-up, delivered greater spatial coherence and were once again, far more believable. No, the little system didn't get close to

Arcam DV137 Universal Player	£1250
Arcam AVR350 Receiver	£1500
1x KEF IQ6c	£299.99
2x KEF IQ9	£799.99/pr
2x KEF IQ7	£599.99/pr
1x KEF PSW3500	£599.99

► rocks to find decent demo material for this project.

Listening proper commenced with a round of stereo versus 5.1 comparisons, based on current recordings (Bach *Oboe Works* on Caromitis CM0012003 and Kraftwerk's *Minimum-Maximum*). Whilst the two-channel replay was acceptable enough, in both cases the multi-channel mixes lifted the performance to a whole new level. The Bach disc gained space and presence, a sense of life and vitality that made the two-channel version sound flat and pinched in comparison. The sense of physical volume and the energy emanating from individual instruments was dramatically more lifelike and engaging, the overall effect significantly more realistic and engaging. The Kraftwerk disc, 5.1 remixes of live performances, offered

a totally different and if anything, even more spectacular transformation. Rather than simply wrapping the listener in a live acoustic and pinging sound around, the band have used the technology to create a vast space beyond the stage. Listen to 'Autobahn' and sure, you'll hear the engine noises and the tooting horns starting up and disappearing way off into the distance, but it's that black, cavernous space from which the music emerges that really adds to the impact.

But the thing I least expected was the improvement in timing integrity that underpinned both discs. The structures and patterns of the Bach took on a new beauty and clarity, the playing a precision and drive that was totally absent from the detached, academic replay of the two-channel layer. The opening bass

riff to 'Autobahn' suddenly became funky, even downright dirty compared to the mechanical synthesis that characterized the stereo mix. In both cases, the music ebbed and flowed with an ease and pace that made it seemed both clearer but also seeming to pass quicker. You simply found yourself further into the piece far quicker than you expected. Far from being a criticism, this reflects the ability of the music to capture and hold your attention as well as to make sense of the signal. It was almost as if any sense of processing or lag had been banished – quite the opposite effect one might have expected.

Perhaps the most telling example of this came when I moved on to the familiar territory of the Dvorak *Cello Concerto* and Gregor Piatigorsky's performance on RCA Living Stereo. ►

► Chris Tuck is not a classical fan, and I watched him fidget and suffer his way through the stereo replay, bringing the selections to an early close in deference to his wandering attention and a surreptitious yawn or two. Switching to the three-channel mix totally transformed the experience. He sat there, rapt as I played the



opening to the Adagio, the music spellbinding in its beauty. Reluctant to intrude I allowed it to play on, way past the intended point. So wonderful was the music, so genuine the response that it was rude to intrude. It was one of those hi-fi epiphanies that happens all too seldom, but it underlines the difference in quality between the two and the multi-channel experience.

I can break those differences down into the body and presence of the Cello, the energy and vibrance in the play, the control and mastery of pitch and pace, the dramatic increase in the tension between soloist and orchestra. But the bottom line comes in the reaction of the listeners and in that respect there was no comparison. The Dvorak is one of my favourite pieces and I normally favour the Starker performance on Mercury for its greater dynamics and drama. The soaring ease of the three-channel presentation, the increase in the musical coherence and the heightened drama that resulted have forced the Piatigorsky back into contention, proving once again how little we appreciate what's really on our discs.

But what these and other selections clearly demonstrated was the superiority of these multi-channel mixes over straight stereo playback. Once you'd heard the multi-channel version you simply didn't bother with the stereo.

Whether it was the 4.0 Ivan The Terrible on Mo-Fi

or the Glyndebourne DVD of *La Cenerentola*, the Telarc sampler or Peter Gabriel's *Play*, that superiority was utterly consistent, the gulf in performance a yawning chasm.

Now, I know that what we are comparing is far from like with like, the two-channel version being a fraction of the cost of the multi-channel system, but what I wanted to examine was the viability of genuine high-end performance from a multi-format, multi-channel system – something I'd yet to hear. Well, I have now – and at a price that while it's far from bargain basement is much lower than I would have thought possible. As one listener put it, "It makes you really want to have this at home." I couldn't agree more.

It's not a perfect set-up and I suspect that with more time and care devoted to two-channel replay (including the application of bass management to make it 2.1) we could narrow the gap and make this a really viable one-for-all system. The Quadraspire rack is no slouch, but recent experience with more sophisticated isolation systems

suggests that you could raise the performance bar significantly further. Just think of all those enormous transformers vibrating away! But what it did do was consistently offer a stunning level of entertainment, musical and intellectual satisfaction. So much so in fact that all the parties involved have agreed to repeat the process – at the Manchester Show on January 28th and 29th, meaning that you can get to hear it too. Once again, you can see whether we exaggerate; in this case I really don't think so.



THE SYSTEM

Arcam DV137 Universal Disc Player	£1250
Arcam AV9 Processor	£3600
7x Arcam P1 Mono-blues	£1150 ea
1x KEF Reference 204c	£1999.99
2x KEF Reference 205	£3999.99/pr
4x KEF Reference 203	£2999.99/pr
1x KEF Reference PSW4000	£1199.99
Chord Indigo Interconnects	£925/pr
Chord Signature Digital Interconnect	£215/pr
Chord Epic Super Twin Speaker Cables	£80/m
Chord Signature Speaker Links	
Chord Power Chords	£150 ea.

Manufacturers:

Arcam
Tel. (44)(0)1223 203203
Net. www.arcam.co.uk

KEF Audio (UK) Ltd
Tel. (44)(0)1622 672261
Net. www.kef.com

Chord Co.
Tel. (44)(0)1980 625700
Net. www.chord.co.uk

Quadraspire Ltd.
Tel. (44)(0)1225 333360
Net. www.quadraspire.com



The Clearaudio Emotion Start Smart Turntable package

by Jimmy Hughes

Over the years a number of Clearaudio record players have come my way. In every instance I've been impressed both by the essential simplicity of the design, and the way each one produced excellent results with a minimum of fuss and drama. My sense is that the requirements for turntables have shifted dramatically. Back in the '80s, when most of us knew no better, we were tolerant of designs that needed careful installation and regular (constant!) setting up.

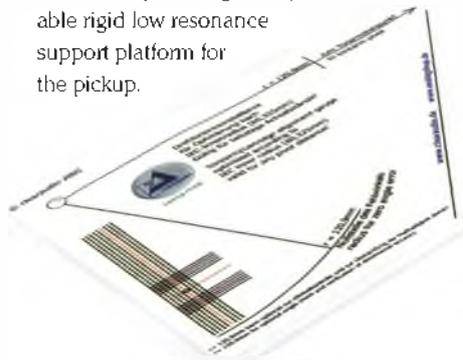
Inevitably, CD made us all lazy. Even if it didn't always sound pure and perfect, CD offered an attractive night-to-night consistency. It wasn't like certain turntables, which could sound great one night and poor the next. The Clearaudio Emotion is certainly consistent and will appeal to anyone wishing to add high quality vinyl replay to a CD based system without breaking the bank – and without being overly complicated to install.

To this end, the Clearaudio Emotion offers straightforwardness and genuine ease of installation. The most 'difficult' part of the whole procedure is setting the playing weight of the pickup cartridge – and fitting the belt. Beyond that there's little else worth commenting on. Simplicity rules here. There are no tricky suspension systems to align – no uni-pivot arms to balance. Thus, many of the tweaks and adjustments sometimes necessary with turntables are not relevant here.

Essentially, the turntable consists of an acrylic plinth that sits on three acrylic cones. The centre bearing supports a 20mm thick acrylic platter, and this is driven by a stand-alone synchronous motor housed in a massive casting. Unusually, the turntable is supplied with

a lift-off clear acrylic lid – a useful accessory that helps protect the table and stylus when not in use. There's no suspension, and no mat for the platter. 33 and 45 speeds are offered, with 78rpm an option too.

The Satisfy tonearm is a simple yet well-made gimbal pivot design that uses low friction Swiss made sapphire-cup bearings with no perceptible free-play. The 'headshell' arrangement is both simple and effective, ensuring that the cartridge is in good contact with the arm tube while providing an adjustable rigid low resonance support platform for the pickup.



The counter-weight adjusts back and forth to set stylus playing weight, and is locked in place once the correct force is found. Bias force is applied magnetically, and the arm is internally wired with Clearaudio's Directwire. The specification implies that there are no breaks between the cartridge tags and the phono-plugs – a very important detail that improves the cleanness and purity of the sound significantly.

The Aurum Classics cartridge is a magnetic type giving 3.3mV output, and it too produces a very crisp, open sound, firmly in the Clearaudio tradition. Some cartridges of this kind sound a little closed-in and 'hard' tonally, but not this one – it's very airy and neutral. It tracks

cleanly (80um is given as the maximum amplitude) and is kind to surface noise. Optimum tracking weight is given as 2.25g, with 2g to 2.5g as the acceptable limits. This is slightly higher than average, but I think it helps improve the overall stability and cleanness of the sound, as well as lowering surface noise. In many respects the Aurum Classics cartridge mimics a good moving coil. It sounds focussed and immediate, yet relaxed and open, with a smooth, wide frequency response and no obvious resonances.



The wood bodied version (tested here) weighs 6g, but there's also a heavier (10g) stainless steel bodied version available.

Like many turntables that feature an acrylic platter, the Clearaudio Emotion has an attractive, open tonality. It produces a smooth natural tonal balance that's free from hardness and obvious colorations. Compared to most CD players, the sound produced by the Clearaudio is attractively neutral, yet tactile and immediate. Dynamics are crisp, and the sound has excellent attack and plenty of bite. Yet there's a sweet, deliciously relaxed neutrality almost at odds with this.

There's no suspension and therefore little if any filtering of structure-borne noise and vibration. I sat my review sample on an old steel-framed/glass ▶

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▶ topped Origin Live stand with spiked feet going into a hard concrete floor. The floor itself is very solid, but I could still detect a certain amount of foot-fall noise through the loudspeakers when a record was playing and I walked by.



Apart from the noise, this did not noticeably affect sound quality, nor did it cause the stylus to jump – the whole arm/cartridge assembly is admirably stable. One way of combating this low-frequency noise breakthrough would be to mount the turntable on a platform with some sort of decoupling suspension or absorption – a Vertex AQ Super Kinibalu with its cones and tripod in place of the table's acrylic feet would be a fascinating – if expensive – option. Alternatively, you could put the turntable on a wall-mounted shelf.

One of the more tangible differences between good and very good turntables is speed stability. The Clearaudio only has a medium weight platter, but nonetheless achieves very low subjective levels of wow and flutter. Compared to something bigger heavier and significantly more expensive, there's just a hint of speed fluctuation. But often this is more of a fleeting impression than

something thrust in your face.

Some very expensive turntables – those with huge powerful motors (engines!) and heavy platters – exude a rock-like stability and security that makes the music sound very solid. The Clearaudio doesn't quite aspire to these giddy heights, yet by all but the highest

standards it does sound clean, focussed, and stable. It's at once sharp and controlled, yet relaxed and open-sounding, with a lovely smoothness and relaxed ease.



I don't want to over-play the speed stability thing because the Clearaudio is good enough for even

highly critical ears. But when you get accustomed to a source like CD that has no pitch wobble, your standards tend to become more exacting. Going back to vinyl, you're occasionally made aware of subtle fluctuations in pitch that are almost subliminal. In this respect the Clearaudio is very, very good, but short of perfect – though much depends on the music being played. Certain instruments – harpsichord, classical guitar, piano – tend to highlight speed fluctuations. Of course all this presupposes a record pressing that's perfectly centred – it's easy to blame a turntable for cyclic wow when the fault is down to the LP itself – the grooves swing, causing wow, because the spindle hole is not perfectly in the centre! While it might not be totally perfect, the Clearaudio is probably as good as it needs to be for the vast majority of listeners. Of

course it also helps enormously if you make sure the belt and motor/platter driving surfaces are spotlessly clean. This will ensure the turntable performs at or near its theoretical best. So try not to handle the edges of the platter or the belt with your fingers – any small greasy deposits left will slightly impair the evenness of the drive, leading to speed fluctuations. Because vinyl replay is something of a minority sport these days, Clearaudio include a small phono-stage called The Smart. This is switchable between high (53dB) and low (31dB) gain for MM or low-output MC pickups, amplifying either to line-level, making the Emotion turntable package a plug and play option electrically equivalent to a CD player. It performed admirably with the Aurum Classics cartridge, though bear in mind that the input impedance is fixed at ▶

► 47k Ohms regardless of gain – so some MC cartridges may sound a shade frisky and over-lit as a result.

Pitting the Clearaudio Emotion against quality CD players like the Consonance Linear 2.2 or a transport partnered by Chord's DAC-64, I was struck by how well vinyl held its own. For the most part the Clearaudio sounded comparably clean to CD, with similar (low) levels of background noise – the odd noisy pressing excepted of course. Where it scored was in a certain relaxed openness, allied to its delicate ease and subtlety.

Playing an early '60s recording of David Oistrakh performing Mozart's *First Violin Concerto* – an LP I'd totally forgotten was in my collection! – I was struck by the lovely openness of Oistrakh's tone, and the sharp yet refined orchestral sound – Bernard Haitink conducting the Orchestre Des Concerts Lamoureux. I mean, here's a 1962 Philips recording – hardly in the top-flight technically – yet it sounded gorgeous.

The stylus proved very kind to surface noise. Indeed, had I not known I'd probably have assumed I was listening to a very expensive Japanese moving coil – it had something of that inky-blackness and subtle inner clarity. Usefully, I think the Smart phono-stage reins the cartridge in slightly – compared to better, more revealing phono-stages the extreme top-end is slightly curtailed, making things sound cleaner and better integrated.

Getting a proper lid with the package was a real, and unexpected bonus. Lids have all but become an endangered species, so many turntables (even very expensive ones) are supplied without. And while I

appreciate the sonic arguments about how hinged lids act as a source of resonance and worsen sound quality, it's nice to have the turntable (and stylus) protected, especially when small children are present. This is especially important with cartridges that don't have stylus guards. I appreciate that the open body design of many pickups makes it virtually



impossible to fit a guard, but on a purely practical level it's nice to have some protection. Again, the Clearaudio package is exemplary, including a nice wrap-around plastic guard that really protects the stylus and doesn't fall off if tiny fingers start prodding and poking about.

These days I'm slightly unsure where vinyl stands in the overall scheme of things. It surprises me when I hear that listeners in their early twenties are buying record players and collecting LPs. I mean, I can understand the appeal of turntables to sad old gits like me with huge LP collections, but I find it less easy to see the appeal it has for someone the right side of thirty with no vinyl back catalogue. Perhaps aged relatives are croaking and leaving a vinyl legacy!

The thing about Clearaudio's Emotion package is – it should appeal to both camps. For someone committed to CD but with a big collection of LPs lying idle it would

provide an excellent source that would need no excuses making for it. No matter how good your CD player is, this turntable will give it a contest – and (dare I say it?) better in certain key areas. There's still a definite 'something' about good vinyl that even the best CD lacks. For those new to vinyl and looking for something to get started with, this package would be the perfect place to begin. It sounds

good, is easy to install and maintain, and won't break the bank. It looks way cool, and does what it says on the tin. Brilliant! ➤

TECHNICAL SPECIFICATIONS

Type:	Belt-drive record player and phono-stage
Speeds:	33 and 45 RPM, manually adjusted (78 option)
Lid:	Yes
Tonearm Type:	Gimbal bearing
Cartridge Type:	Moving-magnet
Output Level:	3.3mV
Phono-Stage Gain:	34 or 53dB
Dimensions (WxHxD):	400 x 130 x 360mm w/o cover
Price:	£1050

UK Distributor:
Audio Reference
Tel. (44)(0)1252 702705
Net. www.audioreference.co.uk

Manufacturer:
Clearaudio GmbH
Net. www.clearaudio.de

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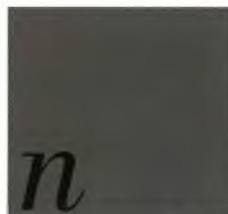
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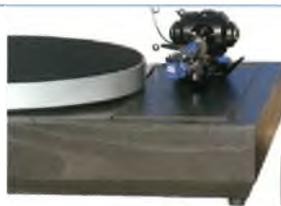
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The Earth Moves...

Rega's all-new Apheta moving-coil cartridge!

Paul Messenger

Brand new, British-made phono cartridges are rare events in themselves, but we haven't seen a brand new low-output moving-coil since Goldring introduced its Eroica and Elite models, the best part of twenty years ago. The arrival of Rega's Apheta ("bringer of life") is therefore an event worth noting, and even celebrating – once we've got over the shock. After all, Rega have been long-time advocates and manufacturers of moving-magnet designs, incorporating (not surprisingly) their own particular twist on the theme in the shape of a three-point mounting system dedicated to their own tonearms.

Having said that, it's also twenty years since Rega's RB300 totally transformed the tonearm scene, so only a fool would underestimate them. The question is, will their first moving-coil create a similar impact amongst low-output cartridges?

Price-wise, the m-c cartridge scene is straight out of *Alice in Wonderland*. Sometimes stratospheric prices seemingly rely as much on the hype of some exotic body material as the actual core ingredients. Rega tends to avoid both hype and the exotic, while its prices relate directly to the core ingredients and the workmanship involved in manufacturing its products. At £898 the Apheta is far from cheap, but it is clever, has classy ingredients, and involves some very skilful micro-engineering. It even has fancier packaging than earlier Rega cartridges, with a box CNCed from solid aluminium. Mind you, whilst the heavy half cube would be a fair bet to survive a direct hit from

some high-tech, air-dropped smart weapon, the fact that the cartridge is buried in its deepest recess and lacks a stylus guard makes it nerve racking to retrieve, and rather less than photogenic – although the latter at least needn't worry prospective purchasers.

In the world of cartridges, especially at the high-end, there are many more brands than actual manufacturers.



But the Apheta is no badge-engineered device. Although components such as styli and cantilevers are bought in from the same (mostly Japanese) sources that supply other makers, the cartridge as a whole is very much Rega's own, and is manufactured and assembled, right down to the coil winding, in its Essex factory. Obviously, the inside of cartridges and the problems of working with such tiny components and within such precise margins is something they have considerable experience with. And whilst the

Apheta may be their first coil, it's the end result of an extremely long development process, meaning reliability and consistency should be excellent.

The chassis is solid alloy, while a transparent plastic body keeps dust out but makes the innards visible. The top plate is machined to help ensure close mechanical contact with the headshell, and incorporates

the three, threaded holes necessary for Rega style mounting. Used in conventional twin-slot arms, you'd simply dispense with the nose mounting point. A tapered aluminium tube cantilever, tipped with a Vital profile, nude elliptical stylus, looks incredibly vulnerable, simply poking out at the front.

A V-shaped wire above it affords some protection against accidental damage, although there's no defence possible against the classic clumsy side-swipe. Sadly, the lack of a proper stylus guard does nothing to assist with installation.

Inside, a rhomboid rubber pivot is designed to equalise stresses once the 1.75g tracking weight is applied. Carefully shaped pole-pieces focus the flux from powerful modern magnets, and a neat tower/socket arrangement allows fine adjustment of channel symmetry at final test. Arguably the most interesting feature, however, is the complete elimination of the usual tie-wire and damping block, the only damping here being the minimal ►

▶ amount applied by the 'hinge' itself.

A snag arose when beginning work on the Apheta, so that I ended up using it on an ARO/Rega P9 combo rather than my RB1000/Sondek. No matter, as both are very capable combinations, and the ARO facilitates making comparisons with the Linn Akiva cartridge I normally use. This turntable/arm was mostly used with a Naim Stageline K and a NAC 552/NAP 500 combo plus a pair of B&W 800Ds.

I suspect the Apheta's lack of mechanical damping explains its very obviously different sonic character from my Akiva (designed by Linn but made by Scan-Tech in Japan). The Apheta's magical immediacy, transparency and delightful dynamic crispness and tension has more in common with a Grado or even a Decca than a stereotypical, made-in-Japan moving-coil.

However, having unearthed and dusted off my test discs, the measured frequency response is not all that impressive, as output rises to a treble peak at around 9-10kHz, and falls off quite rapidly thereafter. The negative consequence of this peak is that record surface noise is somewhat emphasised, but if that is a down side, in every other respect this is a stunning and superb sounding cartridge, with a freedom from congestion and a dynamic realism that is utterly and completely beguiling. It simply makes vinyl replay sound more vivid, real and exciting, inspiring one to dig out and enjoy old favourites afresh (provided they're in reasonable nick).

It was very much 'old favourite' time as I played my way through the Grateful Dead's *Terrapin Station*, and then, having been sucked in by the layered transparency revealed on this quite complex recording, played it through a couple more times for the sheer pleasure. An obscure choice maybe, but *Mingus* has long been

one of my favourite Joni Mitchell albums, so much so that my copy is now pretty well shot. But that didn't stop me twitching away and winding up the volume on the brilliant 'Dry Cleaner from Des Moines' with its punchy percussive brass and Joni's splendid jazz phrasing.

Specific output level falls roughly halfway between a Linn/Scan-Tech and an Ortofon, which puts it slightly below currently



fashionable levels. Meanwhile, compliance is quite high, so tonearms of low-to-medium effective mass are preferable – again flying in the face of the current crop of 12"arms. I encountered no tracking problems throughout the tests, which even included a quick blast of Verdi's Requiem, always a stern trial!

While Rega has no intention of adding mechanical damping, it is on the point of introducing a high quality outboard moving-coil phono-stage, based in part on that used in the Cursa pre-amp, but with beefed up power supplies and superior component quality. Details have yet to be finalised, but it's likely to come in two versions, the more costly using transformer coupling and voltage boost in series with electronic amplification and equalisation. There are also plans to include a notch filter specifically designed to compensate for the treble peak. Alternatively, those who can't

or don't want to wait for this dedicated device might choose to employ one of the many high-quality phono-stages that offer electrical damping via variable input impedance. None of the pre-amps I use at home have this facility, it never having been a preoccupation for their manufacturers (That's why they're called flat-earthers! Ed.) but I'm sure that RG will be willing to investigate the possibilities. Likewise, once I get a few technical

problems ironed out I can't wait

to try the Apheta in the RB1000, its natural home after all. I've a feeling that I've only really investigated the tip of this particular iceberg – or just what this cartridge is really capable of.

But the bottom line is that while using a dedicated or specifically tuned phono-stage or Rega arm could well improve things still further, even without it listening with the Apheta is an utterly seductive experience. Forget the foxy measurements – just dig the sound and the music delivered by the most interesting new cartridge I've heard in years. Watch this space... ➤

TECHNICAL SPECIFICATIONS

Type:	Undamped, low output moving-coil cartridge
Compliance:	25cu
Tracking pressure:	1.75g
Output impedance:	15 Ohms
Input load impedance:	100 Ohms
Output voltage:	0.5mV
Weight:	5.9g
Price:	£898

Manufacturer:

Rega Research Ltd
Tel. (44)(0)1702 333071
Net. www.rega.co.uk

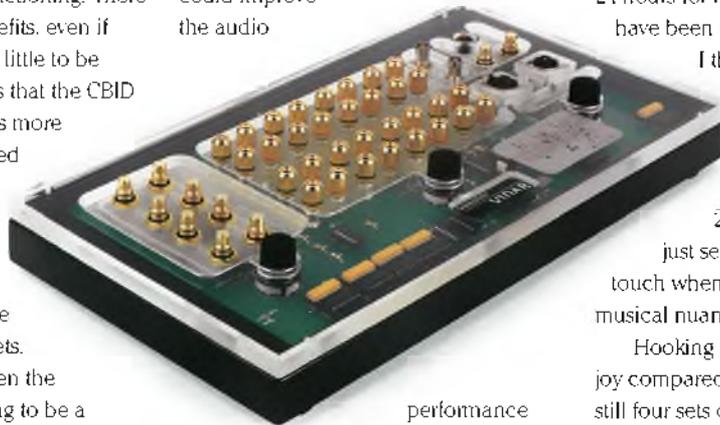
Building A Better Mousetrap... The Nordost Vidar cable burn-in device

by Roy Gregory

Some years back, motivated by the improbable (and impractical) burn-in times demanded by their cables and suffered by their customers, Nordost bit the bullet and manufactured a cable burn-in machine, designed to speed the process. Inspired by an earlier device, the DuoTech, Nordost's offering was neither physically impressive nor particularly cheap. But it did work, once you'd got it set up and functioning. There was no doubting the benefits, even if operational niceties left a little to be desired. The problem was that the CBID (or Cable Toaster as it was more generally known) stemmed from a design that envisaged an owner connecting a single system's worth of cables to it and thus provided the requisite number of sockets. The problem was that given the price this was always going to be a dealer/distributor item rather than one purchased by the individual. Connecting more than one complete cable loom became a feat of ingenuity as the daisy chained interconnects became impossibly long, easily outweighing the light-weight plastic construction of the Toaster itself. But that pales into insignificance against the issues confronting speaker cables. The DuoTech predated the current fashion for bi- and tri-wiring speakers. Trying to hook three or more sets of plugs or spades to a single pair of terminals is far from fun – especially when the terminals won't stay still and all the cables hooked up are pulling against each other. Add to that a "safety feature" that meant that power to the CBID had to be disconnected and the machine restarted every 24-hours

(although thankfully the various cables being burnt could stay in place) and operation became more than a chore, viewed by regular practitioners as a necessary evil: very necessary but evil nonetheless.

But necessity is as they say, the mother of invention. Further experience with both cables and their burn-in behaviour created a situation in which Nordost could improve the audio



performance of the CBID. At the same time (and given that they are one of the principal users) why not improve the ergonomics? Thus was born the Vidar...

The first thing you'll notice about the new cable toaster is that it looks like a real product. It's broad and slim, reassuringly weighty and with all its sockets on the top surface, incredibly stable. It's also visually attractive and impressive, a thick, milled Perspex top-plate revealing the internal circuit board and myriad status LEDs. The connections are divided into three distinct zones: one for phono plugs, one for speaker cables and a third for balanced, BNC and tonearm leads. Each set of sockets has its own power switch, while LEDs between socket pairs confirm

correct connection and a further row of colour-coded LEDs next to the switch display run-time. Yes, the 24-hour cut-out has gone, and now the Vidar will run indefinitely, displaying operating period in days up to four, then the complete week before starting all over again. Nordost recommend 96-hours of burn-in for standard cables, a week for mono-filament designs and 24-hours for reconditioning cables that have been idle or transported about.

I think these recommendations are spot-on, but would add that with brand new cables, a final "polish" with 24-hours of real music just seems to add the finishing touch when it comes to delicacy and musical nuance.

Hooking up the Vidar is an absolute joy compared to the CBID. There are still four sets of phono sockets (but as mentioned before, cables can be daisy-chained using couplers). Speaker cable connections have been improved dramatically, with doubled up outputs and inputs, making it possible to connect two complete sets of bi-wired or bi-amped cables at once, without sharing binding posts. But the third zone is in many ways the most interesting. Balanced connections have been reduced to a single in and out pair, but as XLRs daisy-chain naturally that isn't an issue. The space freed up allows for the provision of BNC sockets for digital and AV connections, and a IEC five-pin tonearm connection to two phono socket circuit. These last options not only extend the Vidar's reach into the realm of home cinema



► systems, they embrace the tonearm lead, arguably the most critical in the system as well as the hardest to run-in. Of course, not all arms use the IEJ connection although Linn, Graham, SME and others are compatible with the sockets provided. However, this got me thinking...

If the tonearm lead is itself critical, what about the internal wiring? In fact, what's required is actually a simple adaptor that runs from a pair of phono plugs to a set of four cartridge pins, thus allowing you to connect the entire tonearm into one of the phono loops. Nordost are investigating the possibility of providing just such an optional extra and hopefully it will be available by the time you read this. Meanwhile, I made my own from a patch lead and a terminal block scavenged from an old Goldring cartridge and yes, it works. In fact, it works spectacularly well, a description that sums up the performance of the Vidar as a whole.

Those who doubt that cables burn-in might like to hear the results of my experiments with VPI's replace-

able arm-tops for the JMW 12.5. Of course, as a reviewer, replaceable arm-wands are a Godsend when it comes to cartridge reviews. Having recently replaced my 'tops with Valhalla wired versions, there I was with a pair of Virgin arm-tubes: what better test? One was duly burnt, the other kept unsullied by signal and close comparisons made, using the same cartridge. Different? Easily big enough to render cartridge comparisons irrelevant! Where the burnt in tube was fluid, dynamic, transparent and open, the virgin version was flat, constricted, congested and grainy. I shouldn't have been surprised given prior experience with Valhalla and the positioning of the cabling in question at the front of the system and handling the smallest signals, but the difference was pretty shocking, underlining once again just how careful we need to be in reaching conclusions through comparison. Just when you think you've run all the variables to ground, another one creeps up and bites you in the butt.

Needless to say, ALL my arm-tubes, new and old have received a thorough toasting. Likewise, all the cables that are currently under review; an opportunity to reconfirm the results experienced with the original CBID. The conclusions are unequivocal; the Vidar is far easier to use than its predecessor, more versatile, just as effective and around twice as rapid in function. Okay, so the world might not beat a path to Nordost's door – but audio dealers and reviewers should form an orderly queue. Mean-while, if you're buying cables enquire about having them pre-burnt; the effects are far from subtle and dealers who are serious about cables (and serious about charging for them) should consider a burn-in capability as an essential part of their service. ►+

For further information contact:
www.nordost.com

... And The Icing On The Cake Finally – tonearm cables for Nordost users

Speaking of which, in a world where even the most curmudgeonly tweakaphobe will still spend (albeit begrudgingly) several hundred pounds on an interconnect to hook up their expensive CD player to the rest of their system, many audiophiles are still passing the tiny and incredibly fragile signal from their pride and joy turntable down something not much better than a patch lead. Consider this; the owner of an SME 5 tonearm probably has a combined investment, including record deck and a suitably pricy cartridge, not far short of \$5000 – and quite possibly

considerably more. If he (or she) is using the standard tonearm lead then it's a piece of vdH 501, a 20 year old design with a street price of around \$45 once you've fitted the plugs (and believe me when I say that the metalwork and its attachment constitute the lion's share of the budget). You don't need a news flash to tell you that this isn't big and it isn't particularly clever.

But, before you go beating yourself up, this is actually another example (just like internal arm wiring) of owner



oversight. Because the lead has been supplied with the arm, we tend to assume that it's someone else's responsibility; that they'll have selected an appropriate lead and terminated it accordingly. Unfortunately, the demise of the record player, crushed beneath the weight of CD's commercial onslaught, means that many of the tonearms that we rely on today haven't really ►

▶ developed. The SMEs are just one example – there are plenty of others.

Meanwhile, back in the real world things have been moving apace, not least our understanding of cables and how to use them in audio systems. With the emerging realization that employing a consistent cable or connection technology throughout the system brings disproportionate benefits in terms of musical coherence, a properly structured cable loom has become a performance priority. However, generally speaking, the honourable exceptions have always been digital leads and tonearm cables – simply because they each have specifically defined electrical properties not met by the majority of existing interconnects.

Not surprisingly, dedicated digital leads have been the first addition to many cable ranges, allowing users to extend their coherent loom. Now, somewhat belatedly (and with nothing else to do?) cable manufacturers have finally started to add purpose built tonearm leads to the mix. Increasingly too, tonearms are being offered with termination boxes and phono-sockets in place of lead-out wires. It's against this background that Nordost have rounded out their monofilament cable ranges with tonearm wiring, both internal (as offered by VPI) and external.

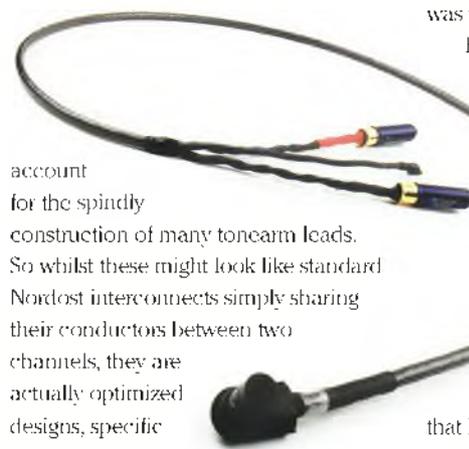
A makeshift Valhalla tonearm lead has been available for some time, but only to those in the know who also happen to have phono sockets fitted to the back of their turntable. Now, the company has announced dedicated tonearm leads for all but the cheapest of its new monofilament ranges. That means Heimdahl (red), Frey (purple) and Tyr (grey). Each is available as a phono-phono lead or phono-SME din, the latter plugging into many other arms too. Other terminations are possible on request, but might need the purchaser to source an appropriate plug. Each cable comprises a single



circular conductor, incorporating a spade terminated earth wire. Length is 1.25 meters.

What, no Valhalla? The large diameter of the Valhalla leads mean you can't physically attach one to the din-style arm plug. An "official" phono-phono version may become available but isn't yet...

As I intimated earlier, tonearm leads have particular electrical requirements. This is because, just like the loading in a phono-stage, they actually comprise part of the generator damping applied to the cartridge. High capacitance can be particularly problematic, and helps



account for the spindly construction of many tonearm leads. So whilst these might look like standard Nordost interconnects simply sharing their conductors between two channels, they are actually optimized designs, specific to their intended function. I tested phono-phono versions of each, inserting them into an otherwise all Valhalla set-up. Also available were Audioplan, TCI and Discovery tonearm leads, although the Heimdahl quickly relegated those to also runs, demonstrating not so much

its absolute superiority as the primacy of coherent cable design in the overall scheme of things. In other words, in an all monofilament system, any monofilament cable will beat almost any non-mono-filament usurper, regardless of price or quality:

In fact, the Heimdahl proved a surprising performer, getting close to the incumbent Valhalla in terms of scale and dynamic range, but losing out on detail, musical flow and subtlety. The pace was lacking, the reproduction sounding a little mechanical in comparison to the best; Ricci's bowing on the *Carmen Fantasy* sounded more like a warm up than a performance! Drama, impact and presence were first rate, putting the non-monofilament cables in the shade and it was only against the more expensive cables that the Heimdahl's clumsiness became apparent. Substituting Frey brought a step up in detail, but more importantly the integration and sense made by that detail. Images were more localized, instruments more natural and identifiable. Which is about what I'd expect, being familiar with the clear sonic hierarchy that Nordost's cable ranges exhibit. What I wasn't ready for was the leap in quality to the Tyr...

However, before we go there, a word of complaint. I understand the pressures of pricing, and I know that the best sounding plugs are often the least impressive to look at, but... the metal bodied plugs fitted to both the Heimdahl and Frey were so loose in the sockets of the Groove Plus that I had to crimp them up with pliers. I can understand their presence on the Heimdahl, but if standard Frey interconnects warrant WBT NextGens shouldn't they be even more important on a tonearm cable given the tiny signals involved. Consulting Nordost on this issue revealed their concerns over providing adequate strain relief ▶

▶ when fitting the thin, Frey conductors to NextGens, with their wide apertures. However, it seems the WBT plugs will be available as I suspect, a seriously worthwhile cost option. Just be careful making and breaking connections.

Whatever the reason (and I suspect that the NextGen plugs fitted are a major contributor) the Tyr walloped the performance of not just the Frey, but the Neutrik equipped Valhalla too. Detail, focus, dimensionality, transparency, dynamic expression and subtlety all improved significantly. Detail was better integrated into individual instrumental shapes, instruments into a more coherent and palpably believable soundstage and acoustic space. But the real kicker was the improvement in pace and flow and as a result, musical expression. Ricci regained his old swagger and verve – and then some. His playing became more dramatic and emphatic, the musical punctuation far clearer. The range of instrumental colour improved on the Valhalla, and so too did the space and cushion of air around individual instruments, allowing you to pick them out of the orchestra far more readily. But the *Carmen* is a Ricci recording and the Tyr left you in no doubt of that, rendering his instrument solidly separate without any of the glare or screech that can afflict this recording when poorly replayed. Instead, his

masterful control and precision are underlined by tonality that never strays into the hard or bright.

Just for fun I also tried a set of regular Tyr interconnects; the results were clumsy and bloated in comparison, again underlining the specialist nature of the tonearm application. As major protagonists of the coherent cabling of systems it should come as no real surprise that Nordost's tonearm leads complement their existing cables so impressively, extending the loom one step closer to the analogue source. Which brings us to a few words of warning. The natural home of these cables is feeding an all Nordost wired system; results in other circumstances might be just as impressive – or they might not. You'll need to suck it and see. Secondly, I can just see the existence of Nordost internal arm wire setting those DIY diggers a twitching. Don't do it! Seriously! Poor cable routing in a tonearm can destroy the bearing freedom, doing more sonic damage than the better cable can compensate for. By all means get your arm rewired, but get it done by a professional and preferably the original manufacturer. If they no longer exist then by Moth Marketing (44(0)1234 741152) as an experienced practitioner. Finally, bear in mind that the flexibility of these leads will differ

from those fitted to many existing arms, so they might interfere with the suspension on a deck like the LP12 or Pink Triangle. These issues are not insuperable but they do need to be addressed.

With those caveats duly noted, the Nordost arm leads can be warmly welcomed. At their respective prices each offers a significant performance upgrade over stock items, as well as non-Nordost alternatives if your system is already Nordost wired. I'd love to hear the NextGens on the Frey, even if it is a cost option. In the meantime, the Tyr has taken up residence in my system, the only non-Valhalla piece of cable I use, an impressive endorsement of both its performance and the coherence and continuity of Nordost's approach. ➤

Prices – 1.25m phono-phono or phono-SME:

Heimdahl: £249.95

Frey: £349.95

Tyr: £599.95

Allow £30 extra for XLR termination at the amplifier end.

UK Distributor:

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Battery Farm...

The Living Voice Music Plus battery power supply

by Paul Messenger

A piece of paper stuck on the door of an anonymous hotel room door at the Bristol Show proclaimed "saucy gear inside". Seeing it was the Definitive Audio/Living Voice room, run by the perennially cheeky Kevin Scott, I pushed my way in to see what he was up to.

Saucy only told the half of it – downright outrageous seemed a better description of what was going on inside. Making beautiful music to a room packed with people was a full-on Kondo valve system, probably costing the combined annual incomes of all those

present (self included!). You'd expect such a collection of gear to sound quite superb, especially as Kevin has a real knack for picking a fine selection of interesting music. But the real ace up his sleeve was propped up against the wall behind the actual equipment. ▶

▶ A large board adorned with three decidedly industrial 'switch boxes' and festooned with massive cables was wedged in place by what looked very like four large khaki ammunition boxes.

In fact the 'ammunition boxes' were bulky and very heavy-duty 12V gel battery accumulators, much bigger than the usual car battery, of a type apparently more commonly found in expensive yachts. The 'switch boxes' actually consisted of a high capacity battery charger and two heavy-duty mains inverters. With everything linked together using appropriately fat cables, switches and monitoring devices, the whole caboodle actually represents a battery-based power supply called the Living Voice Music Plus system, which is able to supply synthesised mains to any hi-fi system, while at the same time totally isolating it from the normal mains electricity supply.

No wonder the system was sounding so good. For some years I've felt that the overall quality of sound at hi-fi shows has been steadily deteriorating. Although the arrival and impact of AV-oriented sub-woofer based systems has played an audibly acoustic part in this, in my view the insidious influence of mains pollution is far more likely to be the most significant part of the problem. Switch-mode power supplies are just one example of a relatively recent technology that can feed high frequency pollution back into the mains. While the companies that use these devices naturally ensure their own equipment is not adversely affected, there's nothing to stop the pollution spreading right down the corridor to all the other dem rooms, and spoiling the sound quality there.

By totally avoiding all the mains

hash and garbage being created elsewhere around the show, it's hardly surprising that the Living Voice dem was sounding beautifully smooth and clean. Using batteries to power and electrically isolate a component is not new. Brands including Crimson Elektrik, Pink Triangle, Holfi, Dynaudio and Dartzcel all come to mind as having applied the technique to individual components. But what uniquely distinguishes the Music Plus approach in my experience is that it is used to supply an entire system, and also that it can be used with any



collection of components you choose.

Although the 500W battery supply that Living Voice used at the Bristol Show was undoubtedly expensive, costing £10,000 with installation extra, this actually only represented an extra 7% on the price of the complete system being demonstrated. Such a top flight Japanese audiophile valve system is well beyond the reach of the vast majority of course, but the cost of a battery supply could

still make sense in a rather less exalted high-end system.

While the Music Plus supply was certainly capable of delivering magical results with top flight components under the rigorous conditions of a hi-fi show, I was intrigued to hear what it could do in a totally different context, over a rather longer haul, and under more relaxed home conditions. The top-of-the-line Naim system I regularly use at home might be a lot less costly than a Kondo package, but it's still serious money, and is also well known to be hyper-critical of the mains that it's fed.

I was intrigued to see how it would respond to the Music Plus supply.

So too, I think, was Kevin, as he was prepared to go to all the trouble of shipping the stuff down to me, installing it, and leaving it with me for a couple of weeks. And there's quite a lot of trouble involved in doing just that. The travelling time is around four hours each way; each of the four batteries weighs 70kg; and the board on which all the other bits are mounted is heavier still, and bulkily awkward with it.

Happily, apart from the heavy lifting, the temporary installation process proved quite straightforward, aided by the fact that all the power supply components could be temporarily housed in the loo/shower that's adjacent to my listening room. It was a simple matter then to run an extension lead carrying the synthesised mains supply through to my system. In fact it would also have been relatively easy to have made such an installation permanent, by mounting the electronics board high up on the wall and putting in (strong) shelving for the batteries. Kevin mentioned that other possible permanent installation locations included garages, attics, cellars, ▶

► under stairs cupboards, or even in outbuildings.

Although this wasn't possible at the hi-fi show dem, it's quite important to be able to put all the battery supply hardware in a separate room, or failing that in a large and well sealed cupboard, partly because the whole caboodle is unavoidably bulky and ugly, but more particularly because the fan-cooled high capacity charger is distinctly noisy. If you only use your system for relatively short periods, and if the room in which it's used is mainly devoted to music listening, that fan noise will probably be tolerable, but you wouldn't really want to be in the same room while the charger is operating. The two inverters also make a mild buzz, and these of course have to be switched on while music is playing. This is quite tolerable – indeed unnoticed and inconsequential at normal listening levels – but certainly better avoided by those who favour quiet middle-of-the-night listening levels.

The actual kit used in the supply includes a very classy microprocessor controlled 24V/100amp battery charger, which maximises charge rate and battery life, by profiling the input charge over time, and monitoring the battery plate temperature. This charges four, deep cycle 200 amp-hour gel batteries, chosen as they are maintenance and hazard free in terms of gas or electrolyte leakage. These in turn feed two 24V/3kVa sine-wave inverters.

Those items comprise the core of the system, but a number of ancillaries are also important. These include a DC link box containing four 300 amp Mega fuses, fused pickups, and sensing circuits; twelve mechanical circuit breakers in a consumer unit enclosure; assorted 70mm tri-rated cables and sundries; one 350 amp battery isolator switch; and one battery status monitor with data link. This last item can be located up to 30m away from the rest of the hardware, and may be combined with a remote on/off charger switch, which is very convenient.

So how did all this work out in practice? Rather well, I have to say. In fact the only extra feature I should have liked to have had was some form of time switch for the charger, which shouldn't be too difficult to arrange, to get the batteries up to full charge automatically a couple of times a day. Apparently these gel-type batteries (a variation on the lead/acid theme used in cars) don't suffer from any 'memory effects', so there's no need to impose discipline on the charging procedures. Furthermore, according to Kevin, for best sound quality, it's best to keep the batteries at or above 80 per cent of full charge, and I did my best to follow this advice.

Naturally the rate at which the batteries discharge will depend on what sort of system is connected, and how much power it's drawing. Even with no load at all, the inverters themselves consume a certain amount of power, draining the batteries at about 0.8%/hour – or losing around 20 per cent of their charge in 24hrs. The Naim kit I normally use has relatively low consumption, and probably used up around 10% overnight when merely left switched on, but this consumption rate naturally increased dramatically when I plugged in, switched on and started using a Unison Performance valve amp. This excellent single-ended stereo amp has three KT88s for each channel, and takes 500W from the mains. That's pretty close to the 600W maximum output of the two inverters in parallel, but the battery supply handled it fine, with enough in hand for the solid-state source components. Obviously the charger had to be used for longer periods with this amplifier, and Kevin reckons there's a slight loss in quality when the charger is operating, but I have to say that if so it was very slight.

The battery supply was used over a period of weeks with a number of components and systems, including a Kondo Kegon power amp, my regular Naim 500-series system, the above-mentioned Unison Performance, and

A NAD Masters M3/M5 combo. B&W 800Ds were the speakers of choice most of the time. In each case the effect of using the battery supply in place of regular mains was both obvious and consistent. It was most apparent in a clear improvement in dynamic range, especially in the mid-band, and in the precision and focus of the stereo imaging. In fact it came as a real surprise to find such an obvious difference between the two alternative supplies, and also to realise that there was quite so much crud on the mains, even though I've always taken good care to run my hi-fi off a clean and separate spur.

Connected to the battery-powered supply, the various systems take on a smooth, creamy, ultra-clean quality that is very persuasive, and do so with impressive consistency whatever the time of day or night. (Mains powered systems do tend to vary somewhat, improving noticeably as general mains usage quiets down in the middle of the night.)

That said, under some circumstances it did sometimes seem to over-sugar the musical pill, and sound just a little too polite. This was most noticeable when I was playing vinyl through my core Naim system. Sufjan Stevens' excellent album 'Illinoise' seemed to lose a little sparkle, and more aggressive rock material like 'Who's Next' and Little Feat's 'Waiting for Columbus' seemed to lack a little aggression, bite and 'edge'.

As a generalisation, I would say that the characteristics of the battery supply is marginally better suited to CD than vinyl sources, because the supply's exceptionally low level of hash and noise is that much more obvious when using a source with near-zero background noise. In my experience at least, vinyl never matches the low background noise available from CD, though it does tend to have a sweeter and more incisive top end, and both these factors seemed to suit regular mains power. I would also say that the magnificent ►

► midrange transparency and delicacy of a top quality valve amplifier is better served by a battery-based mains supply that the more congested qualities of solid-state designs, where the battery bonus is less obvious.

One probably relevant factor concerns the source impedance of the supply. Although the battery supply has significantly less 'hash' and interference than the mains, it also has a higher source impedance. I tried unsuccessfully to get some actual figures on this, but never got beyond the admission that the source impedance of inverters wouldn't be as low as the mains. This matters because it determines the speed at which mains (or simulated mains) power can be supplied, and that in turn probably accounts for the advantage in the extreme treble I heard when connecting my Naim kit direct to the mains supply.

However, there's no disputing the lovely tonality and texture the battery supply brought to orchestral and acoustic instruments in general, nor

the exceptional believability of well recorded human voice, such as found on my Alison Krauss albums. Then there was the occasion when a vicious nearby lightning strike upset the local earth potential to such an extent that all the indicator lights on my NAC552 pre-amp came on simultaneously. I quickly transferred to the battery supply and carried on listening through the storm.

Obviously a battery-based supply makes most sense when the local mains are rather dodgier than is usually found in Britain. (Give it time, given what's been happening to our roads, railways, water supplies etc) Kevin's clients include a very satisfied customer out in Thailand, another equipping a yacht with high-end audio, and he also mentioned transforming the sound quality of a system in rural France. One thing's absolutely certain, the quality of our mains is certain to continue deteriorating, just like the quality of TV programming, so what might seem an extreme luxury today could become a high end

essential tomorrow. With the added bonus that you have access to an independent mains supply in case of a power cut.



Ingredients:

1x 24v 100amp microprocessor controlled battery charger
 4 x Deep cycle 200 ampere hour gel batteries.
 2 x 24v 3000va sine wave inverters.
 1 x DC link box
 12 x mechanical circuit breakers in consumer unit enclosure.
 Assorted 70mm tri rated cables and sundries.
 1 x 350 amp battery isolator switch.
 1 x Battery status monitor and data link

OUTPUT LEVEL: 600W (300W per inverter)

PRICE: £10,000 plus installation

Living Voice/Definitive Audio
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 Net. www.livingvoice.co.uk

B&W Competition Winners



Lucky winner of our Issue 43 competition to win a pair of limited edition B&W 603 S3 loudspeakers with Blue Note cabinet work is –

Mr. David Sellars from Todmorden in Lancashire.

Personalized and totally unavailable to the public, these really are a rarity and deserve the loving home that

Mr. Sellars's clear knowledge of Blue Note's recordings and artwork will provide.

Lovely to look at but of limited utility, the three Blue Note calendars go to Mr. S. Conway of Bradford, Jacqueline Malins of Huntingdon and Russell Towo of Lausanne in Switzerland.



Record Reviews

How To Read Them



Kraftwerk

Minimum-Maximum

EMI 3349962 

At long last, Kraftwerk's debut on multi-channel SACD has arrived. That's the good news. The less good news is that the multi-channel mix is arguably not this album's strong point, but not for want of care; this is definitely not one of those SACDs that make you dive behind the sofa when gratuitous rear channel reverb kicks in. Rather, the issue is that the 5.1 mix seems to be the one used (in compressed form) on the superb *Minimum-Maximum* DVD. As a counterpart to the visuals, it works flawlessly. Yet when removed from the visual context, the music can be hard to relax with. Of course, if, like many in the Kraftwerk audience, you prefer to dance around the room, this will not be a problem.

However, the stereo mix is a stunning reproduction of Kraftwerk's live sound, capturing all the intricate reverb trails, sharp synthesizer leads and pulsing beats. The sense of space also seems more tangible. As for the music, no argument: this is the best collection of Kraftwerk music ever released. The arrangements of early classics such as 'Autobahn' and 'Neon Lights' are faithful but have greater momentum than the originals, particularly with the closing 'Aero Dynamik' and 'Music Non Stop'. There's a very good reason why Kraftwerk are repeatedly hailed as being as influential as the Beatles. You'll find it on this album, whichever way you hear it.

RC



The information contained in the record reviews is presented in the following way. Albums are identified by label and serial number. Beneath this you will find one or more icons which denote the available formats for the recording. The first icon refers to the format reviewed.

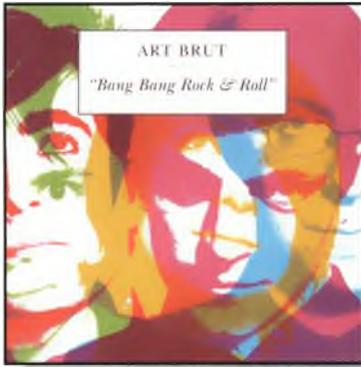
The ratings at the bottom of each review reflect the reviewer's opinion of the recording quality, and musical merits of the album. You'll soon realise that a great many musically significant albums offer less than wonderful sound. Don't let it put you off! For your information the scale rates a standard, good quality pop recording as slightly below average.

The reviewers are identified by their initials.

They are:- Dave Ayers, Tim Britt, Anke K. Bronner, Mark Childs, Richard Clews, Dave Davies, Dennis D. Davis, Peter Downard, Richard S. Foster, Roy Gregory, Simon Groome, Jason Hector, Andrew Hobbs, James Michael Hughes, Reuben Parry.

Key to Icons

-  CD
-  Gold CD
-  HDCD
-  XRCD
-  Double Disc
-  DVD
-  SACD
-  Hybrid SACD
-  Multi-Channel
-  120g LP
-  150g LP
-  180g LP
-  10" LP
-  Availability As S/H LP
-  Vinyl Double Album



Art Brut

Bang Bang Rock & Roll

Banana Recordings/Pierce Panda Nong38cd 

Art Brut skirt a very fine line between being very irritating and very good indeed. *Bang Bang Rock & Roll* is pretty hard to pigeon-hole into a single genre; it lies somewhere between art-school indie and two-tone garage. The formula is consistent throughout the record, a mixture of garage guitar and shouted prose vocals. There are shades of Pulp and Blur in the lyrics, but with much greater self analysis and deprecation. It is, without doubt, the vocals that make Art Brut. The band are quite adequate and, taken on their own, would doubtless sound much like the current spate of Libertines clones. But the vocals are so different to anything else around that Art Brut are pretty much unique. And it's on the vocals that they stand or fall: witty intelligence can often seem like self-indulgent egotism. The album has its high points. 'My Little Brother' and 'Fight!' are, without question, pure genius. But after half an hour of unbroken prose, of endless clever social commentary, *Bang Bang Rock & Roll* starts to drag. Art Brut stand apart from the rest of today's bands, in their own words: popular culture no longer applies to them. They are slightly too old for the charts, creating art rather than a piece of pop. However, I can't shake the feeling that they might just be too clever for their own good.

MC

RECORDING 
MUSIC 



Mississippi John Hurt

Today

Vanguard/Pure Pleasure VSD 7922D 

This just gets harder. Here's another desert island record and if I keep saying that I'm going to need a bigger island. I love Mississippi John Hurt, another giant of The Blues. Born in 1892 in Carroll County, Mississippi, I first heard his playing on a record produced from the 1963 Newport Folk Festival, but I'd almost forgotten about that wonderful voice and outstanding guitar. It was in the late 1990's when I started to ramp up my Blues collecting that I rediscovered a trio of recordings for the Piedmont/Chesapeake label. They were intimate and in your room. I later also picked up his recordings on Vanguard (there are two others) and the mono release of this record has always been my reference – but I am rethinking that now, because somehow Steve Hoffman and Kevin Gray have brought out a sweetness and purity in the sound of this disc that I didn't know existed. His warm vocal style is only surpassed by the passion of his superb pickin' and from the first track, you'll be mesmerized. It's hard to imagine that Hurt went almost 40 years between recording sessions, but that's a fact. It's also hard to believe that he passed on within months of recording this masterpiece. A must own recording!

Supplier: www.purepleasurerecords.com
RSF

RECORDING 
MUSIC 



Krista Deter

Mudshow

Corazong Records 255087 

It would be wholly unwise to ignore any album with such a striking sleeve, wouldn't it? God knows what the significance of the elephant is, but the grand piano speaks volumes as far as Krista Deter's *Mudshow* is concerned. Deter's had all the labels thrown at her; rock, country, alt-country, folk, but none fit the bill. The one she quite likes is Leonard Cohen meets Joni Mitchell, although you could if you wish add on ... meets Mary Chapin Carpenter and Toni Amos, although that last one probably has its roots in that piano on the sleeve. First and foremost Deter is a singer/song-writer, one with extraordinary lyrical prowess and an uncanny ability to work outside of the songcraft box. She has a beautiful voice too; on the deeper side of delightful – the perfect tool to encase her incredible lyrics. The songs themselves are generally low-key affairs, gently augmented by the occasional fiddle, dobro, mandolin, cello, accordion and banjo. In Deter's skilful hands they become something quite magical, mystical and deeply hypnotic, with an odd dreamlike quality. As you've got this far and are still reading then your interest must have been slightly aroused, in which case it would make perfect sense to seek out this gorgeous little gem. It's a soft, seductive listening experience; all in all the perfect way to end a perfect day.

AH

RECORDING 
MUSIC 



Bonobo

Days to Come

Ninja Tune  

This is the third outing from Simon Green AKA Bonobo and while it represents a new direction for him it will not come as a shock to anyone familiar with his first two outings. Not sure what the current name for this variety of sampled and real instruments sourced music is but it used to be called trip-hop. Anyone who watches BBC 2 regularly will be familiar with the style from various gardening programmes that help me to remember where a particular tune has been taken from. Bonobo seems to have come under the influence of label mates the Cinematic Orchestra, the use of strings, harp and woodwind making tunes like 'Transmission94' and the title track among others very reminiscent of that fine band. The deal here is a layering of tracks to produce a busy, percussive vibe that builds into a climax in a relaxed and unhurried fashion. 'If You Stayed Over' features Fink's fine voice while four tunes are lead by Bajka whose smokey voice grace the single 'Nightlite' that you may have heard on Zane Lowe's evening show. For me the highlights are the instrumentals which work so well in the background, keeping you interested and listening but not diverted. This stuff works at high levels but comes into its own at a more subliminal level.

JK



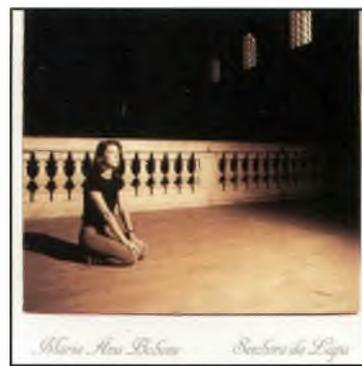
The Pipettes

We Are The Pipettes

Memphis Industries M1072 

All girl three-piece The Pipettes probably like to think they echo the music of the great girl groups of the early sixties, with all the polish, glamour and stardust of people like The Supremes. Personally though, I think they stand somewhere a little closer to Bananarama. Backed by companion band, The Cassette, they are blessed with the ability to pen effortlessly catchy tunes. These they then render with a smooth, polished sound, all close harmonies and careful orchestration. Nothing in the instrumentation ever breaks rank with the vocals so don't expect howling guitars or bass solos, this record is strictly about the girls. With this in mind, the backing is kept low key, tight and set well back in the mix. The vocals are a little weak by modern standards, lacking the power and definition of a modern RnB diva, and certainly nowhere near a true female legend. What they do achieve though, is a near perfect blend. This is a warm, analogue record: spring reverbs kick out small, unintended percussives from the guitars and the vocals come with long, phasing plate reverb. All this helps to give the album a distinctive pre-aged sound and style. The Pipettes grow on you, and as the hooks do their job this album will weld itself to your hifi.

MC



Maria Ana Bobone

Senhora da Lapa

M A Recordings M046A 

When a children's song suddenly makes you cry, then you understand that you are part of one of those magic moments that happens from time to time. An angelic voice, clear as crystal and bright as the stars, combined with the dark timbre of the Portuguese language – this is the right mixture to make you shiver, to give you goose bumps. But it is – as always – the sheer simplicity that makes it so beautiful. Voice and piano, here and there some notes on guitar or saxophone, sufficient and satisfying, just perfect!

The fado (Portuguese for fate), this sad, sentimental music from Portugal, seems to consist of pure melancholy and sentiment cast in sound. But it can also act as a cathartic storm, can purify the soul, may help to bring a new approach to life and to the world with its somewhat distant glance. Pure analogue recordings, engineered with care and dedication to the music; that's what I expect from M A Recordings – that's what I call audiophile: love for music. Maria Ana Bobone sings of good times and bad times, but it sounds soothing. She sings from melancholy, but it sounds consoling. She sings from distance, but it sounds like home. She could sing the words of a cooking recipe and still find the beauty within. A voice to die for!

AKB





Angie Palmer

Tales Of Light And Darkness

Akrosia Records PMCD4

Partnerships play a major role in our world and come in many guises. Sometimes they work really well and sometimes they don't: Angie Palmer and Paul Mason are a classic example of the former. Having met by chance (although I'm a great believer that nothing is), they have produced a body of work that rubs shoulders with the very best in their field. The words come courtesy of Paul, and pull heavily on the deep and the spiritual. He and Angie appear to have an almost telepathic understanding of the song-writing craft – it's hard to imagine either working with anyone else. This album follows on from the critically acclaimed 'Road', but this time around the emphasis is on a more full-bodied sound. Angie's singing a little harder than before, but that's not to say there aren't plenty of poignant moments too. 'Premonition Blues' is one of those moments; over the top of a hushed acoustic and banjo she echoes what must be at the forefront of our minds in these troubled times, the lyrics cutting hard and deep: "Well I heard somebody saying we're progressing every day, well I think they must be joking 'cos the end is on its way." This is a magical a bum, and to resist is madness. Go buy and enrich your lives beyond measure.

AH



Muse

Black Holes and Revelations

A&E Records HEL3002

In interviews Muse have talked about finding a more soulful, funkier side to their music in New York whilst spinning tunes in underground clubs. Certainly their first single from this record sounds slightly off-beat, with a chunky bass riff and syncopated rhythm section. But don't let it fool you, this is the band at their old school best. Pretend the last a bum never happened, that they never got angry at the world. *Black Holes and Revelations* can be lined up against their second album *Origin of Symmetry* track for track. In this case 'Supermassive Black Hole' simply drops out as the new 'Feeling Good'. And the comparison doesn't end there, because Muse have returned to the fertile ground of the concept album. Massive slabs of sound assault you from the very start, no melody can be too operatic, no flourish too theatrical and no effect too overblown. Massed choirs accompany the choruses, synthesisers loop in the background in ever ascending arpeggios, and the vocals reach high into the falsetto. As the record nears the close, tacked on almost as an afterthought, 'Knights of Cydonia' suddenly becomes 'Bohemian Rhapsody' and Matt Bellamy finds himself filling the roles of both Brian May and Freddy Mercury at the same time. And quite frankly, if that's not good enough to impress you, what is? Quite simply, the best album I've bought all year.

MC



Gretchen Wilson

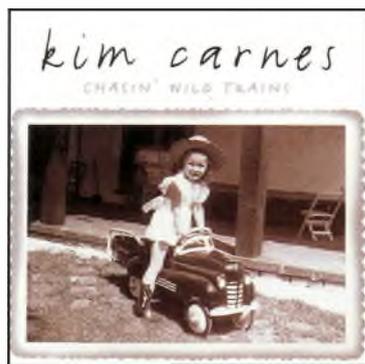
All Jacked Up

Epic: EK94169

When your debut album goes straight in at number one on the country charts (selling millions along the way) following it is bound to be a daunting prospect. That was the dilemma facing Gretchen Wilson after *Here For The Party* exceeded all expectations and became a quadruple platinum album in double quick time. She needn't have worried; *All Jacked Up* sold over 264,000 copies in its first week and looks all set to repeat the success of the debut. 'If it ain't broke, don't fix it' is the order of the day here, this album being more of the rollicking redneck country she served up first time around. The guitars are cranked, the beers are in full flow and everyone sounds like they're having a blast, especially on the title track and the fabulous 'Rebel Child'. Merle Haggard helps out on 'Political Uncorrect', and the combination of her driving vocal and his grizzled approach works a treat. 'I Don't Feel Like Loving You Today' is the big ballad and although it's sensitively sung and likely to encourage a plethora of fighters to be held skywards, it's a bit too Nashville-by-numbers. If you're looking for a challenging musical experience you won't find it here; Gretchen's all Jacked up and ready for a party - you know what to expect.

AH





Kim Carnes

Chasin' Wild Trains

Corazong Records 255091 (CD)

Best remembered in this country for the haunting 'Bette Davis Eyes' (revisited here as an acoustic bonus track), Kim Carnes continues to make excellent albums. As a songwriter she's lost none of her originality, and the same can be said for that voice; a mix of sharp sand and whisky which, whether applied to a rocker or a sensitive ballad, still stands as one of the most original and easily recognisable in music today.

Carnes moved from Los Angeles to Nashville in 1994, primarily because as an in-demand songwriter she was spending more time in the air than she was on the ground! Other artists have benefited hugely from her writing gifts but a Kim Carnes song is still best sung by her, as evidenced by the gorgeous tracks on display here. Separation and loss are prime subjects, represented quite beautifully by the sad lament 'Goodnight Angel' ("... if you were here we'd put 'Into The Mystic' on the stereo") and the subtle country rocker 'Lucid Dreams', a co-write with Green On Red's Chuck Prophet who lends his rustic tones and musical weight to one of this album's major high spots. Carnes doesn't break any new ground but her song writing chops are in first-class condition, and she does an excellent job in the producer's chair too. Good to have her back.

AH



Kid Koala

Your Mom's Favourite DJ

Ninja Tune (CD) (180g)

Kid Koala, or Eric San, is what young folks call a turntabalist; we used to call them DJs but that title does not indicate the extent to which the Kid mucks around with his records. They used to call it scratching but that pursuit sounds pretty crude next to the manipulations and overlays that this guy achieves with one of the most esoteric and out there record collections in the land. KK must spend most of his waking hours searching for unusual old, very old, tunes and the rest of them delving through spoken word recordings and movies of yore looking for apt sound bites. The result makes for highly engaging listening though whether you'd call it music in the regular sense is another question. In fact there is a clip on here that goes: "There's some music involved a little later but that's not exactly what we're doing for the moment." Which is pretty much spot on. At times he gets wrapped up in clever mixes and scratches but at others he lets things flow, scratching one tune over another and building it up into a solid beat. Inevitably sound quality is limited by the fact that he is using relatively unbreakable turntables to do the mixing, but given that limitation the result is still clean and even open on occasions. If you enjoy the sounds and voices of yesteryear rearranged and can appreciate "a good progressive rock DJ", though the term progressive clearly had different associations in the sixties, check out this short but sweet gem.

JK



Maria Muldaur

Heart Of Mine

Telarc CD83643 (CD)

It's dangerous to record an album of cover songs by a songwriter as celebrated as Bob Dylan. The artist attempting such a difficult task (in this case Maria Muldaur) leaves themselves open to scorn and contempt; how can anyone do justice - or indeed improve upon - songs so famously ingrained in the minds of the record buying public? To Dylan's fans, what Muldaur has done here is tantamount to treason, and there will be plenty of critics too ready to slate her and hang her out to dry. That would be a pity as *Heart Of Mine* is really rather fine; cover versions they may be, but they're handled compassionately and with great taste, at the same time offering a fresh take on some very original material. Muldaur's been very clever here; true, she's covered 'Lay Lady Lay', 'I'll Be Your Baby Tonight' and 'You're Gonna Make Me Lonesome...' but she's also dipped into some of Dylan's newer compositions, such as 'Moonlight' from *Love And Theft* and 'Make You Feel My Love' from *Time Out Of Mind*. She's also surrounded herself with a crack band that includes seasoned guitarist Amos Garrett, and they provide Muldaur with the perfect backdrop for her sensual southern vocals. Brave it might have been but stupid it wasn't; in every respect *Heart Of Mine* is a resounding Triumph.

AH





The Legendary Son House, Father of the Delta Blues

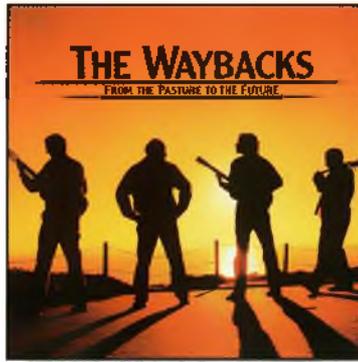
Pure Pleasure Records PAPAN CS 9217 

When he was "rediscovered" in 1964 in Rochester, New York, Eddie James House, Jr. was far from his birthplace of Riverton, Mississippi. House had 'retired' from the music business and was working for a railroad at the time, but he's a direct link to Charlie Patton one of the early pioneers of the Delta Blues. House played with Patton and by 1964 there weren't many people around that could make that claim. This re-issue offers way better sound than the original Columbia and we're also treated to an additional dozen tracks that have never before appeared on vinyl. Whether you talk about 'Empire State Express' – a page out of Son's life – or 'Motherless Children', 'Shake It And Break It' or 'Levee Camp Moan', these are heartfelt blues. While his guitar playing – these sessions used a steel-bodied National guitar – wasn't the last word in style, there's a wonderful rawness and technical naiveté about his playing. His vocal style is soulful and a little edgy... but there is something about it that just grabs you. Recordings by House are rare, his earliest work being done for 78's, with some individual tracks available on a 1967 American Folk Blues Festival disc, making this an indispensable document. I hope you enjoy this set as much as I do. Highly recommended.

Supplier: www.purepleasurerecords.com

RSF

RECORDING
MUSIC



The Waybacks

From The Pasture To The Future

Compass Records 74430-2 

What we have here are four first-class musicians stamping their own particular style on acoustic-led music – and succeeding spectacularly. Stevie Coyle (vocals and acoustic guitar), James Nash (vocals, electric guitar and mandolin), Chuck Hamilton (drums) and Joe Kyle Jr. (bass and vocals) whip up a veritable storm; a concoction of sensational picking, strong vocals and ultra-tight rhythms on (mostly) original compositions. It's difficult to place them into any particular genre, but if you can imagine taking Nickel Creek and Alison Krauss and blending them with The Grateful Dead and elements of more recent jam bands like Widespread Panic and Railroad Earth, you wouldn't be too far off the mark. One of the most interesting tunes is 'Motorway', an ode to that most prestigious of establishments – the motorway services. These chaps handle the subject with copious good humour, even wheeling in a tuba for extra added Oomph, but the full extent of their musical powers is unleashed on 'Hot Kranski', an instrumental with terrific interplay between the mandolin and stand-up bass. Roping in Lloyd Maines to handle production was a masterstroke; the sound is rich, spacious and organic, the final piece to a chameleon-like jigsaw currently going down a storm in the USA.

AH

RECORDING
MUSIC



Dave Rich Band

Overload

Livid Records LIVIDR81 

Okay I confess, I know nothing about the Dave Rich Band other than they come from Devon, put on a great live show and occasionally get likened to Pink Floyd. That comparison I find difficult to hear, although every now and then there is the odd trace of Gilmour's tone in Dave Rich's guitar playing. I would actually place them closer to Paul Weller in his Jam days, albeit with the levels on the angst-o-meter turned down a notch or two. There's no denying the quality on show though. In Dave Rich they have a singer, songwriter and guitarist who can go head to head with the best of them, and the rest of the band are no slouches either. Good songs linger long after the final note has faded and that is very much the case here. Take opener 'Overload' for instance; acoustic guitars jangle into life and jostle with Rich's forceful vocal before the song heads into an insanely catchy chorus, in turn followed by a guitar solo fizzing with an effortless fluidity. Some songs lull you into a false sense of security; you think you're going to get a touching ballad but instead it heads off in a completely different direction, but somehow always manages to stay interesting and focussed. Watch this space, this lot could be big news.

AH

RECORDING
MUSIC



Young At Heart...

The acoustic artistry of Adrienne Young

by Reuben Parry

Adrienne Young is the singer-songwriter and guitarist with a music business degree from Belmont University, is a seventh generation native of Florida who journeyed from her hometown of Tallahassee to tame the Nashville club scene with a solo acoustic show. Modest success of an evening and a day job temping, funded those early demo tapes that ultimately evolved into a debut album which creatively mixes country, contemporary and bluegrass idioms, while retaining a core neo-traditional identity. The result is a beguiling, sincere and often charming musical balancing act.

Plow To The End Of The Row - a fourteen-track collection blending traditional material like 'Leather Britches' and 'Lonesome Road Blues' with Young's own original songs such as 'Home Remedy' and the delightful opening title track - atmospherically recreates a memorable vision of rural life. It is an impassioned and worthy celebration of hardship, camaraderie, companionship and satisfaction measured out in those droplets of sweat earned from another honest day's toil in the field, a place where it takes only the smallest of imaginative leaps to see this as a metaphor for the musician's craft.

Dwell with me, if you will, for a few moments at least, upon the album's title and that title track. It introduces and shapes much of Young's creative fabric. Put the literal rural imagery to one side and examine the words in more depth. Think about the many layers of meaning and the possibilities buried within them. The plough as the musician uncovering thematic truths and venturing insights, or perhaps as a tool preparing the way, before planting those very seeds that will someday germinate into shoots of wisdom and understanding, are equally persuasive touchstones from which to develop a song. So too is the sense of continuity and direction found here - again, conveyed through that purposeful and steadfast nature of the plough blade (or musician) cutting such a distinctive, rhythmic and even path across a barren landscape. All the while Adrienne Young successfully walks and works this wafer thin line between art and artifice - bathing in the warm glow of wholesome organic purity along the way. She deserves a lot of credit for this sophisticated approach.

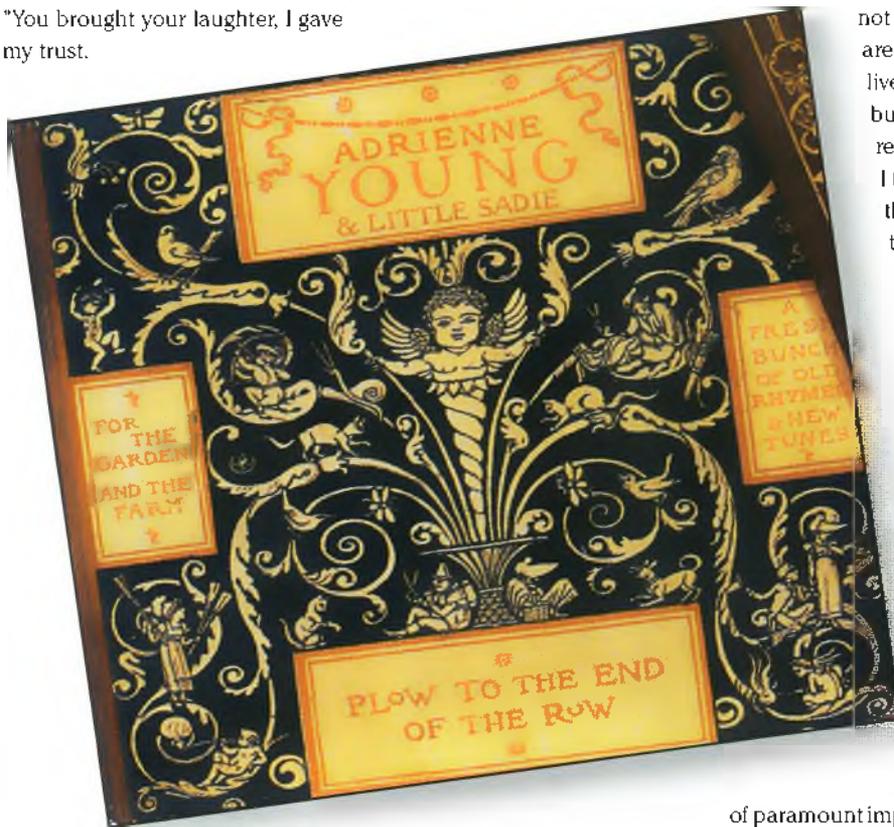
Young possesses intelligence enough to eschew the

insidious temptations of dazzling production values and instead seeks and finds security in the pared-back acoustic simplicity provided by her backing band, Little Sadie. Such a sparing use of the Will Kimbrough banjo, that evocative fiddle playing of Clayton Campbell, those delicate tonal hues courtesy of Amanda Kowalski's upright bass or Adrienne's own understated guitar, instrumentally supports these concepts, conveying integrity and honesty, while at the same time cleverly nourishing and reinforcing her core values. It also gives this lovely storytelling real credibility, allowing that beautiful silkiness in her voice sufficient lyrical space to thread a thematic pathway and develop a song without interruption or distraction. Even the most radio friendly (and for purists possibly least successful) of grooves in 'Poison' and 'Nipper's Corner' puts a loaf on the table by moving the genre gently forward in an acceptable way - one which places the banjo, bass fiddle or accordion in a subservient role behind the drum or a drum loop to give these tracks an accessibly modern Americana slant.

Another much more cute and unmistakable combination of commercial acumen and creative brilliance is the unique Grammy nominated packaging for this album. It satisfies the dual demands of added value and artistic flare. The triple fold digipak CD not only nicely reproduces part of T.E. Black's Lifetime Planting, Business and Fishing Guide for its artwork, but together with the twenty page illustrated paper lyric booklet and printed album cover sticker, we are also given a small packet of wildflower seeds for our planting pleasure. These thoughtful touches immediately establish an important tactile relationship between the artist and her audience - the seeds especially are to my mind an integral example of how valuable the listener's involvement is for Young - both within this whole music making process and in that ultimate dissemination of ideas, knowledge or philosophy. At some conscious or unconscious level it provides a gateway to the songs and their content.

Once through this portal, strong and wide-ranging song writing clearly predominates, and that bears some examination. Young's adventurous lyricism, maturity and catchy, flowing rhythmic patterns connect, especially ►

▶ in bluegrass ballads like 'Sadie's Song', where false charms and images of distrust culminate in Sadie's murder at the hands of her lover. Unsurprisingly, it was this song, with its traditional fiddle introduction, those vibrant images and a classically tragic conclusion which made it an award winning entry at the 2003 Merle Fest Chris Austin song writing competition. Overall, the writing both here and elsewhere displays plenty of artful lyrical twists, an abundance of engaging subject matter and more than a grain or two of solid homely advice. When she delivers lines about the healing qualities of love, "You brought your laughter, I gave my trust.



You showed me patience and a healthy dose of lust" (Home Remedy), with such an effortless bluesy vocal beauty, the effect is as compelling as it is charming.

Adrienne Young also has determination and grit. She's certainly not afraid to express the strength of her political convictions. 'Blinded By Stars', with its patriotic allusion to the stars and stripes, is a good example of her writing in the protest song tradition. These lyrics bravely challenge the basis for the recent conflicts in the Middle East through images of a tarnished flag "dirty with oil" and "tattered by spite". The casting of President Bush in the role of a flag waving town crier whose call to arms should not be blindly followed because it is based on

hearsay, ugly rumour and falsehood, is an inventive and convincing image. I say, admire her masterfully memorable wit even if you don't share this World vision.

Beyond the politics, good advice and her wholegrain sensibility, Young shows us a spiritual side and whilst how much genuine belief she really has in reincarnation is open to question, in many ways it is unimportant because, as with most songs penned by Young, there is usually a subtext to search out. 'I Cannot Justify' is

no exception to that rule and the metaphorical approach here does not disappoint. On the surface we are shown a number of previous lives - from pilgrim to roaming buffalo or little boy - they represent possibilities. Outwardly, I think these images are a façade that we are then encouraged to look beyond. The thought-provoking kernel of truth behind them is that we all have the potential in us for personal growth, a concern expressed quite concisely and effectively through a line like "Let me grow from these clothes that cling so tightly to my soul" where Young majors on lyrical economy rather than heavy-handed didactic teaching.

Beyond the compositional process, it's retaining overall artistic control remains

of paramount importance to her. So there are no prizes for guessing that back in 2004 *Plow To the End Of The Row* was an independent release on Addiebelle Music. Last year's follow up disc, *The Art Of Virtue*, which is only available as an import in the U.K., was also released on Adrienne Young's own record label. It gives her an enviable amount of freedom and, with song titles including 'My Sin Is Pride', 'Hills & Hollers' and 'Jump The Broom', I think we can expect further insightful Americana musings in much the same vein as those found here. The litmus test for Young's staying power will be the manner in which she can both sustain and then move this cross-pollination of genres and ideas fluently and seamlessly forward, but the future looks bright, the future looks... No, don't even think it.



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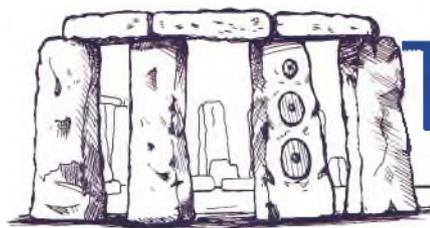
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The History Man

by Richard S. Foster

Mercury Living Presence: The Russian Recordings Timing is everything!

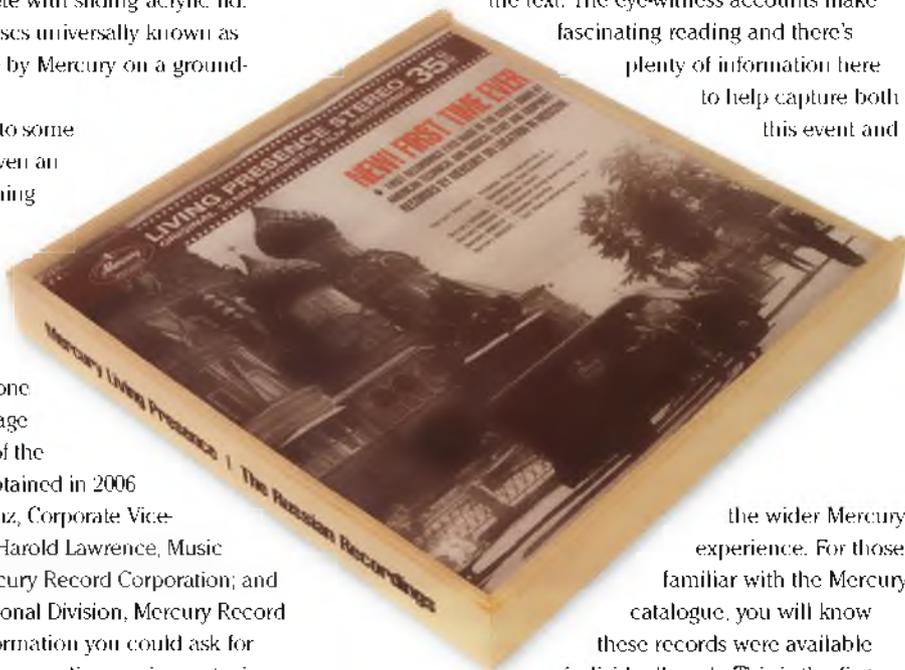
I've just received the long awaited 'Russian Box' from Speakers Corner Records and I must say that I am way more than pleased. It's hard to begin a review when you give away everything in the first sentence, but I do hope you'll humour me and read on. Opening the package when it first arrived, I found a wooden box, complete with sliding acrylic lid. Inside were the five Mercury discs universally known as the 'Russian Recordings' made by Mercury on a ground-breaking visit to Moscow.

But not only are we treated to some spectacular music, we're also given an accompanying booklet containing in-depth interviews conducted by Kai Seemann with several Mercury luminaries who were on site for the original recording sessions! These are first-time interviews and were done especially for this set. The ten page publication contains the dates of the sessions as well as interviews obtained in 2006 by Seemann with Robert Eberenz, Corporate Vice-President, Fine Recording, Inc; Harold Lawrence, Music Director of Classical Music, Mercury Record Corporation; and Brice Somers, Director, International Division, Mercury Record Corporation. Almost all the information you could ask for about the negotiations, journey, recording sessions, etc. is contained in this fact-filled booklet.

In the opening paragraphs of the booklet, I read that the Mercury team returned home to America approximately four months before the 'Cuban Missile Crisis', October 18th, 1962. Had these recordings not been made during the early part of that summer, we probably would not have these historical documents. For those of you, like me, who were around at the time, I remember how much colder, the 'cold war' became in mid October... For those of you who only remember this from your history books, it was not one of the shining moments for East-West relations.

This project was truly a first! Whilst there had been other

recordings made in Russia for the American or International market, they had all been recorded with Russian engineers using Russian equipment. The famous maroon Mercury recording truck must have made a rare and surprising sight in Moscow, one reflected in the photographs that illustrate the text. The eye-witness accounts make fascinating reading and there's plenty of information here to help capture both this event and



the wider Mercury experience. For those familiar with the Mercury catalogue, you will know these records were available individually only. This is the first time the complete 'Russian Recordings'

have been available as a box set—smart thinking on Speakers Corner's part to offer this theme in one boxed set!

The records contained in the set are highly prized by collectors. The two most popular issues are SR90300, the Rachmaninoff/Prokofiev and SR90310, *Balalaika Favorites*. The others, SR90305, *Encore, Byron Janis*; SR90309, the Shostakovich *Quartets*; and SR90329, the Janis/Liszt are all sought after as well, but were not manufactured to the extent of the first two mentioned. One of the most common problems with the Rachmaninoff/Prokofiev and *Balalaika Favorites* (this also occurs with the latter three as well – ►

▶ but to nowhere near the same extent) is that many were produced for the Columbia Record Club. While there were plenty pressed, you don't want any of these issues in your collection. These contain – as previously discussed in my earlier Mercury articles – the stamper numbers, CBFR, CCFR, CTFR and are lacking in dynamics. The original, non-vendor, RFR1 pressings are most difficult to obtain.



What is not widely known by Mercury collectors is there are two versions of the reverse side of the jacket for 90300. In the first version (which contain the earliest pressings), the jacket shows three photographs. On every other version there are only two pictures. Both versions have the photos with Kondrashin and Janis and Giljels and Ashkenazy. Only the original jacket includes the photograph of Janis and Mme. Prokofiev. I've been told Mercury had to omit this photo as they did not have 'permission' from Soviet authorities to reproduce her image. I can only imagine what the negotiations were like – something Brice Somers discusses. Speakers Corner reproduce the first jacket.

The Records

SR90300, the Rachmaninoff/Prokofiev, is one of my favourite Mercury Living Presence records. I'm a big fan of the Prokofiev *3rd* – the best known of the five piano concertos – and I think this is one heck of a good performance. I feel the Rachmaninoff *1st* is given an equally fine presentation and all in all, this is one terrific record. Listening to this performance, one would think Janis, Kondrashin and the Moscow Philharmonic had been playing together for years. Everyone is 'tuning the page' at the same time and the dynamic swing on this disc is nothing short of astonishing. There is great music making here and I don't believe there is another coupling of these two pieces on record that will better this.

SR90305, *Encore, Byron Janis*, is a wonderful record which allows you to reproduce the sound of a piano in your listening room. As I've written before, a piano – a percussion instrument – has one of the hardest sounds to reproduce properly. If I were

a betting man, I'd swear the Janis piano is a Steinway. Perhaps someone out there knows and will advise me if I am correct. There are a dozen delightful delicacies (did you like that?) performed by Janis, nine recorded in Moscow with three being added in a session recorded at Fine Studios in New York. Janis is immensely talented and he plies his craft with delicacy and aplomb. What I enjoy about this record is the variety of repertoire including some unusual, but very nice selections by George Frederick Pinto, an English composer, as well as a lovely composition by the

American composer David Guion, *The Harmonica Player*.



This is a very hard record to find in its original form and for those keeping score, the price of originals of this as well as the previous listed record alone, would be more than the sticker price for the entire box set!

SR90309, the Shostakovich *Quartets*, is an exciting recording of two of Dmitri Shostakovich's fifteen string quartets. Mercury does not have any other quartet recordings in its stereo catalogue making this a very exciting addition. These pieces are not as difficult to listen to and enjoy as you may think. The playing is first class and the sound quality is exceptionally good. Although it's the sound quality that will capture your imagination first, as you replay this recording you will soon want to pursue some of the composer's other quartets. While the Borodin Quartet recorded this repertoire on several occasions, including a lovely box set on EMI, SLS 879, and *No. 8* is available on Decca SXL 6036, the only vinyl, in my opinion, that betters the Borodin playing, is the set available on L'Oiseau-Lyre by the Fitzwilliam String Quartet. For those who want the set digitally, I recommend the Emerson String Quartet on Deutsche Grammophon. I rate the interpretation on Mercury right up there and I can assure you this is a very hard record to find as an original. ▶

► SR90310, *Balalaika Favorites*, is a wonderful record. I don't care what anyone says, I think *Balalaika Favorites* is at the top of the class and probably the finest sounding record of this set. RG may roll his eyes when he reads this, but guilty pleasure or not, I think this is one fabulous record. I love string music and the string instruments on this record have never been bettered. The music is very light fare as you can imagine, however the playing and the sound quality is something else. The transients are amazing and Mercury did an outstanding job of capturing this 40 piece orchestra. This record will tell you much of what you need to know about your audio system's setup-speed and control of leading edge transients, micro and macro dynamics as well as width of soundstage. If you want more, it will quickly tell you how honest your system's resolution is. One thing that always occurs with original pressings of this record is that too many people feel the record is bright. Sorry...it's not. There's something not right with your system if this record comes off bright. This is one of my desert island indulgences.

SR90329, Liszt *Piano Concertos 1 & 2*, is my least favourite of the set. While I think Janis does a good job interpreting Liszt's two great piano concertos, I believe the real stars of this recording are Kondrashin and his Moscow Philharmonic



and Rozhdestvensky with his Moscow Radio Symphony. Each conductor has his own style, and while both orchestras have a somewhat different sound, they both seem unified in their passion for Liszt. My personal take should not put you off. While I do think Janis does a good job, my heart belongs to Richter and his interpretation with Kondrashin on U.S. Philips PHS-000-000. (This was also recorded by the Mercury team, and the ONLY issue to own is the U. S. LP – it even has those magical FR and RFR numbers!!)

I've run out of space and I've almost run out of accolades. What you must do is run out and purchase this set. You will

The Russian Box (5 LPS):

Mercury SR90300 Sergej Prokofiev: *Piano Concerto No. 3 in C Major, Op.26* / Serge Rachmaninov: *Piano Concerto No. 1 in F Sharp Minor Op. 1* -Byron Janis and the Moscow Philharmonic Orchestra conducted by Kyril Kondrashin

Mercury SR90305 *Encore!* Works by Franz Liszt, Robert Schumann, Manuel de Falla, David Guion, Sergei Prokofiev, Felix Mendelssohn, Frederic Chopin, Octavio Pinto - Byron Janis (piano)

Mercury SR90309 Dmitri Shostakovich: *String Quartets No. 4 op. 83 and No. 8 op. 110* - The Borodin String Quartet

Mercury SR90310 *Balalaika Favorites*: Works by Andreyev, Budashkin, Gorodovskaya, Kuikov, Mikhailov-Shalayev, Mossorov, Osipov, Poponov, Rimsky-Karsakov, Shishakov, Soloviev-Sedoy, Tchaikovsky - The Osipov State Russian Folk Orchestra conducted by Vitaly Gnutov

Mercury SR90329 Franz Liszt: *Piano Concertos No. 1 in E flat major and No. 2 in A major* - Byron Janis and the Moscow Philharmonic Orchestra conducted by Kyril Kondrashin

definitely be richly rewarded. A tip of the hat to Kai Seemann and a big thankyou for this special offering.

This is a really class issue and should be on every collector's shelf. Now where is The Dorati *Freud?*



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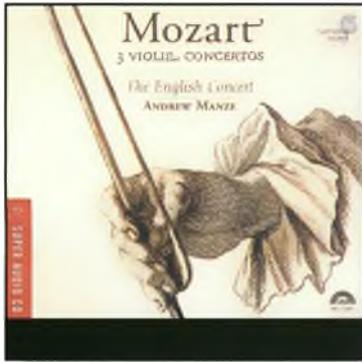
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Mozart
Three Violin Concertos; No 3
K.216; No. 4 K.218; No 5 K.219.
English Consort; Manze, violin

Harmonia Mundi HMU 807385.

Andrew Manze really shines with these recordings, offering stylish and earthy performances of several of Mozart's finest violin concertos. Remember not too long ago I suggested you look into the Manze/Bache/ Podger collaboration on the Bach *Double Concerto* also available on Harmonia Mundi? Well, as it is the 250th anniversary of Mozart's birth, I can't think of a better way to mark the occasion than listening to the magic that is so admirably delivered on this excellent disc. There is nothing submissive about these performances and there is nothing overblown or out of proportion. You snap to immediately with the opening of *No. 3* and you sit transfixed until the closing moments of *K. 219*, wondering what's just happened? What's just happened is that you've heard Mozart played with real panache and vigor – and without any overly romantic ripeness. This is one of those rare discs that you put in your player and hit the 'repeat' button and go about your business for the afternoon. You will soon find yourself humming along, and then you'll wind up sitting for a couple of hours, listening and re-listening to the magic wrought by Manze. Highest recommendation for sure!

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Beethoven
Piano Sonatas Nos.16,17 and 18
Mari Kodama, piano.

Pentatone Classics PTC 5186 063

Pentatone Classics is a World leader in hybrid SACD recording and have an amazingly varied catalogue. You may not be familiar with the name Mari Kodama, but while she has not been widely recorded, she has been very, very busy on the international concert circuit. This year she begins the season with her sister Momo in France. She's a native of San Francisco, wife of conductor Kent Nagano and a protégé of Alfred Brendel. This lady also plays fabulous Beethoven. With an air of authority yet a delicate touch, Kodama plays with passion and fire. Despite the similarities between the *Sonata in G* and the *Sonata in E flat*, Kodama offers clean and concise readings played with the air of a great artist. I've been stuck in a couple of ruts with my fondness for the great Yves Nat and Arthur Schnabel and whilst I don't consider Kodama in their league yet, what I hear on this and the other two releases by Pentatone (PTC 5186 023 and 024, parts of what I hope will be an entire cycle) show really exciting potential. Please do check out these releases. The playing is truly excellent and the sound is absolutely to die for.

Supplier: www.pentatonemusic.com
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RECORDING
 MUSIC



Rachmaninov
Symphony No. 2 in E minor, Op.
27; Vocalise No. 14, Op. 34.
Budapest Festival Orchestra; Ivan
Fischer

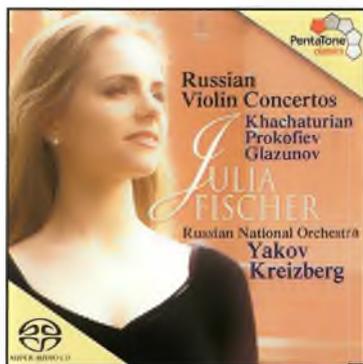
Channel Classics CCS SA 21604

This is perhaps Rachmaninov's most majestic symphony; it's definitely my favourite. Speaking as a long time fan of the Previn performance on EMI (redone by Testament on 180 gm vinyl) I find Fischer's reading beautifully balanced. This is one of those pieces where orchestra and conductor can fall into an overly romantic vein, the work ruined by too much sentiment. Fischer and company get it just right and Jared Sacks of Channel shows off his engineering skills, offering us a near perfect disc – matching the performance with superb sound quality. I must admit that as I continue to listen to this orchestra (on other discs and composer's works) I'm more and more impressed. It was quite a job for me to get past that Previn reading, but I can assure you that even a casual listen to this will turn your head. The *Largo* from the first movement delivers the familiar thematic melody heard throughout this great work, and you quickly succumb to the beautiful performance and high-quality sound. Definitely a World class recording and worthy competition to any favorite performance. Highest recommendation.

Supplier: www.channelclassics.com
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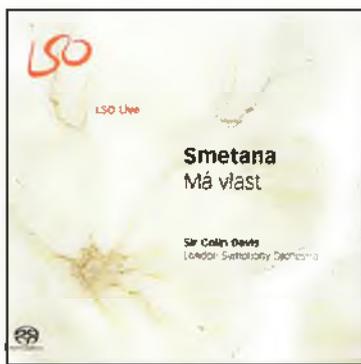


**Russian Violin Concertos
Khachaturian, Glazunov and
Prokofiev, concerto No. 1
Julia Fischer, Russian NO,
Kreizberg**

Pentatone Classics PTC 5186 059 

This was Julia Fischer's first recording for Pentatone, released in July 2004. She has since released several more and I will cover her recordings in greater detail in the near future. Having listened to her *Bach Sonatas and Partitas* (PTC 5186 072) I am quite in awe of the talent this woman possesses. Born in Munich in 1983, Ms. Fischer made her Carnegie Hall debut at the age of 20 and received standing ovations. We have before us a talent of some considerable depth with skills far beyond her years. Listening to the Bach helped prepare me for her sound and style but from the opening bars of the Khachaturian the staccato scoring soon moves toward the Russian romantic and I became lost in her playing. For this piece I've always looked to Leonid Kogan on RCA, and while I'm not saying Fischer betters Kogan, she performs with great insight and a heartfelt romanticism that really captivates and enthral. She does equal justice to the Prokofiev 1st while the Glazunov is offered in a warm, rich and romantic style that works quite well but doesn't match the quality of the other two. Lest I forget, Kreizberg and the Russian National are outstanding partners on this superb disc.

Supplier: pentatonemusic.com
RSF



**Smetana
Má vlast**

LSO, Sir Colin Davis

LSO Live, LS00506 

Probably one of the best-known examples of nationalism in music, Smetana never heard a performance of what would become his most popular work as he was struck with deafness in 1874. *Má vlast* (My Country) is a massive work. Perhaps the most famous of the six tone poems is the portrait of the *River Vltava* (The Moldau). This one poem exemplifies the beauty of what Smetana created; you can actually hear the history, folk music and mythology of the Czech people in this work. It's as if he was writing a love letter to his heritage. There are several outstanding performances available to the vinyl collector, which have also been released in the digital domain. 'Must haves' that immediately spring to mind are Kubelik on Deutsche Grammophon (this is superior to his earlier Decca SXL two record set) and Karel Ancerel on Supraphon as well as Berglund on EMI. However, Sir Colin does an outstanding job leading the LSO. We are treated to a very moving performance and given that the Barbican is not noted for having the best acoustics in the world, you will be quite surprised as to how good this disc sounds. Live performances are especially thrilling and I think you will be quite delighted with this disc. Add it to the list.

Supplier: www.lso.co.uk
RSF



Jim Hall

Concierto

Pure Pleasure Records 

Not many records released by CTI in the 1970s hold up that well today, but Jim Hall's *Concierto* managed to survive Creed Taylor's production ethos to become one of the best jazz releases of the 1970s. Hall had already been on the jazz scene for 20 years by the time of this album, his cool guitar work familiar from classics with Sonny Rollins, Bill Evans and Paul Desmond, as well as his own recordings. Here, Hall was joined by Chet Baker on trumpet, Desmond on Alto saxophone, Roland Hanna on Piano, Ron Carter on bass and Steve Gadd on drums. Hall and Desmond are a match made in heaven and they make heavenly sounds here. The album contains a nineteen-minute version of *Concierto de Aranjuez* that stands beside Miles Davis' version as a classic. Equally impressive is a seven minute rendition of 'You'd Be So Nice To Come Home', a sweet version of Cole Porter's classic, featuring the interplay between Hall's mellow guitar work and Desmond's equally laid back alto sound. Pure Pleasure Records has expanded the original album to two LPs. The original tracks are laid out on one record, with additional numbers and alternate takes filling up the second. The mastering job is superb, and immediately noticeable by focusing on the improved guitar sound. This is a great album and a welcome re-issue.

DDD





Beethoven Symphonies No. 3 'Eroica' and No. 8

Minnesota Orch, Vänskä

Bis 1516 

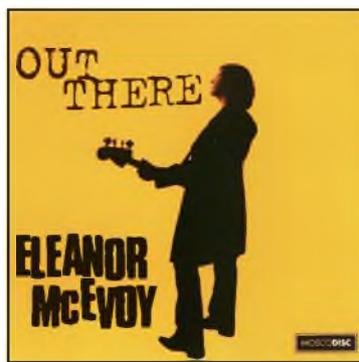
Vänskä's previous outing with Beethoven's *4th* and *5th Symphonies* on Bis 1416 garnered international acclaim from reviewers and consumers alike. They are stupendous. Now we have a stunning 'Eroica' and 'the little symphony in F major' and I couldn't be more enthusiastic. Vänskä has wonderful conducting skills and he draws expressive dynamic shading and contrast from the Minnesota in these dramatic works, easily matching his previous efforts. His performance of the 'Eroica' is a masterpiece, filled with the excitement and heroic admiration that Beethoven espoused for Napoleon Bonaparte. This is one of the finest performances I've ever heard.

But what's equally exciting is the performance of the F major. It's been brought to new life in a way I've never heard it played before. While it represents happier times for Beethoven – at least as far as composition goes – it's also a wonderfully lyrical piece, bringing a 'sonata for orchestra' and some traditional Austrian dances together in a seamless blend. This is a joyous and unusual pairing of works given top-drawer sound quality on a disc you will return to often.

Supplier: www.bis.se

RSF

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Eleanor McEvoy

Out There

Mosco MOSACD303 

Eleanor McEvoy have into audiophile view abreast: the first wave of SACD releases. *Yola* wasn't just a great album of fine songs, beautifully performed, it was a genuine, DSD to disc, pure as they come, hybrid SACD. And it sounded great. Thus started a love affair that's endured across the intervening years and the subsequent release of *Early Hours*. As if to put the seal on the romance, both albums found their way onto vinyl. Now we have *Out There*, an album that signals both a development in musical terms and a revision when it comes to technology.

Early Hours saw Eleanor move to a sparser sound and, playing live at least, a single collaborator in Brian Connor. *Out There* takes that process a stage further, with writing, playing, arrangement and production credits all claimed by the lady herself, the latter in conjunction with partner Mick O'Gorman, who also sat at the desk on *Yola*. Perhaps then it should come as no surprise that, following on from the darker shades and bleaker tone of *Early Hours*, *Out There* returns to the lighter, more upbeat, more accessible and catchier style of *Yola*. Ironic then, that in stark contrast to that SACD pioneer, this is a resolutely analogue recording. Until you realise that this is just the next step in recognizing the critical role that technology and storage media play in the recording process, exactly the concerns that drove Mick O'Gorman to investigate SACD in the first place. Why the

switch from DSD to analogue, especially given the added costs and complexities involved with a production that layers overdub on overdub to create its ensemble effect? Part: sound concerns and part circumstance – or opportunity at least. The initial planning for the *Out There* sessions coincided with the completion of the all-analogue Grange Studios, a residential facility owned and operated by Eleanor's UK distributor Frontier Promotions. Sound familiar? It should do because you'll see their contact details on the bottom of more than a few Plus music reviews. That, given a positive attitude to analogue sound in general combined with phase problems encountered in cutting the DSD masters of *Yola* to vinyl made it a foregone conclusion that *Out There* would be the Grange's first project in what has since become a busy schedule. We'll be telling that story in greater detail in the next issue, but for now, back to the subject in hand.

Sonically, this is a stupendous recording, combining the detail, transparency and natural tonality of SACD with the immediacy, warmth and expressive qualities of a great analogue recording. The sound dovetails perfectly with a resurgent McEvoy, whose wry humour and subtle hooks are woven into a compelling musical tapestry. Perhaps it's no coincidence that her Irish self is more to the fore than ever, her confidence in her identity and observations the foundation for this, her most complex and knowing work to date. The emotional terrain here is familiar, encompassing hope and loss, deprecation and dissembling. There's an undercurrent of betrayal and a lurking sense of horror. But what makes these songs is their humour and feel for place, abstract yet personal all at once. It's a rare quality that ultimately makes them mature songs of lessons learnt and hard won strengths. Take the best of *Yola* and the power of *Early Hours* and you still won't get close to *Out There*. There's vinyl on the way, but the SACD is so darn good you should get it now, because this is one album you don't want to be waiting for.

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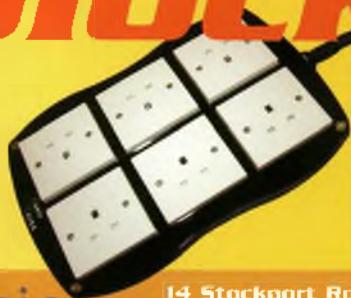
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Roy Eldridge

Rockin' Chair

Speakers Corner/Clef Records MG C-704 

One could assemble a respectable jazz collection just by pulling together recordings of the Oscar Peterson trio playing with other leaders or guest stars. This session with trumpet great Roy Eldridge, is certainly one of the finest examples. Peterson, Ray Brown on bass and Barney Kessel on guitar are joined by Buddy Tate on tenor saxophone and is tastefully backed by a string orchestra. This 1956 release captures one of the great swing players at the peak of his powers in a setting that ideally suits his style. Eldridge played on the edge and was not afraid to take chances. The songs are mostly medium tempo with Eldridge doing his usual high range acrobatics, as well as vocal additions on several numbers. This is a perfect place to learn the trademark Eldridge sound, and anyone familiar with Dizzy Gillespie will recognize where it came from.

Early Norgran and Clef records can sound quite wonderful, if not up to the best we've recordings of the later 1950s. This is one of the better examples and Speakers Corner has done a fine mastering job. They've also released the equally invaluable *The President Plays with the Oscar Peterson Trio*, essentially the same small group without the strings, recorded in 1952. Both are highly recommended.

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Sonny Clark

Cool Struttin'

Blue Note/Classic 

Sonny Clark had a short but spectacular career as a jazz pianist before his early death at the age of 31; *Cool Struttin'* is considered by many to be the pinnacle of his recorded work. Made in 1958 it features a classic line up with Art Farmer on trumpet, Jackie McLean on alto, Paul Chambers on bass and "Philly" Joe Jones on drums, a group of musicians who contributed significantly to bop era jazz and played with many of the greats of that time. Clark's style was described by Art Farmer as being devoid of strain, and it does indeed swing in a totally natural way. Clark says of the album that "the music was played the way I wanted it and I got the fellows I'd been wanting to record with for some time." It's not hard to hear why. The rhythm section is superb; deft and delving without trying to take over. The horns play with the band rather than over it but don't let this get in the way of some beautiful soloing. Sonny Clark defined jazz as self-expression and in his case this meant soulful musicality. The Rudy van Gelder recording is good for the era but a shade thin by later standards. Classic has done a beautiful job with both pressing and artwork.

JK

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Adam Pierończyk Trio

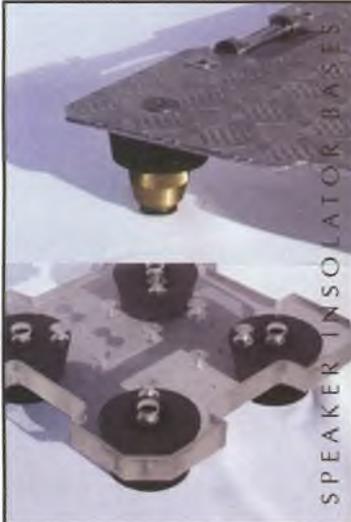
Busem Po Sao Paulo

Metarecords meta 013 

Fine feathers make fine birds – and it's the name that makes a star?!? I have no other explanation as to why Adam Pierończyk (with his unpronounceable name) hasn't been paid international tribute until today. This saxophone player from Poland has already cooperated with Archie Shepp, Bobby McFerrin and Tomasz Stanku, has found in Robert Kubiszyn (bass) and Krzysztof Dzedzie (drums) excellent trio partners. *Busem Po Sao Paulo* (São Paulo by bus) is a trend-setting album, free from fusty tradition, uninspired improvisation or jazz standards already heard umpteen times. Instead the trio captures the journey from their Polish home in their music – in combination with influences from a love over the world. The result: Free, modern jazz, innovative, experimental, intelligent and simply unique. Pierończyk's brilliant technical skills allow him not just to master his saxophone, he creates new soundscapes. He skirls, squeals, moans or sings on his instrument, whether in quarter, semi or whole tones; oriental influences from the zurna (India) are mixed with Indian spirit from Brazil or the imitation of bagpipes. The three musicians play independently, free from traditional role allocation – but their music melts together into a dome of sound. Check out 'Braniewo', 'My cocktail bar', or the outstanding 'Touched By Tupinamba' with its meditative mood and you will understand what I mean. Rest assured: no elevator music here!

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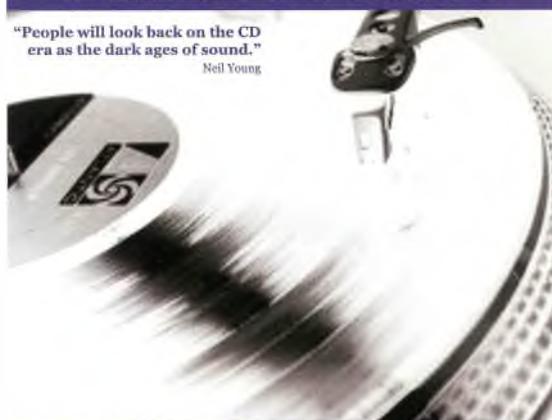
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Big Ben...

The great mono recordings of tenor giant Ben Webster

by Dennis Davis

Several months ago, my five-year old Helikon Mono cartridge started showing its age and needed to go back to be freshened up a bit. Immediately, my thoughts turned to the extravagance of upgrading to a Titan Mono. I'd heard the cartridge a few times Chez Foster. The justifications for bringing one home came fast and furious. I spend well in excess of half my listening time with the mono cartridge/arm wand in place! I've spent decades collecting mono, first pressings of jazz and rock LPs – those records deserve the best! I'm a professional and my readers deserve to know what these records are capable of sounding like! In the event, I decided to reward myself for some imagined good behavior and took the plunge. A couple of months later, my handcrafted special order Titan mono arrived and the ride was on.

I ran through the usual suspects list of reference records, starting with what may be the best recorded LP in my collection – Buck Clayton's *How Hi The Fi* (in the queue to be re-issued by Pure Pleasure Records), and then on to a pile of other Columbia, Blue Note, Prestige and Impulse mono issues. Jazz record collectors have always shunned stereo releases, and for good reason. The golden age of recorded jazz occurred largely before there was such a thing as stereo, and when stereo was developed, almost no one recording jazz got it right. There is no jazz corollary to the golden age of classical stereo recording by RCA, Mercury and Decca. While some labels, like Columbia, produced credible early stereo releases in jazz, those efforts devolved during the sixties. Even where a stereo

release was done right, in most cases the mono issue is still better.

After a few days of bliss, I realized that there was no

better way to ease further into the sound of this new cartridge than to devote some time to the mono LPs of the jazz artist I most closely identify with wonderful sound – Ben Webster. Run through the list of tenor sax players with luscious sound, including Ike Quebec, Eddic Lockjaw Davis, Gene Ammons, Illinois Jacquet and J. R. Montrose, all of which have left a legacy of well-recorded sound, but none present any contest to Big Ben.

But let's be clear; when I say that Webster had the best sound, I'm

not talking about the best sound engineers, but the best sound coming off the reed. While the sound engineering on most of Webster's 1950's records is excellent, his music wasn't always recorded in the best studios by the best engineers. It was good enough, however, for his special magic to shine through.

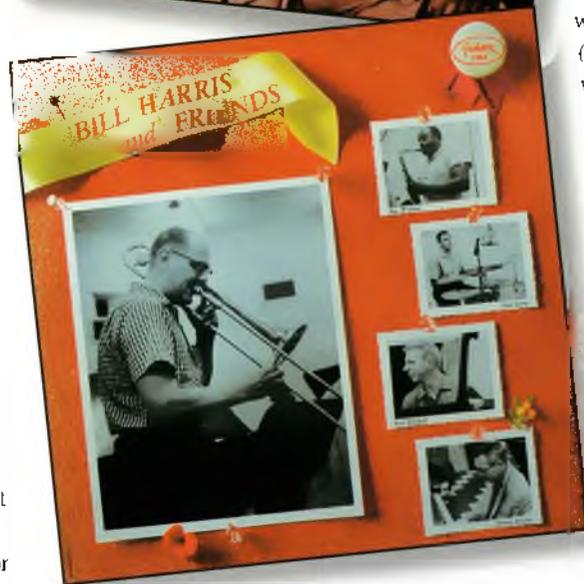
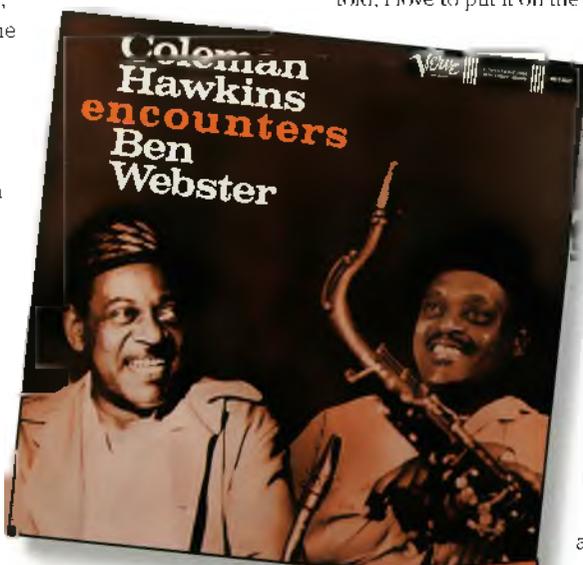
Webster was born in 1909 in Kansas City, Missouri. A description of his accomplishments is far beyond the scope of this article, but I will mention a few highlights. Webster recorded behind Billie Holiday, beginning in 1935 for a few years and again in the mid 1950's. He first played for the Ellington band in 1935, when he substituted for Barney Bigard, and then later became a member of the band during the years 1940 through 1943. His contribution was such that those years, considered by many to be the peak of the Ellington band, are most often referred to as the



► Webster-Blanton years, after Ben and bassist Jimmy Blanton. In the years he was not with Ellington, Webster played for nearly every other major orchestra that existed during the swing era.

Webster spent the last years of his life (1964 – 1973) in Europe and made many wonderful recordings during that time. Indeed, Webster made few bad records. My favourite period, however, is the few short years following the birth of the long playing 12 inch record, when Webster made some of the best sounding mono discs. He had a tone that sounds wonderful on just about any system. When properly recorded and played back on a top-flight front end, his sound is rich and vibrato laden to the point of decadence. If music can be sexy, then Ben Webster's sound is an orgasm for the ears.

On September 11th, 1956, Ben Webster met Art Tatum, along with Red Callender on bass and Bill Douglass on drums, to record one of the enduring masterpieces of jazz. *The Art Tatum-Ben Webster Quartet* on Verve MG V-8220 contrasted the florid technique of Tatum with Webster's deliberate, careful construction of melodic line. At first glance, these two styles appear antithetical, but here it works perfectly and the clash of styles gives rise to magic. They play seven standards, all at medium to slow tempo. Tatum seems to play dozens of notes for every one of Ben's, but there is never a tug of war, and the two giants come together for a perfect union. Tatum died two months after the session and after the funeral ceremony Ben Webster and a handful of other jazz musicians stayed behind and played a private and final gig for the man. This LP was part of a series of recordings where Norman Granz paired Tatum with other jazz giants. It was originally issued on the "trumpeter" label, later on the "MGM" label and finally, like all records released in the Tatum series, on Pablo as part of the Tatum Group Masterpieces. This is an



essential record, and any of these versions is worth having.

Webster joined an extremely sympathetic quintet for *Bill Harris and Friends* (Fantasy 3263), recorded on September 23, 1957. Bill Harris on trombone, Stan Levey on drums, Red Mitchell on bass and Jimmy Rowles on piano make for the perfect west coast swing ensemble; Webster fit in perfectly. The album was issued on red marbled vinyl and truth be

told, I love to put it on the translucent platter of my VPI table, if only to watch the platter glow red. With one exception, the tunes are all taken very slow, as is Webster's custom. The entire album is a joy, but two tunes include knockout performances by Webster. 'I Surrender Dear' opens with Ben trading licks with Harris' trombone, followed by solos by Rowles, Harris and then Ben. 'Where Are You' opens with an excruciatingly beautiful duet between Rowles and Webster, and Ben's heavy vibrato tone just fills up the room.

If there is another Ben Webster album no collection should be without, it is certainly *Soulville* (Verve MG V-8274). This masterpiece was recorded on October 15th, 1957. Fortunately, it is widely available, as Speakers Corner has the album in circulation as an excellent re-issue. The original first came out with a trumpeter label and a deep groove impression. Webster is joined by Oscar Peterson on piano, Ray Brown on bass, Herb Ellis guitar and Stan Levey on drums. This album offers up everything you look for in a Ben Webster record. Languid, sexy saxophone lines, played so slow at times you wonder how the group can

keep the momentum going, but they do and it is cooking on all burners despite the slow simmer.

The next day, October 16th, 1957, Webster returned to the studio with the Peterson trio, but with the addition of Coleman Hawkins and the substitution of Alvin Stoller on drums, to record *Coleman Hawkins Encounters Ben Webster*, released on Verve MG V-8327. Hawkins was one of Webster's main influences, and here the fellowship is immediately obvious. The two never fight each other and get equal and loving ►

Dating Verve discs...

Norman Granz began promoting jazz concerts in 1944, and started two record labels, Clef and Norgran as an offshoot to his work as an impresario. In 1956, he started a new label named Verve Records. Verve issued most of its jazz releases in four series, the 2000, 4000, 6000 and 8000 series, with the vast majority released in the last of these. The 2000, 4000 and 6000 series are virtually all vocal issues. Most of the 2000 series are Anita O'Day records, with some Blossom Dearie and Bing Crosby thrown in. The 4000 series are Ella Fitzgerald records. The 6000 series appears to be a tortured experiment by Verve to separate out its stereo releases. Many 4000 series mono LPs were released with a 6000 series number in stereo. This experiment was scuttled later when Verve designated stereo releases by the addition of a 6 in front of 8000 series catalog numbers (MG V-8000 for mono and MG V6-8000 for stereo). Like early Ford automobiles, you could get Verve labels in any color so long as you wanted black. Unlike the Ford, there are exceptions. The early 2000 series issues were first released in an orange label or blue label. Some of the early 4000s were first released in the orange label. Some of the early 8000 series were released with a yellow label. Toward the end of the 8000 series, Verve even released a few promo labels in yellow.

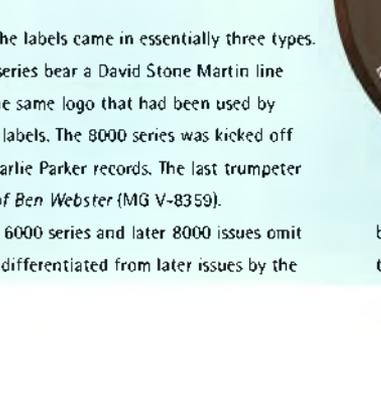
In addition to color variation, the labels came in essentially three types. The earliest labels in the 8000 series bear a David Stone Martin line drawing of a trumpet player, the same logo that had been used by Granz on the Norgran and Clef labels. The 8000 series was kicked off in 1957 with a string of ten Charlie Parker records. The last trumpeter label I have found is *The Soul of Ben Webster* (MG V-8359). Releases in the 2000, 4000 and 6000 series and later 8000 issues omit the trumpeter logo and can be differentiated from later issues by the

words "Long Playing Microgroove Verve Records, Inc. - Made In U.S.A." along the bottom edge. After Norman Granz sold the company to MGM in 1961 this phrase was replaced with "MGM Records - A Division Of Metro Goldwyn Mayer, Inc. - Made in U.S.A.". All mono issues have a stylized "T" intersecting the label, while stereo issues before the MGM acquisition had a "Stereophonic" banner near the top of the label.

Originals of all three label versions should have a "deep-groove" impression (70mm in circumference) in the label area from the record press. Some of the earliest pressings have what I call a "wide deep groove" where the width of the impression is about twice that of the normal deep groove. This appears to be a pressing plant variation. The writing in the dead-wax area around the spindle hole of a Verve LP does not bear any helpful coding to identify stamper or lacquer sequences, similar to those codes found on Columbia, Decca or EMI LPs.

The dead wax does, however, provide a few clues as to where the LP was mastered. A first pressing in the last half of the 1950's could have come from three different places: Radio Recorders, Capitol or from recording engineer Ami Hadani, from his studio in Santa Monica. According to mastering engineer Steve Hoffman, each place had a different "style" of mastering. The Radio Recorders and Hamdi cuts had about 5db added at 5k. The Capitol cut was pretty neutral and true to the master tape. The Radio Recorders' masters bear stamped numbers in the dead wax, whereas Hadani used hand-scribed numbers. Again, according to Hoffman, at least on some records such as Ella Fitzgerald's

Clap Hands Here Comes Charlie, all of the original pressings were made from back-up safety tapes, while the later MGM pressings were made from the original masters.



► treatment from the microphone. The sound of the two tenors vibrating together, especially in 'Rosita', is enough to melt an audiophile and music lover's heart. This album was released in both mono and stereo, and I've not heard a stereo version in a while. But listening to these two soloists playing together in mono, between the speakers yet each in their own very well defined space, shows why stereo in this era and for this type of recording was entirely redundant if not destructive on some arrangements. Hawkins and Webster are not stuck in two speaker boxes here, but floating freely in the acoustic, throbbing their instruments and their listeners' hearts. In case you didn't get it, this LP gets my top recommendation.

Webster's relationship with the Ellington band resurfaced in the studio on August 14th, 1958 when he joined the Duke and a selection of musicians from the Ellington band to record six tracks released as *Side By Side* on Verve MG V-8345, with the addition of three more tracks recorded at the Columbia studio on February 20th, 1959. While Ben is definitely a back-up musician to Duke and Johnny Hodges on these sessions, this is a fabulous sounding LP and not to be missed. Although it has been re-issued in stereo by Classic Records, like virtually all jazz albums of this vintage, it sounds at its best in glorious mono.

Later in August 1958, Ben recorded *The Soul of Ben Webster* (Verve MG V-8359) with his protégé Harold Ashby joining on tenor saxophone, Art Farmer on trumpet, Jimmy Jones on piano, Milt Hinton on bass, Mundell Lowe on guitar and Dave Bailey on drums. This group is not a typical Webster band, and this is not an entirely typical Webster date. Neither the title of the album or the cover art – an impressionist painting of two lovers on a park bench in a wooded surrounding – suggest that this is an album of mostly up-tempo tunes. Only two cuts are in the normal Webster groove. However, when you remember that Ben was a swing musician who had spent the decades leading up to these Verve releases in the saxophone section of virtually every big band of note, this album makes sense. Unfortunately, Ben's arrangements for the group here are not up to Ellington standards, taking this out of the running as an essential Webster album.

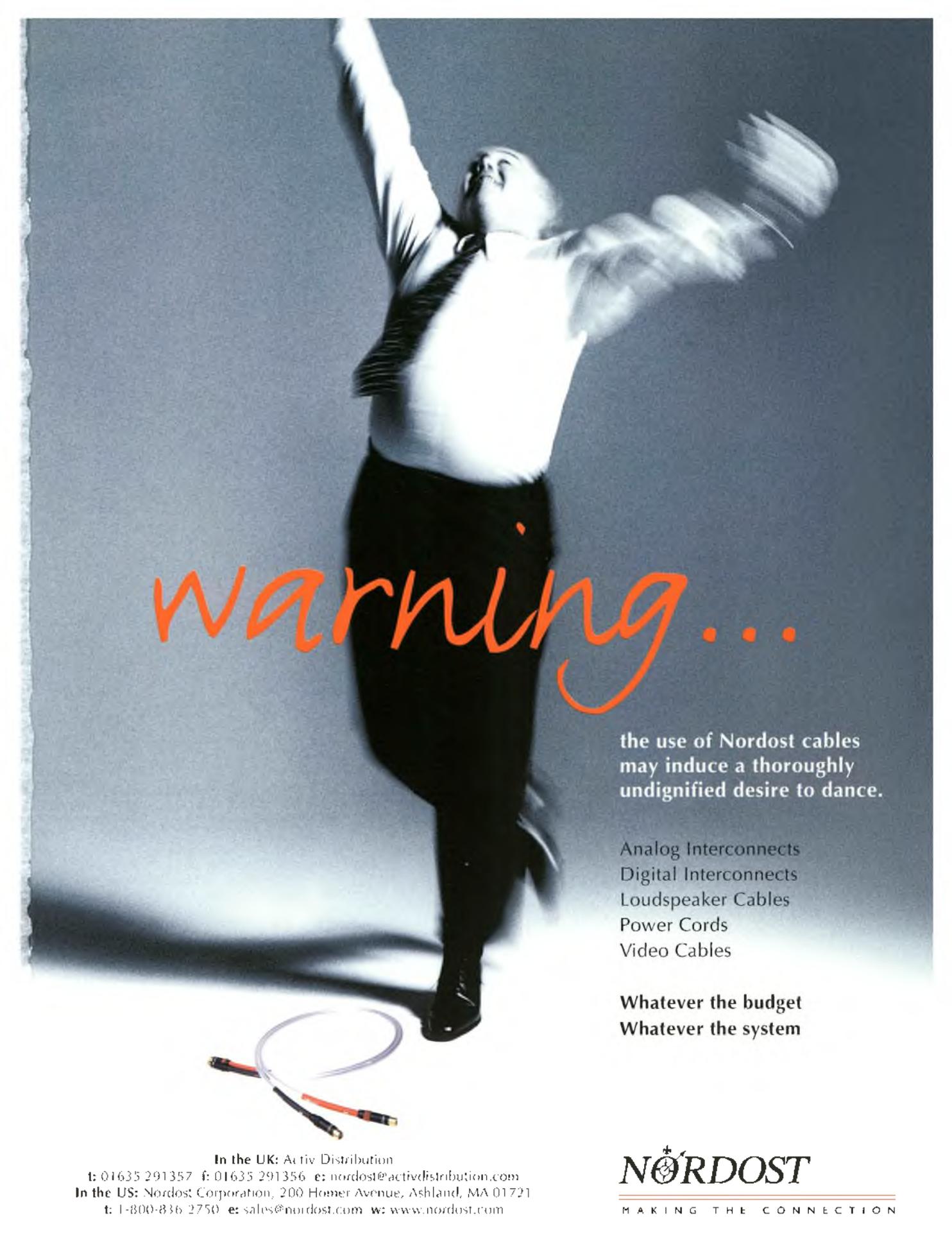
Still, for fans, it's an album worth searching out. While all the Verve Webster albums are well recorded, this one is quite a few notches below the gold standard set by *Soulville* and *The Art Tatum-Ben Webster Quartet*. On April 9th, 1959, Webster recorded *Ben Webster and Associates* (Verve MG V-8318), with Coleman Hawkins, Budd Johnson, Roy Eldridge, Jimmy Jones, Leslie Spann, Jo Jones and Ray Brown. The four horn front-end presents a different vantage point, but what a treat it is to hear this front line. Every song on this album is a winner, and the arrangements hold together to perfection. Eldridge steals the show on 'Young Bean', leaving Hawkins to fight for a place on his namesake tune. Definitely an essential album, with top-notch Verve sound,



just listen to Ben on 'Time After Time', which he pretty much takes over, to know everything about Ben Webster.

These are not all the great Webster albums, even for this period. Other Verve albums of note are Billie Holiday's *Songs For Distingue Lovers* and *All Or Nothing At All*; Gerry Mulligan's *Meets Ben Webster*; and *Ben Webster Meets Oscar Peterson*. On Impulse! Ben recorded the classic *See You At The Fair*. On Columbia, try *The Sound of Jazz*; *Ben Webster & "Sweets" Edison* or Jo Stafford's *Jo + Jazz*. On Contemporary, AcousTech's 45 RPM two album re-issue of Webster's *At The Renaissance* is a knockout. And all of this is before he moved to Europe, where he made many more great sounding records. Many of these are in stereo, but that is for another day and another cartridge.





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