

BRINKMANN BARDO DIRECT DRIVE DELIGHT

the absolute sound's

hi-fi+

REPRODUCING THE RECORDED ARTS • JANUARY 2012 • 85

CABASSÉ
PACIFIC 3SA
LOUDSPEAKER

ESOTERIC K-01
CD/SACD
PLAYER

KRONZILLA
SX-ECO
POWER AMPS

SMALL IS BEAUTIFUL

IS THE CRYSTAL ARABESQUE
MINI THE ULTIMATE
STANDMOUNT SPEAKER?

 CLASSÉ CP800 –
TOMORROW'S
DIGITAL AUDIO, TODAY!



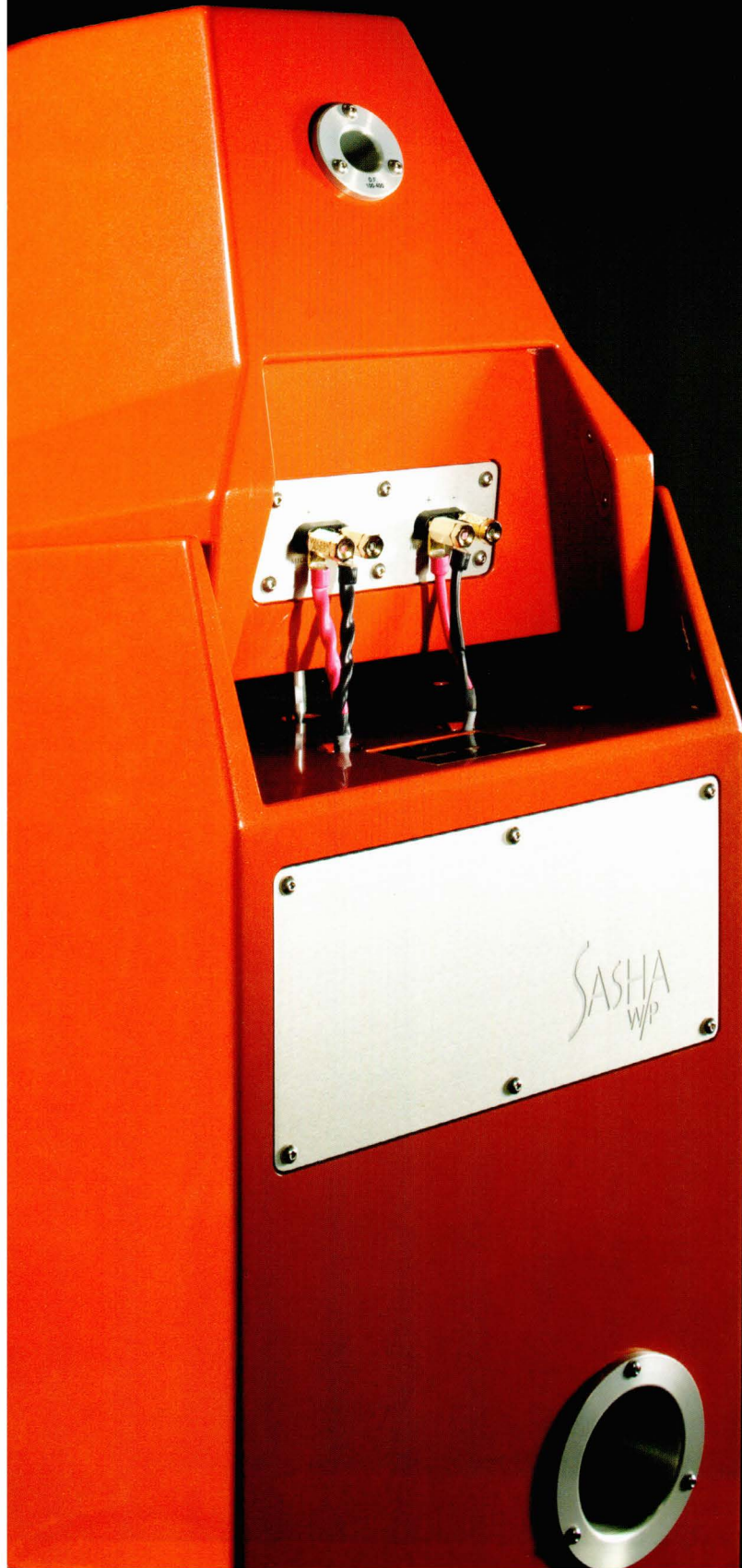
ISSN 1465-5950



£4.99

9 771465 595035

A LEGEND IS REBORN



There comes a moment in every product sphere when a truly iconic product is created. In the case of high-performance speakers, that product was the original Wilson Audio WATT/Puppy.

Now David A. Wilson has reengineered the speakers that defined audio excellence for a generation. The Sasha W/P boasts the same uncompromising approach to design as its illustrious predecessor but with newly devised innovations such as the resonance minimising material that has been specially created for the cabinets, a revised motor/magnet assembly to bring new dimensions to the bass and a redesigned crossover that dramatically increases midrange clarity.

The result is a loudspeaker with holographic imaging, free-breathing dynamics and unrestricted sonic detail. A speaker that takes sound onto a new and rarefied plane. A speaker for people who don't know the meaning of ordinary.



EDITOR

Alan Sircom

Email: editor@hifiplus.com

CONTRIBUTORS THIS ISSUE INCLUDE:

Dennis D. Davis, Richard S. Foster, Neil Gader, Roy Gregory, Jimmy Hughes, Jason Kennedy, Vincent Luke, Paul Messenger, Mark Prendergast, Chris Thomas

GRAPHIC DESIGNER

Louise Wood

Fonthill Creative, Salisbury

DESIGN DIRECTOR

Richard Hamshere

Fonthill Creative, Salisbury

PHOTOGRAPHY

The Hi-Fi Plus Team

Cover photography by Simon Marsh

ADVERTISING

Tom Hackforth

Tel: +44 (0)1425 655255

Email: tom@hifiplus.com

ASSOCIATE PUBLISHER:

Pete Trewin

Tel: +44 (0)1425 655699

Email: pete@hifiplus.com

PUBLISHER

Chris Martens

THE EDITORIAL OFFICE CAN BE CONTACTED AT:

Hi-Fi Plus Editorial

Absolute Multimedia (UK) Ltd
Unit 3, Sandehealth Industrial Estate,
Sandleheath, Hampshire
SP6 1PA

United Kingdom

Tel: +44 (0)1425 655255

Fax: +44 (0)1425 655477

Net: www.hifiplus.com

Absolute Multimedia (UK) Ltd is a subsidiary of Nextscreen, LLC, Inc. 8868 Research Blvd., Ste. 108 Austin, Texas 78758, USA
Net: www.avguide.com

CHAIRMAN AND CEO

Thomas B. Martin, Jr.

All Rights Reserved.

Not one word of Hi-Fi Plus may be reproduced without the written consent of the Editor. We are perfectly happy to co-operate, but we don't want quotations to appear out of context.

Printed By
Advent Print Group
Andover

Hi-Fi Plus is published ten times a year by: Absolute Multimedia (UK) Ltd

ISSN 1465 5950

editorial

Welcome to 2012! As we all know, the Mayan calendar tells us the world will come to an end on the 21st of December. And, if you can't trust a long-dead civilization that was still at the human sacrifice stage to predict astronomical events, what can you trust? So, if you were holding out on that grand audio system purchase, you better not hold out for too long.

It seems 2012 is a big year for prophecy. Another cataclysmic prophecy has been circulating that t'internet for a few months; Side-Line, an online music magazine announced that major labels would abandon CD by the end of 2012. While this column didn't come with a whole lot of 'on the record' confirmation and the only source cited directly was the editor of the site (who, presumably, wasn't too upset at the increased site traffic such a statement might bring), it did quickly respawn, with even hard news agencies citing it as a reference. In fairness to the Side-Line author, getting someone to confirm or deny such a rumour in a major label is a Herculean task, and you end up with a lot of crisply-pressed 'no comment' statements.

Having viewed CD's downward trend, and extrapolating wildly, my take on this is CD will account for roughly one-third of all music sales worldwide by the end of 2012. This hides trends within that trend (as in, what sort of music is sold on CD, and to whom), but remains a fairly conservative (here's that word again) prediction. Which makes me think Side-Line's own crystal ball gazing is – probably – right about the major labels dropping CD, but – probably – too quick to kill off the format by the end of this year. Perhaps. Maybe.

A quietly stated Apple aim (before the passing of Steve Jobs) was to drop optical disc from the Apple line altogether by 2015, and that statement might well become fact if it was one of Jobs' bequests to the company. Irrespective of whether Apple is as much of a force to be reckoned with in 2015, that figure still looms large in optical disc's future.

One thing is clear. If you only use CD today and intend to continue to buy music for the coming decade, there's a strong possibility one day you will be faced with having to either buy a download, or not buy at all. Worse, with the high-resolution lossless download infrastructure at best half-cooked, the chances of buying the file in anything other than lossy compressed form may not be guaranteed.

I fear this is the big question no audiophile is daring to ask themselves. I predict it will be the elephant in the listening room before the decade is out. Assuming the Mayans got it wrong, of course!

Alan Sircom
editor@hifiplus.com

NEXT ISSUE ON SALE: UK 2ND FEBRUARY 2012 ... US 9TH MARCH 2012

ARABESQUE

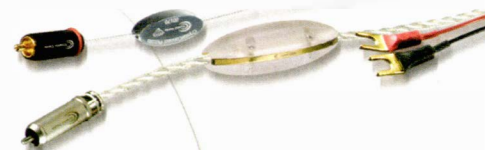
MINI

by
Crystal Cable

It's not just about the good looks of our uniquely shaped new Arabesque loudspeaker... it is also about its un-earthly low distortion rate of 0,5%*. Some call it a win-win situation. We just call it the Mini.



For more specifications or more information regarding Crystal Cable's comprehensive range of Interconnect, Speaker, Digital, HDMI, Fire Wire, USB and AC cables please contact Absolute Sounds by phone +44 (0) 20 89 71 39 09 or visit www.absolutesounds.com.



*120 - 20.000 Hz.

contents ISSUE 85 EQUIPMENT+

COMMENT

- 5** **INCOMING!**
Your letters and email
- 8** **NEWS**
High-end happenings
- 82** **ALAN SIRCOM**
Music Matters

FEATURES

- 12** **COMPUTER AUDIO**
The Beginner's Guide Pt.1
- 19** **LOUD & CLEAR 2011**
A magic musical open evening
- 64** **MEET YOUR MAKER**
Helmut Brinkmann

MUSIC

- 86** **CONTEMPORARY,
AUDIOPHILE AND
JAZZ MUSIC**
- 96** **EVERY HOME SHOULD
HAVE ONE**
Tool – Lateralus

- 20** **CRYSTAL ARABESQUE MINI**
standmount loudspeaker
- 24** **KR AUDIO KRONZILLA SX-ECO**
hybrid mono power amplifiers
- 30** **VERTEX AQ ALETHEIA**
non-oversampling DAC
- 34** **CABASSE PACIFIC 3SA**
floorstanding loudspeaker
- 42** **CLASSÉ CP-800**
digital hub/preamplifier
- 48** **ESOTERIC K-01**
CD/SACD player
- 55** **CONRAD-JOHNSON HD3**
digital to analogue converter
- 59** **BRINKMANN BARDO**
direct-drive turntable
- 66** **REL R-328**
powered subwoofer
- 70** **VPI CLASSIC 3**
turntable and arm combination
- 77** **HRT HEADSTREAMER**
headphone amplifier
- 79** **BENZ-MICRO SLR GULLWING**
moving coil phono cartridge

+

70

- 79** **BACK ISSUES**
- 84** **SUBSCRIPTIONS**
- 92** **ADVERTISER INDEX**



for the love of music...

HeadStreamer

NEW!

£145.00



2nd generation
Music Streamers

Innovative way of high-resolution, faithful and accurate streaming of computer music files

Music Streamer II

£159.00



Music Streamer II+ (2011)

£289.00



Music Streamer Pro

£429.00



iStreamer (for Apple products)

£185.00



Avalon Acoustics • Avalon Music Systems • Cardas • conrad-johnson • finite elemente • **HiResTech**
Karan Acoustics • Kuzma • Magnum Dynalab • McCormack • modul by finite elemente • Muse Electronics
Rogue Audio • Running Springs Audio • Tri-Planar • Zanden Audio

Distributed Exclusively by Audiofreaks

Trade Enquiries Welcome

AUDIOFREAKS

DISTRIBUTORS OF FINE AUDIO + HOME ENTERTAINMENT EQUIPMENT

Please send your letters to Hi-Fi Plus, Unit 3, Sandleheath Industrial Estate, Sandleheath, Hampshire, SP6 1PA, United Kingdom.
Or email them to editor@hifiplus.com

incoming!

Looking back, looking forward

I retired at the end of 2010 and looking back over those almost 45 years of work has given me an interesting perspective on the way things have changed. When I started out, computers had names like ERNIE and HAL and you only saw one in films. Now, there's more computer power in my phone than there was in the Apollo Command Module.

The same thing has happened in hi-fi. In those 45 years, we've gone from LP and tape to downloading music anytime, anyplace. And, although that technology is more for my grandson than for me, when I look at his tiny iPod and think back to what my Dansette was capable of when I was his age, it's not hard to see how far forward we've come.

I wonder what wonders my grandson will encounter. Probably music beamed straight into his own head, I suspect. I won't be there to see them with him, more's the pity – I try, but my old and analog brain struggles with today's technology – but I envy him. However, reading some of the letters in hi-fi magazines, it seems few share my enthusiasm for the future, which is a crying shame.

Fred MacLeod, via email

Although the more vociferous readers of magazines take a very conservative view of audio, I'm not sure it's an opinion shared by all audio enthusiasts. Many have wholly and happily embraced the root-and-branch changes to the way we collect and listen to music, still more have incorporated computer audio sources to an existing system, while others will be putting their first toe in the water. But I'm not sure I want people beaming music into my head just yet – Ed.

Share and share alike

What happened to friends coming round and listening to music? I used to have two or three good friends who would come round and listen long into the evenings drinking wine and playing music. And I know this wasn't unique to my friends. Family commitments and relocation put paid to many of those sessions, but it seems that few people today do the same today. Why?

I think it's because people have more access to music now than ever before, and because they can share their lives with virtual friends on Facebook. But in the process, everyone's forgotten what it's like to be sitting in a room with real friends, listening to music together as a shared experience.

“When I started out, computers had names like ERNIE and HAL and you only saw one in films. Now, there's more computer power in my phone than there was in the Apollo Command Module”

Earlier in the year, I attended one of your Classic Album sessions at the Royal Festival Hall and it reminded me that the effect of sitting round listening to an album is far more potent an experience than listening alone.

Pete Morley, via email

The Classic Albums sessions were a bit of an eye-opener for many of us. The shared music experience is a very strong one, and one that has been largely overlooked by many today. While the live event is important, there are times when the live concert isn't available (Jimi Hendrix and Miles Davis both seriously curtailed their tour schedules recently). You are absolutely correct that the shared listening session plays less of a part in the replay of modern music than it used to, but you are also right that family and mobility play their part, as does our time-poor culture and the myriad other gadgets competing for our time off. However, there's nothing to stop you and others reinstating the evening sessions – Ed.

Wot, no bass?

A friend of mine loves his music, but he listens to it dreadfully. On everything that he can use to play music on, has the bass turned full up. Recently, he heard my system and almost immediately complained that it had no bass and that the preamp didn't come with tone controls was a fatal flaw. My speakers are not bass light, but neither do they boom along with any music whatsoever. He patently loves deep, powerful, boomy bass and will not put up with anything less. I really want to help him see the error of his ways, but what do I do?

Alan Gregson, via email

In truth, not a lot. Music is a personal experience, and not rigidly enforced by the keepers of the tone controls. If your friend likes lots of bass, let them enjoy lots of bass. Should you really want to change their ways, try them on live, unamplified concerts, but to be perfectly honest, many of those who crave oodles of bass also tend to listen to a group of instruments that don't tend to play in live, unamplified events, such as bass guitars, synths and the deliberately ramped up bass notes of dub or dance music. But my take on this is more 'don't play educational terrorist' than 'they don't play the right sort of music' – Ed.

Boxed in

Last issue's *Every Home Should Have One* was fascinating. I hadn't put two and two together on this, but you are right. There are a lot of new box sets available, and I guess that has something to do with the success of the Beatles set. I'm particularly impressed with the five-album sets that cost about as much as a full-price double album. I've picked up about a dozen so far, and many of them seem geared precisely for me.

However, you skipped the two disc reissue 'box' that is currently really getting to me. I've recently picked up the two-disc Nirvana, *Who Live at Leeds* and a reissue of a classic Jimmy Reed album without spending a fortune.

I figure that the record companies are circling the wagons. They are capitalising on selling to people who are still buying CDs, and selling them the albums they bought on LP back when they were first pressed. While I can't help thinking this is a cynical exercise, it must be a successful one. What happens next, though?

Gus Whyte, via email

And I can't help thinking this current obsession with box sets is a last gasp from the music companies, a way of continuing to sell CD for a while longer. You are probably very right that these multi-disc collections represent people re-buying their vinyl, either for CD replay or using the CD as a one-time data carrier for ripping music. Others use these as cheap gap-fillers in their collection. What happens next is eventually it will dry up, with all those who want to buy the albums having bought all they need and as more become content with downloading instead. While I disagree with people (especially me) being guided toward re-buying their collection one more time, I can't help but support this box set bonanza, because it helps keep CD both alive and in the public domain. And, if enough people end up buying a lot of CDs, the CD will stay in service for longer – Ed.

Earphone madness

High-end madness has finally come to the earphone world in the shape of the new AKG 'bling' £1,000 earphones. While I am sure they sound very good, isn't it a fundamentally crazy idea to make a set of expensive earphones for an iPhone that often comes with the worst sound you can imagine in tow? It's a crazy idea, made possible by high-end boutique magazines like Hi-Fi Plus that try to make the idea of spending thousands on things that make no difference legitimate. It's a disgrace.

'TruthTaser', via email

While the magazine has no upper limits on the prices of products it reviews, I don't think we are to blame for the rise in high-end headphones and earphones. In fact, I think you can lay that one squarely at the earcups of the Beats range of headphones. Almost overnight, Beats took popular headphones and earphones prices from a dozen quid to a couple of hundred quid. This re-opened the floodgates that were once opened domestically with products like Stax. A spate of high-end earphones and headphones followed.

That aside, I fail to see the problem with high-end earphones, on a number of levels. People today spend an increasing amount of time listening through earphones and headphones, so good in-ear audio is increasingly important. I also notice many who bemoan the high price of in and on ear models have spent thousands on loudspeakers; if you could get loudspeaker performance that approached the performance of the best £100,000 headphones for £1,000, you'd think everyone would own a pair. Finally, unless they are damaged by the rough and tumble of daily commuting (solid wires, well terminated help here), a good set of well-looked-after earphones can last longer than most people expect – Ed.

Killing me softly

I run a small group of independent bookstores, and one of the things that really upsets me is people using my stores as a free browsing service for online discounters. It's getting a lot worse now, because people are using readers on their iPhones to scan the barcode on books. I've even spotted someone ordering a book on Amazon less than six feet from the checkout. Book sales are down in general, because of belt-tightening and e-readers taking over, but we always did well with large art and cookery books. Now, it seems like all we get are the impulse purchases. This is killing my business. Is the the same thing happening to audio stores.

I've noticed that there are fewer high-end audio stores in the US now (I had to travel out of state to audition my last purchase). Are they suffering the same problem? If so, can I ask buyers a question I've often wanted to ask my store browsers – do you ever stop to think this is morally wrong? Do you think the experts providing the service do it for free? What happens when the experts close their stores because they can't continue to provide the advice and the demonstration facilities? I've had to close stores and put good people out of work because business is tight, but is expert face-to-face advice really so undervalued today?

Name and address withheld on request

I have heard similar grumbles from many retail sectors, but I suspect high-end audio is slightly less damaged by this than bookstores, photographic and 'white goods' electrical retailers. By it's very nature, high-end audio relies on demonstration and installation. However, retail is undergoing a fundamental change, one that I suspect no-one really knows how it will pan out. The somewhat arrogant answer to 'do you give discount?' used to be, 'of course – what part of the service would you like us to discount?' But there is still an online discount movement that can be seen to rely on using good bricks and mortar stores as a free demonstration service, which is deeply unfair. But what do you, the readers and the buyers, think? Is it a case of 'tough luck' for the traditional dealer? Do you think bricks and mortar dealers are a 'rip off', or do you think that keeping products in stock, providing demonstration facilities, installation, expert advice and a repairs service are worth paying a premium for? Let us know – Ed.

Post audiophile or post consumer?

I picked up your magazine in an airport, and it was the first time I have read a hi-fi magazine in almost five years. I don't read magazines much anymore, but it made me remember just how deeply passionate I was about hi-fi once and how uninterested I am by it all now.

I don't know why or how it happened, but it happened over the last few years. In part, it happened when the kids came along (family sized lifestyles and the latest CD player don't mix), but in part the big thing is music just doesn't drive my life as much as it did. The whole X-Factor thing has destroyed music for me. I guess if I were seriously into classical or jazz, hi-fi would still hold some interest for me, but the former bores me and the latter confuses me. I'm not interested in today's music and I don't get the time and don't have the interest to listen seriously to all the music I used to listen to.

I don't read as much now, either. Is it just me?

Neil Bartholomew, via email

“What happens when the experts close their stores because they can't continue to provide the advice and the demonstration facilities?”

In the glory days of hi-fi were built on a foundation of jazz and classical, so I guess the people who were the first audiophiles were less likely to be swayed by the peaks and troughs of popular music. Unfortunately, classical and jazz are every bit as much a minority sport as good hi-fi these days. I'm not so convinced the two are strongly linked today, though – there are a lot of hi-fi buffs who caught the bug listening to rock of the 1970s and beyond.

An interesting aside is whether your melancholia is limited to the media, or reaches a wider scope. There are people who feel – with some justification – that modern life precludes the sort of contemplative arts that take time to enjoy, and this limits their interest in hi-fi or book collecting. Or it could be that you have simply come to a dead end (perhaps temporarily) with specific hobbies.

I'd suggest that before the matter is closed to you, remember that there is more to music than X Factor. In fact, I'd say some of the most exciting music in years is currently being made right now – Ed. +

news

Walls of Sound

Stuart McGill of Walls of Sound has taken the installed loudspeaker to the logical extreme. Far from an in-wall speaker, the bespoke Walls of Sound service turns the whole wall into a high-mass infinite baffle loudspeaker system. Using computer modeling and on-site room measurement, the Walls of Sound team adds a seven inch air gap and a solid block wall (in most environments), with one of five driver configurations for mid/treble and bass. The team even adjusts the crossover between the loudspeakers to allow for the interaction of the room itself, or to fine tune the speakers' Q to suit the listener's tastes. Prices range from £10,000-£50,000 depending on room, specification and sound quality. The first demonstration room is at London's Grahams Hi-Fi (+44(0)20 7226 5500), and a review of the speaker system is in the pipeline.

www.wallofsound.com



Klipsch Mode M40

The new £300 Mode M40 by Klipsch is the company's first active noise cancelling design. The headphone allows up to 45 hours of noise cancellation from a single battery, but even if the battery dies mid-flight, the headphones still operate, just without the noise cancellation.

The distinctive headphone design comes with an in-line microphone and controller for iPod/iPhone/iPad devices, and sports a detachable cable (two are provided) with 3.5mm headphone jack.

The headphone itself features a 15mm tweeter and a 40mm mid-woofer and the copper and black cans are said to deliver a full 20Hz-20kHz frequency response.

www.klipsch.co.uk



Electrocompaniet EMP 2

New to the company's Classic Line, the £2,490 EMP 2 multiformat player supports Blu-ray 2D and 3D, CD, DVD-Audio, DVD-Video and SACD. It also plays these standards in two channel and multichannel formats, and comes with DLNA certification for Ethernet or Wi-Fi streaming. In addition to high quality audio output (XLR and phono stereo output, phonos on the 7.1 channels) and native DSD processing for SACD, it also features the high-end Qdeo video processor, which gives Blu-ray a natural looking picture and upscales DVD to HD quality.

In short, it takes the Blu-ray platform and raises it to the standards we have come to expect from Electrocompaniet products, and that it comes in the black and gold livery of EC's Classic Line, means the hi-fi and home cinema enthusiast alike can benefit from a touch of Nordic class.

www.electrocompaniet.no



Do you do Voodoo? We do!

Introducing the new r33 support system from Oriton. A light weight handmade frame constructed from carbon fibre and co-polymers and built in the UK. This elegant modular structure aides in the reduction of energy storage demonstrating the art of less is more!

The magic is in the sound.

Oriton[™]

www.oriton.co.uk

E M O T I O N **VA** E N G I N E



What Does \$1000 A Watt Sound Like?

Neil Gader

Vitus SIA-025 Review
The Absolute Sound, December 2011

“...every self-respecting audiophile should consider it an obligation to listen to one—if just for the hedonistic pleasure of bearing witness to the seductive musicality of one of the high end’s finest offerings.”

“The SIA-025 is a superb component brimming with enough finely wrought performance skills to challenge all comers.”

“The Vitus Audio conveys the most tactile inner details—virtually down to the fingerprints on a performance.”

VA

MANUFACTURER

Vitus Audio, Denmark
+45 9626 8046

www.vitusaudio.com



UK DISTRIBUTOR

Kog Audio
024 7722 0650

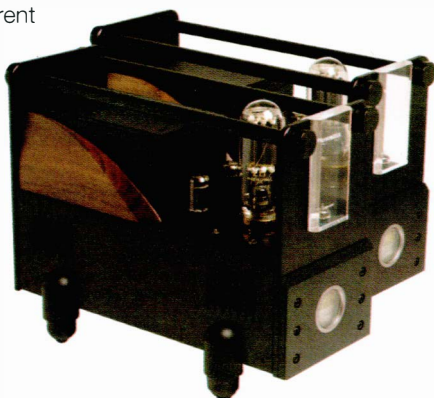
www.kogaudio.com

Consonance Cyber S series monoblocks

One of Opera-Consonance's best loved power amplifiers was the Cyber, launched around eight years ago. Now, they have been replaced by the Cyber S monos, priced at £5,995 per pair. These clever single-ended monoblocks come in two very similar versions; a the 211S monoblocks, that feature a single 211 power tube per side and are capable of delivering 16 watts per channel, or an 845 version of the same which can deliver up to 28 watts.

Both feature in-house, hand wound transformers and feature a pair of 5AR4 valve rectifiers. The new all-black finish is a recent departure reflecting current Consonance products, and biasing the tube is easy thanks to a front mounted illuminated meter. We have a pair of the monoblocks in for review in an upcoming issue.

www.aliumaudio.com



Audio Technica Louvre store

You don't need much proof to see just how important headphones have become of late, but a fine indicator is that Audio-Technica has announced it is to open a 'concept store' based around its headphone and earphone range in Paris, at the rue des Pyramides at the Louvre. Designed by Tojugin Yoshioka (Issey Miyake's store designer of choice), the new store even features an aircraft simulator, allowing the buyer to check out noise-cancelling designs in an Airbus A380 during take-off, without having to leave the ground.

www.eu.audio-technica.com/eu



NEWS IN BRIEF

Epiphany EHP-02

A new brand, Epiphany Acoustics, has introduced its first product, the EHP-02 portable headphone amplifier (the EHP-01 desktop amplifier will arrive after the EHP-02, naturally). This £100 headphone amplifier runs off two rechargeable batteries, is claimed to deliver just 0.0017% distortion, a noise floor of -105dB and a reputation to be able to drive absolutely anything from its 3.5mm jack socket.

www.epiphany-acoustics.co.uk

Saga Woteva

Not really anything to do with audio, but Saga, the 'mature' company has announced its free 'Woteva' app for the iPhone. It's a teenage slang translator. So if your son starts callin his Halo skillz zizzlin' you can just call him 'antidextrous' or when your wrecktified geekstress of a daughter starts calling your old albums 'premakes' of meaty X Factor or Glee covers, tell her they are just badassical, ygm? Hysterically, the app is age restricted to over 17s, which is proper bo.

www.saga.co.uk

Trends Audio SA-10

The innovative Trends Audio – makers of the tiny TA-10 Class T amplifier with the matching tiny price – has announced a matching loudspeaker called the SA-10. A two-way front ported loudspeaker in two styles – the standard SA-10 and the 'handed' SA-10R, the single wired bookshelf sports a 25mm poly dome tweeter, a proprietary core inductor (in place of a magnetic core) and supposedly long-lived rubber surrounds. Trends calls this an 'affordable Swiss army knife type of loudspeaker' and while the UK price has not been set yet, the US price of just \$249 suggests it isn't going to break the bank.

www.trendsaudio.com

William Zane Johnson, 1926-2011

William Zane Johnson, founder of Audio Research, passed away peacefully in the morning of December 10, 2011. He was 85 years old. He led the company for 38 years, and was widely considered to be one of the founding fathers of high-end audio. He is survived by his wife Nancy and family.

Computer Audio for Beginners

The future of music, at your fingertips By Vincent Luke

Vince Luke of Abbingdon Music Research has spent a great deal of time researching the whole subject of computer audio, and he has distilled his findings into a two-part feature that we will be running in this issue and the next. Like dCS' excellent guide to computer audio, it's not advertorial, but a finger pointing the way to getting better sound out of computers by someone who's already gone the distance. We think it's an important background to how music is being played by most people today, and how many of us will be playing it in the future. Enjoy! – Ed.



My iPhone 4 went 'honk honk.' It was from my 13-year old daughter.

It read, "OMG where do I put the silver CD thing and how to choose? xxx."

It was my daughter attempting to play a CD on my home system. Staring at the multiple boxes and various buttons, she could not understand why it was so complicated to play a silver disk and did not know where to start.

This really drove home how traditional two-channel audio has not kept pace with the music-loving general public who have embraced audio with open arms through the personal computer and an omnipresent music software platform called iTunes.

We are fortunate in that we are in the midst of a technological surge that makes Moore's Law seem like it is in urgent need of a Windows Update. With the 'technological arms race' of e-tablets, e-books, smartphone et al, one advantage is that audio has been brought back into the mainstream consciousness.

Audio format evolution, not revolution

Within the space of only a few short years, the iPod/smartphone has drawn the public in droves back into music on a global scale not seen since the Cliff Richard "Wired for Sound" days of the Sony Walkman; an achievement that has been nothing short of truly astonishing. The UK telecommunication watchdog OFCOM recently announced that over 30% of adults and over 60% of teenagers use a smartphone. Wherever we look, people everywhere are seen listening to music on headphones. Behind all of this is a computer on which all the music is centrally stored.

The driving force behind the iPod/smartphone is our pursuit of ever-greater convenience. In the 1950s there was

the 12" vinyl record; in the eighties the 5" compact disk; and now the 2.5" hard disk drive. This latest format makes handling the music catalogue no longer a physical, but a virtual reality; in a computer-generated world that is uncannily reminiscent of "The Grid" in Tron: Classic and Tron: Legacy.

The two-channel audio generation in its pursuit of the highest quality of music playback is coming around to computer-audio. Even the most ardent technophobe will acknowledge that this is the future because high-definition music is accessed through this medium. High-Definition (HD) music being 24-Bit carries more information in comparison to Standard-Definition (SD) compact disk on 16-Bit. All things being equal, if properly executed, HD audio has the potential to deliver exquisite vocals, stunning dynamics and a canyon-wide soundstage. Surely your audio pulse is racing now!

Juxtaposed by a huge slice of serendipity is the unrivalled convenience of computer-based audio which rather than separating us further from our music, actually enables us to be more intimate with our music collection than ever before. How? The answer is finger touch control from the listening chair. With precise and immediate access to the whole of our music collection, vinyl and CD could never match such expediency.

The aim of this series of computer-audio papers is to introduce, outline and suggest approaches on the Apple (OS X) and Microsoft (Windows) platforms. Of course, one may also wish to take a different route and purchase a "plug and play" Network Audio Source. The choice is yours and the list is endless. One thing is for sure, the benefits are aplenty...

There are only two questions to answer:

Do you like higher-quality music?

Do you wish to be drawn into your music?

If the answer is a resounding "yes" to both, then read on...

The perfect source: PFP, NAS or CAS

There are three main approaches to a computer-audio source front-end:

1. **Portable File Player (PFP):** of the three approaches, the Portable File Player as portability is key, it has the most compromised sonic performance out of CAS/NAS or CD player. This is to be expected as the setup is comprised of a small, portable music player such as an iPod that docks into a station/base that takes the digital signal which is sent to a separate DAC component. Convenience is the advantage but a computer is still required behind the scenes to load/manage/store the music library. A typical iPod with a 16GB storage capacity can only store ~50 CD albums on a lossy compression format (i.e. lowest sound quality music file).
2. **Network Attached Storage (NAS):** a front-end interface that requires/connects to a Wi-Fi Router or Ethernet connection. The front-end such as a Logitech Squeezebox acts as the source as it receives the streamed music from the router. NAS systems are often at least partially 'closed' as the hardware and software comes pre-installed/installed by the vendor. Network knowledge or specialist setup is required at the outset and the user is tied to the vendor's default platform. Compared to CAS setups that use specialised software, the NAS sonic performance is not as impressive. NAS-based systems (such as Sonos) only play up to 24/96kHz and the playback chain may not be 'Bit-Perfect'.
3. **Computer Audio Source (CAS):** a laptop/desktop with an audio playback program such as CPlay or Audirvana connected to a DAC via USB/SPDIF. Such a system is 'open' as the computer hardware/software and DAC are 'user-definable' which along with 'Bit-Perfect' capability, forms the basis for the highest sound quality. This approach offers greater flexibility as the software can be constantly improved by the user to attain the latest and highest-level of sonic playback to stay at the lead-edge.



Computer audio oozes tech appeal

Computer-based audio, fanned by its inherent technological nature, has an amazing kaleidoscope of attractive features that makes an original Western Electric 300B valve seem like a 30W light bulb. The following is an overview of the ten most attractive features.

1. Unwind into your music like never before

On an equal footing with better sound quality, unparalleled access to the music is a key reason why computer-based audio should make any music lover's ears prick up.

Habitually, we listen to 10% of our CD/vinyl collection 90% of the time. Ever wondered why? The answer is lack of accessibility. It is just not practical to leaf through +1,500 vinyl/CD albums each time one wishes to play music. The physical nature of one's vinyl/CD collection means it is habitually arranged in a certain way such as by genre or alphabetically.

With computer audio, imagine being sat in your listening chair and with a swipe of the finger, directly access your *entire* music collection. Neither CD nor vinyl could ever be that expedient.

2. The computer is the 21st century source

Around the globe, the sheer number of iPod/smartphone users has already established the computer as the main audio source. In the era of the touchscreen 'tablet' one should similarly expect a touchscreen audio source with the same, attractiveness/features.

With computer-based audio there is the garden-variety standard Windows remote control unit but far more exciting is the smartphone/tablet remote control options supported by a virtually endless array of iPad/iPhone/Android downloadable 'applications'.

3. Computer audio has come of age; 'Bit-Perfect' playback

In the early days of computer audio, the primary culprit for poor sound was the Kernel Mixer incorporated into the computer's operating system. The 'mixer' carried out forced manipulation of the audio signal leaving it sounding 'hard' and 'artificial'.

The reason behind this artificial manipulation uses a mathematical program to recalculate the music signal leaving it degraded because the Upsampling process is lossy by nature so 'Bit-Imperfect'. The human ear is highly sensitive and is able to easily detect such flaws.

In recent times, the most important single advancement in computer audio playback has been the ability of virtually all music software programs to execute Bit-Perfect audio playback.

4. HD and SD are complimentary, not competing formats

High-Definition (HD) 24-Bit music is encoded using the same Pulse Code Modulation (PCM) as 16-Bit Standard-Definition (SD) compact disk recordings. Transferring compact disk ►

► music to SD (on a Hard Disk Drive) is the way forward. With 'current' and 'future' audio formats encoded the same, one may simultaneously enjoy both formats. We anticipate a format 'evolution' rather than 'revolution'. We believe the transformation by CD music from a physical silver disk to a virtual music file has ensured its longevity and popularity for a number of years to come.

Some manufacturers such as Linn have made the decision to no longer manufacture CD players. We can also see the strong sense of déjà vu as the decline in demand for CD players is reminiscent of the early eighties when turntables were shunned in favour of the first Compact Disk players. Taking a more avaricious stance, one can straddle both HD and SD formats equally. Follow the music and enjoy the best of both HD and SD. ►

Analysis of the three main approaches to Computer-Based Audio

The following table is a synopsis of the different aspects of the three main approaches to computer-based audio: outlining the key considerations from price to features to technical setup/maintenance.

| | PFP | NAS | CAS |
|--|--|--|--|
| Pricing | | | |
| Hardware | Apple iPhone 4S: £250 + Onkyo NDS-1: £120 | Logitech Squeezebox: £250 to Linn DS £12,000 PC or NAS box: c.£150-£3,000 | Laptop: £350 OR All-in-One Touchscreen Computer £600+ |
| Software | Fixed, usually same pre-installed as backup computer for storage e.g. iTunes required to support | Fixed, vendor pre-installed. Software options for controlling NAS music server (e.g. Asset, Twonky) | Flexible, user-specified from freeware such as CPlay or payware such as J. River Media Center: £30 |
| Remote control | Minimalist remote supplied with docking base | Vendor-specified remote or iPad/tablet | iPhone/Android/iPad or standard Microsoft remote |
| Key Features | | | |
| Digital interface | SPDIF/Optical usually basic, so highest jitter | Ethernet/SPDIF/Optical usually average jitter reduction (jitter not applicable to packetized Ethernet) | USB/SPDIF/Optical - most advanced jitter reduction |
| Sound quality | Most limited - usually Bit-Imperfect as software is fixed e.g. iTunes limited to 48kHz and Upsamples to 24-Bit | Better than PFP, but arguably lags behind CAS as DAC can be of average quality and vendor software can be "Bit-Imperfect" | Highest quality - "Bit-Perfect" chain as DAC is dedicated and user-selected software can be dynamic |
| File Formats | Lossy compression | Lossless and Lossy Compression | All formats - Uncompressed, Lossless and Lossy |
| Play HD music at native 24-Bit 96 or 192kHz? | Only if downsampled | Typically hardware limited on file formats and sample rates | Up to 24/192kHz and above (if future formats move higher) |
| Play CDs directly? | No | Unlikely | Direct play by inserting into computer disk drive |
| Multi-room playback | No | Vendor equipped e.g. Linn DS has multi-room | Software dependent e.g. JR Media Center allows multi-room |
| Future upgrade path | Vendor software only and downstream DAC | Vendor (and sometimes third-party) software; PSU upgrades (Naim, Third party for SB); downstream DAC | CAS software and downstream DAC upgradable |
| Technical | | | |
| Setup | Easy - Plug and play but requires computer with music file storage | Hard - requires Ethernet, router and storage knowledge. Best performed by dealer | Medium/Hard - user can perform setup or dealer can make dedicated, high-performance system |
| Storage capacity | 16GB ~ 60 CD albums (Lossy, not FLAC) | Requires external Hard Disk Drive or Network Attached Storage | Internal Hard Disk Drive typically 250GB~500 CD FLAC albums. Option to connect external Hard Disk Drive for more storage |
| Support/Maintenance | Computer backup to rip/burn music files | Must have router and network storage and reliant upon vendor | Reliant upon user technical expertise. Minimum of one-box computer connected to Internet |
| System Flexibility | Fixed interface e.g. iTunes but downstream DAC user-changeable | "Closed" System as system (hardware and software) is vendor pre-installed e.g. Logitech (Linn software is open source however) | "Open" System as hardware and software is user-selected e.g. Audirvana on MacBook and downstream DAC |
| Power Supply | Switch Mode Power Supply in docking base. Downstream DAC-linear or SMPS | Switch Mode Power Supply from vendor-configured system | Switch Mode Power Supply in computer. Downstream DAC linear or SMPS |



ELECTRA 1000 Be II

They say perfection is not of this world...

Don't believe what they say. If music is your passion, you should listen to the Electra 1000 Be II loudspeakers. Universally recognized by reviewers, recording and mastering studios, the world over, the Electra 1000 Be II loudspeakers are coveted by the most demanding audiophiles. One aspect of the design is the unique Focal inverted dome tweeter. This has convinced the most renowned recording and mastering studios across the world. This technology - the unique patented inverted dome High Frequency unit - made from rare, aerospace-grade beryllium - a material which is a hundred times more expensive than gold. The High Frequency dome material weighs just twenty-five thousandths of a gram and its material is seven times more rigid than titanium. These characteristics, combined with the powerful motor system, deliver outstanding acceleration, excellent dispersion and a with uniform frequency response from 2kHz to over 40kHz. Performance achievements that we're proud of, but in the end there's only one true measure of performance: trust your heart. Take a listen.

Photo: L'Atelier, Sylvain Madelin - S.T. Etienne

Beryllium

Our new winter collection

- Stax SR-009 earspeaker, a new reference in electrostatic technology and listening
- Esoteric P-02 CD/SACD transport with 24 bit/352.8 kHz output capability
- Ayre QA-9 high resolution analogue to digital converter
- Lyra Atlas a new moving coil reference
- Esoteric D-02 dual mono digital to analogue converter with 24 bit/352.8 kHz input and asynchronous USB input
- Brinkmann Bardo with 12.1 tonearm and exclusive HRS S1 isolation base

 symmetry

t: 01727 865488

e: info@symmetry-systems.co.uk

w: www.symmetry-systems.co.uk

► What's more, vinyl lovers are also included. With HD 24-Bit/96kHz Analogue-to-Digital converters to digitise vinyl onto the HD audio format, vinyl will also enjoy a lift from the HD standard.

5. HD audio strong demand pull

With convenience at the forefront, downloadable High-Definition music is driving the surge in popularity of DAC machines. Over the long term, HD audio is well-positioned to be the format to carry the "format baton".

The ascendancy of HD audio is underpinned in no small part by the proliferation of streamed video such as Love Film and Netflix; which have popularised streamed content via the Internet. This means ready mainstream acceptance/understanding of downloadable/virtual music access.

For HD music, the medium is downloads from online music vendors. It is therefore a logical progression that the purchase/storage/playback is all handled by the same component; the personal computer (strengthened by the fact that Steve Jobs recently announced Apple's drive towards cloud computing is just around the corner which promises convenient backup/sharing et cetera...).

Coupled with the overriding environmentally-friendly and space-saving consumer trends, High-Definition and Standard-Definition music downloads is set to go from strength to strength.

It is worth identifying two side points:

- i. The traditional physical CD format is not able to handle High-Definition music files.
- ii. Sony and Philips the original designers, launched the SACD format in 1999. The Direct Stream Digital (DSD) technology behind SACD has been claimed by some to drive computer audio demand forward. This is unlikely as it has and is expected to remain niche. Presently, the total SACD library stands at only ~ 6,500 titles and in 2007, Sony deleted SACD playback from the Playstation 3. With this track record, both SACD and DVD-A formats are confined to the audio recycle bin of time.

6. Gargantuan storage capacity in the price sweet spot

Most audio lovers typically own a collection of +1,500 LPs/CDs. Taking into account the physical space such a music collection occupies in today's ever decreasing size of homes means it is becoming increasingly more invasive (ergo, less likely to sneak past the other half).

7. Multi-room music access

It is fast becoming standard that computer audio software programs will wirelessly stream the music file from the computer via the wireless router to an iPhone or similar product. Therefore, should one wish, at bedtime to unwind

to a lullaby, simply put on a pair of headphones and use the smartphone to stream from the computer.

Imagine being in the garden listening to a HD music file of the original 1963 Columbia vinyl pressing of The Dave Brubeck Quartet at Carnegie Hall wirelessly streamed to your iPod docking station whilst sipping a refreshing Pimms with a sizzling Angus sirloin steak on the barbeque...life really does not get much better.

8. Global social interaction

Nowadays, in the age of Facebook and Twitter, social networking has become a key part of our daily routine. With music very much organised into social groups, self and social integration via websites such as last.fm offer music as a social tool to assemble an 'infinite self-assembling playlist' to recommend to others.

9. Integration of digital room correction

It is often said that the room is the last chain in the audio system. We completely agree. Room correction systems range from £500 to £10,000+ and there is the complex technical setup to also consider. The major advantage of computer-based audio is that digital room correction via computer software is less complicated and more economic (~£200); two very compelling reasons indeed.

10. Computer-based audio makes economic sense

Consider the following two cost propositions:

Setup A

CD Transport > DAC > SPDIF cable
Total system cost
~ £8,000 to £15,000

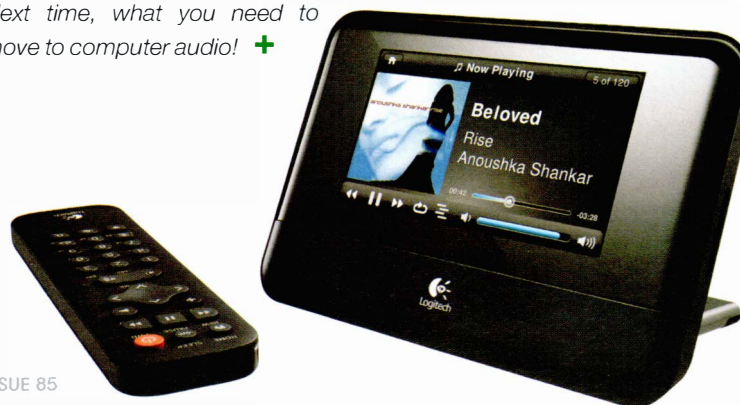
Setup B

Touchscreen PC > USB Cable > Asynch USB DAC
Total system cost
~ £1,500 to £5,000.

More so than before, under the current climate of economic prudence, one would be remiss if Option B: the Touchscreen personal computer did not warrant serious consideration.

From a sonic performance point of view, now that the computer has more than the measure of compact disk playback, the decision is virtually academic.

Next time, what you need to move to computer audio! +



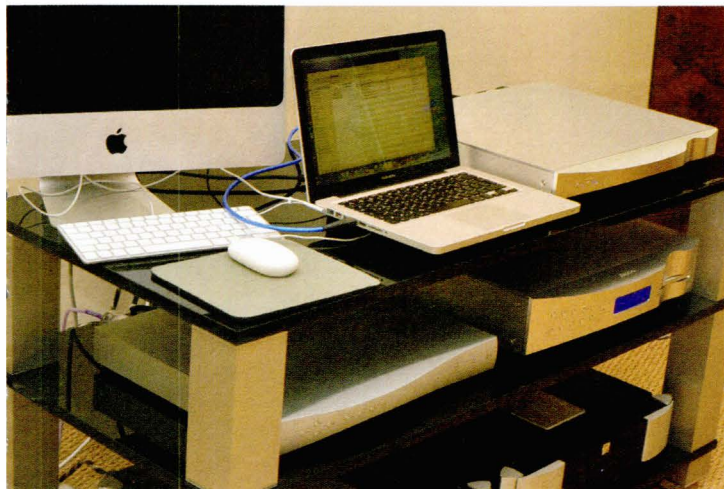
[sometimes]
technology meets art...



SHOW REPORT

Loud & Clear event

By Alan Sircom



On a wet and windy Friday in late November, Edinburgh's premier audio and video supplier, Loud & Clear, along with digitalmeister general dCS, made recorded music wonderful again. Playing to an invited audience of about 30, the event was an evening of classical music, presented and recently recorded by noted classical producer Tony Faulkner, from his own Green Room Productions. John Carroll of Loud & Clear and David Steven Jr of dCS were also on hand, with the rest of the team on tap to keep the food and wine flowing.

Taking Loud & Clear's large central listening space, the event was more like a concert recital than a hi-fi demonstration, as we listened to Tony's experiences and subsequently heard his latest works. And they really were 'latest'; one track was recorded three days prior to the event. In fact, the recordings were so freshly-squeezed that the high-resolution files were only delivered to Loud & Clear's computers on the afternoon of the event.

The programme comprised music by Brahms, Tchaikovsky, Rachmaninov and Stravinsky. This wasn't playing dozens of snippets of tracks; no three-minute excerpts, Tony played the entire piece of music after a brief introduction, discussing what he calls (with true British understatement) his 'lazy' approach to recording; careful, minimalist microphone placement in the concert hall, rather than the massed close microphone techniques commonly found in many classical recordings today.

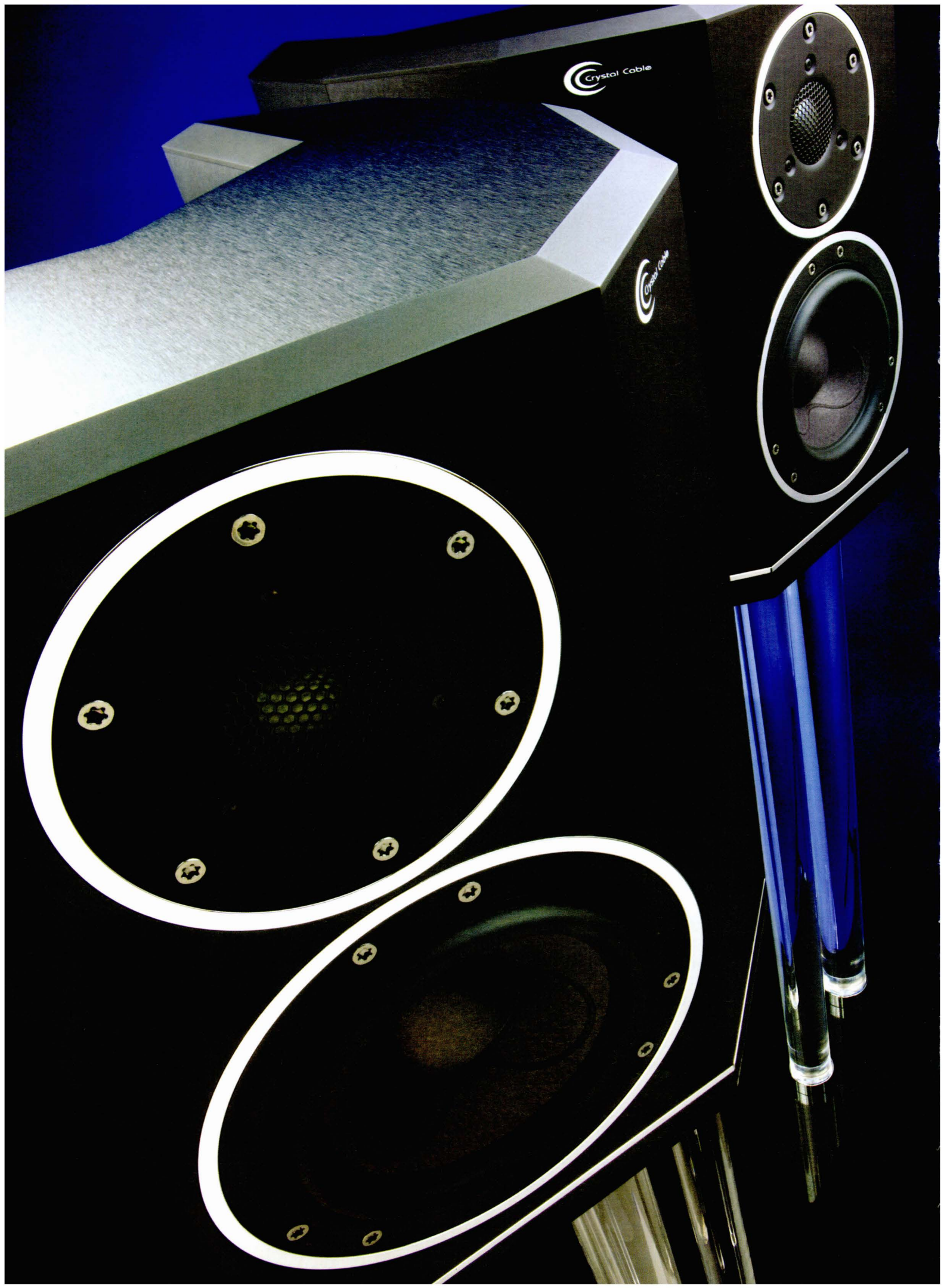
As a result, he also reminded us – both in his lecture and in the music he played – that music is not all supposed to sound similar; halls, orchestras, conductors and – of course – the music itself should sound at times sublime and enveloping, at times hard and angular. The difference between two Rachmaninov recordings – Symphonic Dances (live played by the City of Birmingham Youth Orchestra, Jac van Steen conducting) and the Paganini Variations (played by the St Petersburg Academic Symphony Orchestra, with Hai-Kyung Suh soloist and Aleksandr Dmitriev conducting) – was marked, the energy of the former contrasting with the dynamism of the latter.

Perhaps the greatest aspect of this in a way is the event perfectly fitted the dCS tag line 'Only The Music'. The 'bits and pieces' that comprised the system itself were barely discussed, and then only in passing. There was no need to discuss such things in a way, the music spoke for itself. For the record, the system was made up of a MacBook Pro laptop, with 8GB of RAM for playing Pure Music

in Memory Play. This fed into a dCS Debussy DAC, with a dCS Puccini clock raising the game still further. That was playing into a two box Moon 850P preamplifier and then to a pair of Moon's 880M mono amplifiers. This delivered whisper quiet, near boundless power to a pair of ProAc's Carbon Pro 6 floorstanding loudspeakers, and the whole system was slung together with Studio Connection cables.

In fact, 'slung together' is the least appropriate term here. The L&C approach is pretty far removed from 'slung together' and this system was selected and fine-tuned with inordinate care and attention over the course of the week prior. The company's professional, yet inherently friendly approach both in making this excellent event and in its day-to-day operation shines through. In a world where so much is thick with gloom, it's a rare pleasure to find people who are not only good at what they do, but are clearly so passionate about what they do that they constantly do it better. +





Crystal Cable

Crystal Cable

Crystal Arabesque Mini

By Alan Sircom. Photography by Simon Marsh

Crystal's first departure from its cable range was the excellent Arabesque, a tall floorstander packed with innovative features. And as is often the way, most of those innovative features were lost in the "it's made of glass" sound-byte. Crystal's next – the new Arabesque Mini – represents no less radical a design, but because it's housed in an aluminium shell, the important aspects may also be lost in the process.

If so, it would be a shame because this is a really clever loudspeaker design. It has the same computer-modeled comma shape, with a distinctive slot-vent (not a port, not even a vent, really). It's a deceptively heavy, non-resonant cabinet, which works in a similar manner to glass and doesn't need any internal wadding. The comma shape itself extends the loudspeaker's non-parallel sides, essentially giving the vent its own enclosure, so that any port resonance or 'chuff-chuff' sounds are simply not there (more accurately, they are removed to a safe place, too quiet to be audible). It also gives the loudspeaker a very distinct 'handedness' to the design, which seems to bestow an added bonus of helping to cut back on first reflection sound interference.

This shape bestows two additional bonuses. Tails out (the standard position), the loudspeakers are good at coping with side-wall reflection and casting a wider soundstage. Tails in (left and right speakers swapping places) and what you lose in first reflection management, you gain in image depth. This allows a higher degree of room matching than normally occurs with loudspeakers; if you have a large room where a lack of image depth and 'hole in the middle' effects occur, place the loudspeakers tails in. Also, while this really isn't a small speaker for a small room (they work best 2m apart, 0.9m from rear and side walls and about 3m from the listener) the 'tails in' position does give them more scope in postage stamp sized city

dweller apartments. There is a ± 1 dB of treble boost or cut via a toggle switch on the speaker terminal panel to better accommodate less than ideal settings.

Where the original Arabesque uses a ribbon tweeter, the Mini uses a 25mm ScanSpeak beryllium dome tweeter, coupled to a 150mm ScanSpeak Illuminator long-throw mid/bass unit with its distinctive petal shaped symmetrical cone. The use of these two loudspeaker drivers highlights one of the biggest costs that is currently causing good audio prices to rocket. They both feature their fair share of neodymium in their magnets, and this rare earth is becoming very difficult and is increasingly expensive to obtain outside of China these days. As a consequence, simply speccing these excellent and expensive drive units makes the Mini's bill of materials higher than most two-way standmount loudspeakers. The use of pure silver-foil capacitors and Tritec air-core inductors and, of course, Crystal internal wiring aren't exactly cheap either.

The crossover components are assembled to create a second-order slope with a crossover point around 2kHz, with an effective frequency response of 40Hz to 40kHz in room. It's a relatively low Q design, which I feel tends to point it away from the more raucous elements in music. At 86dB sensitivity and eight ohm nominal impedance, it's moderately easy to drive on paper at least. Crystal suggests partnering the Arabesque Mini with amplifiers from 50-150W. I disagree; 50W isn't really enough to drive these loudspeakers to anything like their potential; doubling that figure will, however. I used them predominantly with the excellent Devialet D-Premier (a near perfect match), but toward the end of the test used them to excellent effect in Roy Gregory's system, where they were fed by a pair of VTL 450s. So long as you don't decide to play 'let's see how far we can go' with a clipped and compressed album, the extra power just gives the speakers an even greater sense of authority, solidity and rootedness.

The speakers are given a full day's running in prior to shipping, but Crystal recommends putting a hundred or so hours on the clock before serious listening. However, the aluminium chassis does create one of the speaker's few shortcomings. Toward the end of the test time, the temperature dropped suddenly by several degrees as the lengthened atypically mild November gave way to the icy blasts of December. The speaker was not at all comfortable with the temperature changes,



▶ understandable given that weighty cabinet can quickly get – and stay – cold to the touch. This wasn't too much of a problem, quickly solved by a 10 minute musical warm-up at the commencement of each listening session (or not being quite so mean with the central heating), but is worth noting especially for those living in colder climes.

Then there's the stand. It's a clever and elegant quartet of differently sized Perspex dowels, matching silver end caps top and bottom and a spikeless marble base. The stand comes with Ikea-like graphic assembly instructions, which are useful because the combination of one-way baseplate, four different sized rods and an irregular shaped loudspeaker can lead to some confusion. A screwdriver-like Allen key is provided too. It's ideally a two-man lift when built; not just because of weight, but because you could potentially shear the internal threads when putting too much tangential stress on those Perspex rods.

The thing about the stand is it sounds good. It's a surprisingly good visual match and an excellent physical match to the loudspeakers, and putting the speakers on more prosaic mass-loaded or open frame metal stands didn't sound anywhere near as good. Even though it is the best match for the loudspeaker. If you decide to look at the mini as a loudspeaker on its own, it comes with eight feet to accommodate the speakers on more normal stands, but with the proviso that almost always you end up with that comma tail perched precariously in thin air. So think of this as a complete package.

The first thing you appreciate when listening to the Minis is just how well they live up to the company's claim of low distortion. Crystal suggests the loudspeaker has less than 0.5% distortion above 200Hz-20kHz, while the sub 120Hz range still only doubles that figure. For loudspeakers, these numbers are fantastic, and borne out by the sound quality. It's not electrostatic-like in clarity; it's what electrostatics would one day hope to attain. This makes the performance exceptionally clean and detailed, but not dry or dull.

The Arabesque Mini has two big strengths, one literal. The speakers serve up one of the biggest sounds you'll hear from a small box. Close your eyes and listen and you'll picture far larger designs. The clever part is that it doesn't magnify, so there are no ten foot wide singers or pianos the size of Rutland. If the soundstage is small, the sound from the speakers is small. If it isn't, it isn't. In other words, this is a small speaker that isn't afraid of thinking big.

The big sound extends to the dynamic range, which is something unbelievably rare in smaller loudspeakers. Most bookshelves tend to sound dynamically compromised next to their bigger floorstander brothers. Not here, though. These are dynamic loudspeakers in every sense, and the sense of range and scaling from the quietest to the loudest is excellent. No loudspeaker can cope with the full onslaught of the Solti/Mahler Eighth Symphony, but the lack of range in small boxes tends to make it foreshortened and closed in. This is big speaker territory... and yet, the Mini aces this killer test.

Another excellent example of this is the Telarc CD of Rachmaninov's Symphonic Dances (Zinman/Baltimore SO). Most small speakers make a fair fist of bouncing along with the cadence of the melody, but in the process gloss over the close counterpoint and harmony. The Arabesque Mini has no such limitations and the full scale of the sound is presented properly. And, for a small loudspeaker playing dynamic, it goes louder than you'd expect. Not death metal, earbleeder loud, but loud enough to express the



musical content at a fair simulacrum of natural volume levels.

There are three interlinked aspects of performance that are interrelated in small speakers; dynamics, volume level and deep bass. Most bookshelves get one at the expense of the others, a few can get two out of three, but the Mini is more clever than most. It gets all three correct, by sacrificing a small amount of each aspect. That's exceptionally rare. By essentially nailing the

TECHNICAL SPECIFICATIONS

Two-way stand mount loudspeaker

Drive units: 1x 25mm beryllium dome tweeter, 1x 150mm cone mid/woofer

Frequency Range: 40Hz-40kHz (-3dB) rear wall position

Crossover Frequency: 2kHz

Crossover: second order, low Q

Power Handling: 50-150W

THD: <0.5% (120Hz-20kHz)

Max SPL: 106dB

Efficiency: 86dB @ 2.83V

Impedance: 8 ohm Nominal

Weight: 18kg (excluding stands)

Finish: Natural silver/grey or black

Price: £12,000 per pair (excluding stands)

Manufactured by: Crystal Cable

URL: www.crystalcable.com

Distributed by: Absolute Sounds

URL: www.absolutesounds.com

Tel: +44(0)208 971 3909



dynamics, and most of the volume, the loudspeaker's functional limits at the bottom end seem not so overt as with some bookshelf designs. A part of this is the Mini doesn't try to trick the listener with a boost around 80Hz, an old small box party trick to make upper bass sound like bass. Instead, it rolls off cleanly and naturally and – unless you are a collector of organ music and have TDL in your loudspeaker history – without complaint.

Its other big strength is it makes everything sound wonderful. Not in a rose-tinted manner, it just brings out the best in everything played through it. It's a big, bold sound, but a highly refined one. That's a great and rare combination. It's not a word I use often, but the Arabesque Mini sound is 'beauteous'. Musical instruments sound like you are hearing their Platonic Form, their archetype. There's a fascinating dichotomy in mindsets about that performance; there are those who say "Yes, but is it accurate?" who will pass up the Mini, while those who say "who cares, it sounds lovely!" will be hooked. Strangely though, I don't think this is a colored sounding loudspeaker, just one that plays to the positives of music.

There are limits – Green Day's 'Dookie' sounds more like hard rock than raw punk, and Ornette Coleman and Eric Dolphy lose some of that screeching randomness – but you have to go to the extremes to find them. Instead, it brings out the character of the instrument and the player behind the instrument in a way that is exceptionally listenable and 'beauteous'. I also suspect that there will probably not be that many Arabesque Minis being used to play 'Dookie' at high volume levels. The combination of design and the nature of the speaker itself selects a different audience, more receptive of the Minis charms.

The overall presentation is one of complete transparency. Not simply in the audiophile 'listening into the mix' or 'analysis of the system' kind of transparency that engenders a constant stream of 'not quite' components in the search for audio perfection. No, the Mini is transparent to the music itself. You get a perfect idea of the musicians, the composer and the conductor's intent when listening through the Mini. There's no room for 'phoning in your part' here; compare two versions of the same recording and you'll quickly discover why one is praised and one isn't. As if it didn't need retelling, a quick blast of almost any Steely Dan album will highlight why they are musician's musicians; not in a laid-bare fusty analysis of Steve Gadd's double-stick drumming technique, but in the way they are all pin-sharp precise and gel together in a way that only top notch professionals can muster. That kind of transparency. The proper kind.

There's something inherently right about the Arabesque Mini, in much the same way there was something inherently right about legendary standmounts like the Sonus Faber Elector Amator or the Extrema. All three are noteworthy because of their exceptionally big sound, with more bass than you would expect from what is essentially a two-way design. All three live up to that 'the whole is greater than the sum of the parts' maxim and I dare say the Mini will join the other two in the sort of hushed tone reverential treatment when they are discussed by audiophiles. Good speakers might not be ten a'penny, but they aren't that rare. Potential legends don't come along that often. The Arabesque Mini might just be 2012's new legend... +

KR Audio Electronics Kronzilla SX-Eco: A Hybrid Power Amplifier With a Difference

By Roy Gregory

In the world of high-fidelity, big generally equates with good and bigger with even better. These days, being asked to part with nigh on £30,000 for a 50 Watt per channel power amp isn't going to provoke headlines, even if that amp is a single-ended design, deriving that output from a single device a side. The 50kg dead weight, whilst it's physically impressive, doesn't break new ground either. But what on earth are we to make of output tubes that are each the size of a serious anti-tank round? The weight alone tells you that there's plenty of metal in the power and output transformers and they are pretty imposing – but they are de-warped by the associated glasswear.

Okay, so how big is big? Try on 300mm tall and 85mm in diameter – or about the size of my (fairly meaty) forearms. These are big, big tubes. So big in fact, that combined with the severe black and deeply finned chassis and transformer housings, that the Kronzilla would look perfectly at home on the set of a particularly dark and brooding Batman movie – except that the props department would probably reject it as over the top! They are actually T1610 output tubes, designed and manufactured by KR in their own Czech factory, high-powered, all-new direct heated triode designs that bring the origins of valve technology slap, bang up to date. And if appearances are anything to go by then this amp clearly means business, an impression that's reinforced by the gentle quiver, the quickly dissipated hummmmm as you power it up. So if big is good and bigger is even better, what does that make the Kronzilla? Well worth a look and listen, that's what.

Not that this amp is all about mass and muscle. Indeed, one of the serious associated problems with all that hot glass is the effect this amp has on the ambient temperature of your listening room. No doubt welcome on a dull autumn day in Dunstable, high-summer in the UK, let alone the tropics, makes this thermal dissipation an uncomfortable addition to your listening experience. Enter then, KR's solution – which, with stunning originality, they've dubbed Green Power.

The various Kronzilla amps (there are five models in the range, including an integrated and mono-blocs) are all hybrid

designs, using solid-state circuitry to drive the output tubes: So why not just add a second, basic, solid-state output stage that can be selected for less critical listening? It's one of those lateral suggestions that comes winging in from way out in left-field – and normally gets dispatched straight back out there. Except that in this case, KR were open-minded (or just plain mad enough – they did design those tubes!) to take it seriously, making the Kronzilla SX-Eco a hybrid in more ways than one. Is it a problem worth dealing with? Let's just say that the vast majority of the listening for this review occurred during a distinctly average British August, but the effect of the KR amp on the listening room's temperature was all too apparent: and this is a big room with a lot of height. In this case, the thermal impact was considerably greater than that of the 16 KT88s in a pair of VTL 450 mono-blocs; thankfully I didn't need to fire them all up together. Of course, the Kronzilla's heat signature is aggravated by its class A nature; any power that's not used to produce music can only be dissipated as heat – which goes some way to explaining the amp's appearance. All those black fins are for more than just show and in use the entire chassis is more than just warm to the touch. Depending on your point of view I guess you'll either conclude that this is a seriously serious amp – or a seriously inefficient space heater. Actually, it's both, but more on that later...

Operationally, there's not too much to say about the KR amp – but what little there is, is quite important, mainly because it's not covered in the instruction manual. Installing the tubes is easy enough; align the four, jumbo-sized pins and slide them home. But in doing so you'll notice that the valve sockets are numbered. Logic suggests that somewhere on the valve (normally written directly on the base or on a small sticker) you'll find a corresponding number, ensuring that the correct valve goes in the correct place. Well, on the Kronzilla you could spend a long time looking, 'cos the relevant number is stamped on a small plate, actually inside the valve and perched right on

top of the internals. That's a first for me! Secondly, the small switch that selects the Green Power setting is on the rear panel, and although it's labeled, there's no indication as to which setting is which – unless you start peering at the inside of the tubes to see if they've lit up. Come on KR, if you are taking the eco-argument seriously then that switch needs to be on the front-panel and you need an LED or some other clear indicator as to the output mode selected.

Other than that, the main complication when it comes to installation is simply the massive weight and awkwardness of the beast. You can do it with one (if you've had your Wheaties) but I'd strongly recommend taking life easy and enlisting a second pair of hands, especially if you are planning to manoeuvre it into a rack, where the lopsided weight distribution will be a real challenge. Hook up is simplicity itself, with just two RCA sockets and single sets of five-way binding posts to deal with. On arrival, speaker impedance is set to 4 Ohms, but this can be adjusted by removing the small cover plate between the speaker terminals and shifting the internal grub screws from the top two sockets to the bottom ones – with the power switched off! The setting values for these are noted in the manual and also on the inside of the cover plate. The bias circuitry is auto monitored and self adjusting, meaning that's a chore you won't need to worry about, while also ensuring that the tubes operate under optimum conditions at all times. If a tube should fail then the amp automatically defaults to standby, a sensible precaution given the sheer size of the output devices and the potential ramifications if they ever decided to leave the reservation.

The Kronzilla designs, with their hybrid topology, triode output devices and healthy Class A output could easily find themselves in some sort of philosophical no man's land, with enough conflicting technology to alienate just about everybody, but as soon as you listen to one there's no escaping the fact that it's the SET content that dominates the sound. Put the SX-Eco into a system in place of a push-pull alternative and you'll notice an instant loss of pace and low frequency attack. Does that mean that the KR amp suffers from the limp-wristed

lack of bass control that bedevils so many single-ended amps.

No. What it means is that you need to understand that most SETs offer a different energy spectrum at low-frequencies, a fact that demands you adjust your speaker placement to compensate – or, in the case of the Focal Stellas, crank up the EM damping a notch*. Do that and things fall back into place. Okay, so the SX-Eco doesn't possess the bottom- ▶

The switch from a push-pull amp to an SET might be the most extreme example of this, but it's an oft-overlooked factor that serves to undermine the straightforward comparison of everything from amps to equipment supports. Assessing audio components really isn't as easy as ABA



▶ end authority of the VTL 450 or Rowland 625, but make sure that the system set up and placement is properly matched to its performance and it's capable of providing proper musical support, a substantial foundation for the mid-band – which is just as well because that mid-band is what this amp is all about.

Rich, lush and colourful, the KR midrange reads like a cliché list to describe all those SET virtues that fans wax lyrical about. Thankfully there's none of the syrupy wash and rhythmic imprecision they also overlook. The presentation is deep, spacious and fluid, with an easy sense of unforced tempo that's relaxing and inviting. Familiar voices are natural, with a truth of character and accent that easily evokes the original, while the tonal separation of instruments (horns from woodwind, violin from viola) is so apparent that you wonder why it should even be an issue on other amps. In the Pentatone recording of the Mozart Sinfonia Concertante (K. 364) the quicksilver brilliance of Julia Fischer is perfectly balanced by the smooth bowing and fluid phrasing of Gordan Nikolic, the beautifully controlled orchestral support of Kreizberg and the NCO. But as wonderful as the KR's rendition of this great performance is, there's also a lesson to be learnt here. I found myself backing off the volume control by a notch, playing the piece a little quieter than I am used to (at least that's the way it seems, but more on that in a moment). If you audition the SX-Eco, try it and you'll hear just what I did; as you reduce the level the sound stage simply opens up in front of you. It's not a big adjustment, but it makes a huge difference, not just to how spacious the presentation is, but how fluid, how controlled and how much headroom is available.

That lesson is simple; don't get carried away by the sheer size of those bottles, or the decent (for an SET) power output. The Kronzilla is no powerhouse, at least not in the sense of the VTL or Rowland amps I mentioned earlier. Even with the 95dB sensitivity of the Focal Stella and with the amp set to its 4 Ohm taps, it was all too easy to push it outside of its comfort zone. Ask for a little too much and the sense of acoustic space shuts down, the dynamic contrasts compress, drums lose their snap and impact. The whole sound softens and starts to congeal. Push harder and things quickly get glassy and glutinous, with an unpleasant glare infesting proceedings. And bear in mind that it might not be you doing the pushing: take an album like Aimee Mann's Bachelor No 2; tracks like 'Nothing Is Good Enough' or 'Satellite' can be comfortably played at a level that puts the amp well into the red

as soon as the raw aggression of 'How Am I Different' gets going. Not only do you lose the cosmetic elements of the sound described above, but the drums sog and the lyrics lose the sardonic edge on which they depend, especially the chorus. Sure enough, back off the volume and things soon fall into place. So, whilst the power rating allows the Kronzilla to embrace lower efficiency speakers than its flea powered brethren, anything approaching an awkward load should still be considered strictly off limits. The Stella might be benign when compared to the Grande, but substituting the Coincident PREs with their virtually flat, 8 Ohm impedance characteristic shows just what a difference the loading makes to this amplifier. Suddenly, levels were far less restrictive, headroom never an issue.

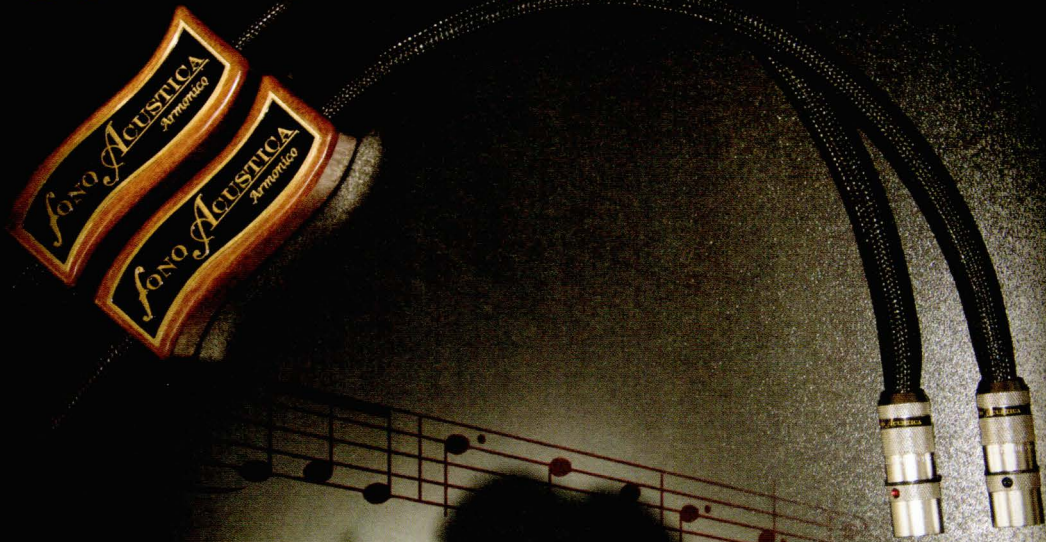
There's a second contributory factor to this particular problem, one that stems from the sheer quality of the Kronzilla. The harmonic and tonal purity of the sound it produces, the natural warmth and lack of edge fools your ears. Deprived of the usual cues that indicate higher levels and early onset distortion, there's a tendency to play the amp louder than you realize. Although I'm suggesting that you back off the volume, paradoxically that doesn't necessarily mean you'll be playing it quieter; at first it might seem that way but whip out an SPL meter and you'll soon discover the truth. All amps benefit from care when it comes to matching them to speakers; just be aware that the Kronzilla needs a little more care than most and the range of partners is narrower than the numbers might suggest. Don't be tempted to run it too close to the ragged edge. You'll quickly get a feel for where it's comfortable in your own system, but don't be surprised if just occasionally you find a recording that catches you out.

Of course, in the same way that speaker choice impacts the performance of the power amplifier, its character can also be tailored through choice of line-stage. Ringing the changes ▶



FONO ACUSTICA

Fulfilling your Passion for Harmonious Emotion



"Armonicos gave a wonderful rendition of musical flow as if being bathed in the music rather than just have it playing in a corner."

"There's a sense of performers being more in the room with the listener"

ALAN SIRCOM, Editor - August 2011, issue 82

hi-fi+

"Armónicos are musical to the max in any language."

ROBERT H. LEVI - May 2011
POSITIVE FEEDBACK ONLINE

"Armónicos' richness and romance were so pronounced that I found it easy to imagine many listeners immediately falling in love with them"

MICHAEL FREMER - JUNE 2011 issue

stereophile

www.fono-acustica.com

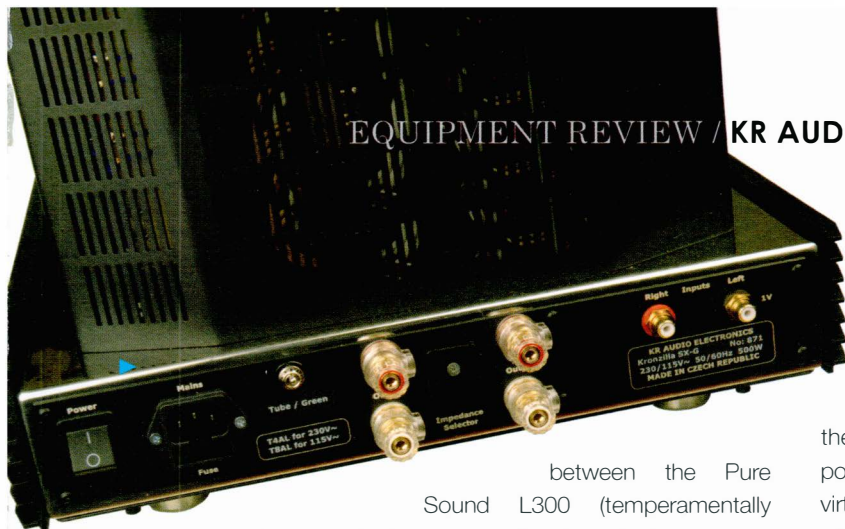
email: info@fono-acustica.com

QAT
AUDIO TECHNOLOGY



a worthy partner

www.qat-audio.com



between the Pure Sound L300 (temperamentally and topologically perhaps the logical choice as a partner for the Kronzilla), the JRDG Corus and the Connoisseur certainly tilted the performance this way and that, but it also demonstrated that in musical terms, the KR amp was the dominant partner. Listen to this amp and if you fall in love with its sound and presentation it's the easy fluidity, the rich colours and sense of sheer physical presence that will make you swoon. But in other regards it might leave you cold. Even with the Connoisseur(s) doing the driving, the system lacked an intimacy and low-level resolution I'm used to. It's down to a lack of micro-dynamic information, which robs notes of leading-edge detail and texture at the same time as it adds to that sense of liquid smoothness. Take the Berglund/LSO recording of the Sibelius 2, the opening pizzicato passage of the second movement: the quick tempo is easily followed, each note pitch perfect, the fluid presentation giving a real sense of shape and progression to the phrases – something that they can sometimes lack on higher-resolution but more temporally fractured electronics. But listen into the playing and it's hard to hear where each note starts and stops, its exact shape. The phrasing is masterly, but the note-to-note definition is certainly wanting.

Even more interesting is a switch to the Barbirolli/RPO recording (the Chesky re-issue). That same pizzicato passage is woolier to start with, so no surprise that the notes are softer and more rounded here. But what's more striking is the similarity in the tonality and acoustic presentation of these two (quite different) recordings. This is the character – warm, rich, smooth and flowing – that the Kronzilla imposes on proceedings. Even music as notoriously spiky as La Folia gets taught some manners! It's a characteristic that needs to be balanced against the sumptuous musical quality, the convincing scale and presence of the amp, it's uncannily natural midrange tonality and lack of electronic edge. This is an amp that will allow many hours of rewarding and fatigue-free listening, that avoids any hint of electronic thinness or etching to its sound. But judged by the very highest standards, it's also an amp with a distinctive character and presentation – one that will contribute to the performance of the system rather than simply passing you the performance that is on the disc.

For the listener looking for all those traditional triode strengths – the lush colours, tonal truth and lack of edge – the KR amp delivers in spades. But it also brings a clarity of purpose and overall musical coherence to proceedings, a way with scale that can make orchestral music truly convincing and a deft grip

on things temporal and rhythmic that keeps things moving. The Eco switch is a useful development – more so than I thought it would be – but ultimately the amp must stand or fall on its sonic merits and those are considerable. Far from the typically polite and fuzzy SET crowd, it takes the triode high-points and grafts on enough of the more mainstream high-end virtues to seduce many a listener. It's not without flaws, but then what is? If you like what triodes do, but you want more: more power, greater rhythmic integrity and more attitude – then the Kronzilla could well be the amp for you.

For me, it's a mistake to try and push products in a direction they don't want to go; "compensatory" matching of components is all too often a case of two wrongs not creating a right. Whilst I loved the dynamic range and sheer power delivered by the Connoisseur, the L300's natural substance and drama allowed the KR to flaunt its strengths – rather than trying to cover up its weaknesses. In the same way, as impressive as this amp is bringing welcome warmth and colour to CD, it really thrived on the natural space and harmonic delicacy of vinyl sources. If you fall for the Kronzilla – and there are many who might, many good reasons why you should – give in to its demands and feed it what it wants. One look at those tubes tells you all you need to know about the nature of this product: give it a chance and go for broke. Anything else is like going to a Cordon Bleu restaurant and avoiding the dishes with cream in them! +

TECHNICAL SPECIFICATIONS

Type: Hybrid tube power amp with additional "Eco" solid-state output stage

Valve Complement: 2x KR T1610

Output Topology: Single Ended Triode

Rated Output Power: 50 Watts/8 Ohms

Input Sensitivity: 1V

Damping Factor: 2.9

Global Feedback: Zero

Power Consumption =

Tube Output Stage: 500VA

Green Mode: 5VA at idle

Dimensions (WxHxD): 385 x 415 x 550mm

Weight: 50kg

Finish: (Very) Black

Price: €14,995 (per channel)

Manufacturer: KR Audio Electronics sro
Czech Republic

Tel.: +42 02 8186 4217

Fax.: +42 02 8186 4343

Net.: www.kraudio.com

Vertex AQ Aletheia dac-1 digital converter

By Alan Sircom



It's funny. The Aletheia dac-1 DAC has received several public outings in the UK, usually in The Right Note's rooms at events like the National Audio Show at Whittlebury Hall in September last year. The rooms have almost universally won praise for good sound, even from some of the more cynical forum elements who fail to believe anything unless they can find it in an A-Level physics textbook from the 1950s. Of course, the good sound can't be due to something as left-field as a NOS converter, especially one that represents a synthesis of all the RFI, EMI and microphony-countering technologies Vertex AQ has amassed over the years... can it?

Those who know their way around ancient Greek (and are partial to a bit of phenomenological thought) may know the word 'Aletheia' means 'truth', or more literally 'a state of disclosure'. Martin Heidegger expanded on this in his impenetrable *Being and Time*, suggesting that the term equates to an 'unconcealedness' that exposes the truth in the whole. Although Heidegger's philosophical writings were retrospectively tainted by his later support of Nazism, *Being and Time* remains one of the most important works in 20th Century philosophy, and the concept of the world 'unconcealing' itself to us is central to that particular magnum opus. And 'Aletheia' is certainly apt here, because the DAC has that 'unconcealing' nature, and extends that out to the whole audio system. But that's for later.

As suggested, the Aletheia is a 16-bit non-oversampling ('NOS') digital converter. It uses the TDA 1543 converter in current output mode – which is almost *de rigueur* in NOS circles. It can cope with higher sampling frequencies up to 96kHz without complaint and deals with 24-bit files like they were 16-bit and slices off anything beyond that bit depth. As someone who feels much of the hi-rez movement is smoke and mirrors (and still more of it is made up of appalling music unworthy of warranting such a handle-with-care approach) this doesn't pose any problems, but those who are assembling a collection of delicately-coiffured dandy-digits might find solace elsewhere.

NOS, by extension, also means no filtering and no noise shaping after conversion. Thinking it through a little, the filtering used in digital audio could

be considered to be doing the same things to the time domain that Vertex AQ products are trying to eliminate, and it's not far of a jump to see how the action of a reconstruction filter is not dissimilar from microphony, just at higher frequencies. This will already irk the no-nothings who complain the phase shifts and ringing of a filter are at something approaching 'homeopathic' levels of influence over the sound, but I'd wager that few things that people consider 'good' in audio deliver less than 1.5kiloWhines per square Grumble at the best of times, so the Aletheia is in good company.

There are already NOS DACs out there, and some are a good deal cheaper than the Aletheia... so what makes this special (and so expensive)? First, a great deal of attention has been paid to making the power supply as clean, stable and as fast as possible, with multi-stage, individually regulated supplies. Each stage of the DAC is also very carefully separated from its surroundings, protected from its fellow building blocks to the sort of degree normally seen in biohazard labs. Any connections to the outside world and similarly any internal connections are designed to limit pollutants (microphony and EMI) both coming in, going out and from section to section. But that's just the icing on the cake; it goes right down to key components and subsystems each having their own individual Kinabalu labyrinthine acoustic absorption platform. Factor in a mains input with its own RFI shunt filter, solid-core silver wiring coming off the mains transformer, with EMI absorbing tubing and more and top-spec 4.7µF Mundorf MCap metalized silver/gold capacitors in the output, and you are already looking at an expensive, hand made product.

Perhaps a better way of looking at this is that inserting the Aletheia is like having a Vertex AQ nerve-centre parachuted into the heart of your system. Or, as a ludicrous BOGOF offer – you Buy One (Aletheia) You Get One (whole heap of Vertex AQ devices) Free. Inside that Aletheia is a HiRez Roraima mains lead and a HiRez Jaya passive shunt filter, the S/PDIF input has a HiRez Ilimani digital cable on the input, and a pair of HiRez Solfohn interconnects on the output. The fact that these modules are within the DAC doesn't prevent them from having an influence on the sound of the Aletheia, and on the rest of the system. Of course, adding the external versions of the same – and the accompanying Kinabalu platform – would help improve matters even further, but simply by adding the Aletheia brings the combined effect of several thousand pounds worth of Vertex AQ products in one.

It's capable of outputting in balanced or single-ended mode, and comes with two S/PDIF inputs (one BNC, one phono... use BNC if you can) and a Toslink. There's no AES/EBU or USB, which are unfortunate – but not insurmountable – omissions on an expensive DAC. In a way, the lack of USB is more of an issue at slightly lower price points – where a DAC needs to be all-inclusive. A converter at the Aletheia's price can hand the USB conversion duties over to something dedicated (such as the M2Tech HiFace) without that being seen as arrogance. There is also a trio of toggle switches at the rear of the Aletheia (that and the power switch represent the sum total of user control of the DAC). These allow you to select between optical and coaxial digital input, between balanced and single-ended output and whether or not to turn off the LED on the front panel.

By putting all of these toggles on the rear panel, it makes a relatively bold statement – this is a one-device DAC, not a digital hub. At this time, given the whole Vertex AQ schema is to try to limit the deleterious effects of EMI ingress into the system, putting the one thing that's almost guaranteed to introduce

“This will already irk the no-nothings who complain the phase shifts and ringing of a filter are at something approaching ‘homeopathic’ levels of influence over the sound, but I’d wage that few things that people consider ‘good’ in audio deliver less than 1.5kiloWhines per square Grumble at the best of times, so the Aletheia is in good company”

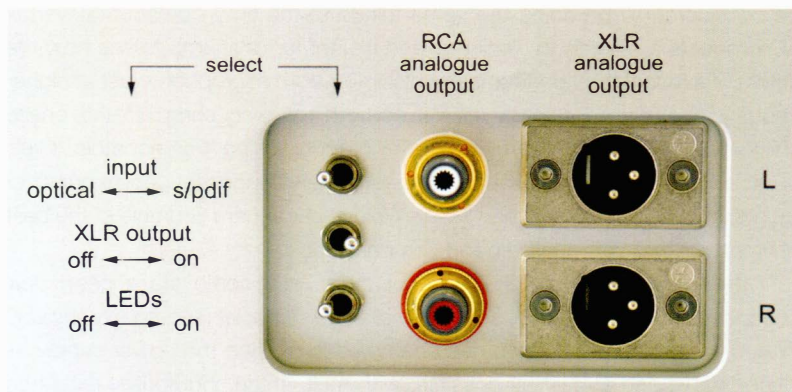
such interference (a computer) into the signal chain is not exactly a smart move, so a CD transport would be a more preferable source. Personally, I'd love to see just what would happen if someone did a product as internally 'sorted' and as non-polluting as the Aletheia in the computer domain, but I suspect the world isn't quite ready for that, yet.

How the Aletheia sounds is oddly almost irrelevant, next to what it does to your perception of how music sounds. That reads like Grade A pomposity mixed in with a liberal dose of BS, but it's the nearest I can get to describing what happens over the Aletheia ►

▶ head-upgrade process. It begins by pointing to surface detail of the DAC's performance. It's a nicely stress-free, very direct sound with excellent leading edges, rather like a very good sounding and natural turntable than a digital device. Like most NOS converters, it seems to stress precision of tempi, but unlike most NOS converters, that doesn't come with a heavy penalty in the accuracy of frequency response. The word may be overused and nebulous at best, but there is something intrinsically 'musical' about the Aletheia's presentation that makes you hungry for more.

This is probably not the DAC to show off your audiophile credentials with a host of wonderfully recorded but musically bankrupt tracks. It's far more oriented toward real world music that has something to say. I found myself quickly shifting gears from plinky-plonky sounds that show off how 'nice' your system sounds to just enjoying Al Green's voice, Jaco Pastorius' fretless bass and Steve Howe's guitar playing. And you know you are on to something when you start listening to early 1950s Chuck Willis or Little Brother Brown boogie-woogie records on Okeh compilations.

This is merely the starting point however. As days become weeks of listening to the Aletheia, strange things start happening. You begin to play more discs. Not just CDs, more LPs. You start listening to internet radio more, even though the computer is connected via USB to another DAC into the same amp. You find you play music quieter, for longer. Music, even talk radio seems to make more sense.



No, there is no magic improvement to the loudspeakers and it doesn't mean you start listening to some loony on *PM* describing how he split the atom on his kitchen stove and thinking it a good and sensible idea, it's just that sound appears more cogent to you the Vertex AQing of your neural-aural pathways begins to take hold.

Now is a good time to go visiting friends and relatives who have audio systems, especially anyone who has a hi-fi system that you thought sounded pretty good a few weeks ago. In most cases, you'll begin to wonder what all the fuss was about and why so many audiophiles consistently the flawed-but-musically-intact sound of things like the Tivoli radio range. In fact, you begin to hear why the Tivoli is better than a lot of high-end audio systems in some key aspects.

If you have the Aletheia on extended loan – especially if it came with its own loaner Ken Barlow (sorry, Kinabalu) platform – the strangest part is the bit when you give it back. First, you find yourself missing the directness of the DAC, but rationalise this by saying 'perhaps that's no big deal'. Then you almost unconsciously go and do something else instead of listening to music through your system. A few days later, you are in a fugue state, uninterested and disinterested in music, not because things sound bad, just that they sound like they always did – slightly drab and grey. Pretty soon, the puzzle pieces begin to form patterns in your head, and you spot the root cause of your ennui is a distinct lack of Aletheias in your system and emails begin travelling.

We end where we began, with some head-scratching. It's a DAC: a good DAC; an expensive DAC, but still 'just a DAC'. There is no justification for 'just a DAC' doing what it does here, whether that is to pieces of music that pass through its circuits, to pieces of music that pass through your system (but not through the DAC) while the Aletheia is in circuit, or whether it's the not-so-subtle brain rewire it does to the listener over time. That's because it's not 'just a DAC'; it is a distillation of all the things Vertex AQ (and, by extension, those who 'get' the whole foundation theory) has been banging on about from the outset. To the uninitiated – or to those who lost their way somewhere down the line – the Aletheia dac-1 is the Black Ops version of that foundation theory. It's a crash course, in a kind of kick down your door, throw in a few flash bangs and pin you to the floor so that you get the message quick sort of crash

“Now is a good time to go visiting friends and relatives who have audio systems, especially anyone who has a hi-fi system you thought sounded pretty good a few weeks ago. In most cases, you’ll begin to wonder what all the fuss was about.”

course. And it works; once it goes out of your system, you simply lose interest in listening to music through your system. It just sounds so trite, contrived and artificial after the Aletheia experience.

As a reviewer, you tend to go through a lot of equipment. And in fairness, some devices pass through your system almost unnoticed. Others, you remember for the excitement, the energy or the detail they brought. A few leave a lasting impression. But this is different. When it left the listening room, I experienced something close to mourning. No, not the mourning for the loss of a loved one, a cherished pet, a broken vase that came with a lot of deep-seated memories, a lost love or even that dream job you completely failed to get back in 1986. This was mourning for the loss of music. That’s how far under your skin the Aletheia gets and I can think of no recommendation higher than that. +

TECHNICAL SPECIFICATIONS

Vertex AQ Aletheia DAC

D/A engine

Digital interface DIR 9001.

DAC TDA 1543 (current output).

Non-oversampled.

No digital noise shaping.

No output filtering.

16 bit, 44.1 to 96KHz

Housed in poly box with EMI/RFI absorptive lining.

Inputs/Outputs

S/PDIF (75 Ohm) and toslink optical.

S/PDIF RCA input WBT silver nextgen socket.

Analogue single-ended RCA outputs.

WBT silver nextgen sockets.

Analogue balanced XLR outputs.

Gold-plated Neutrik XLR sockets.

Dimensions (WxHxD): 46x14x38cm

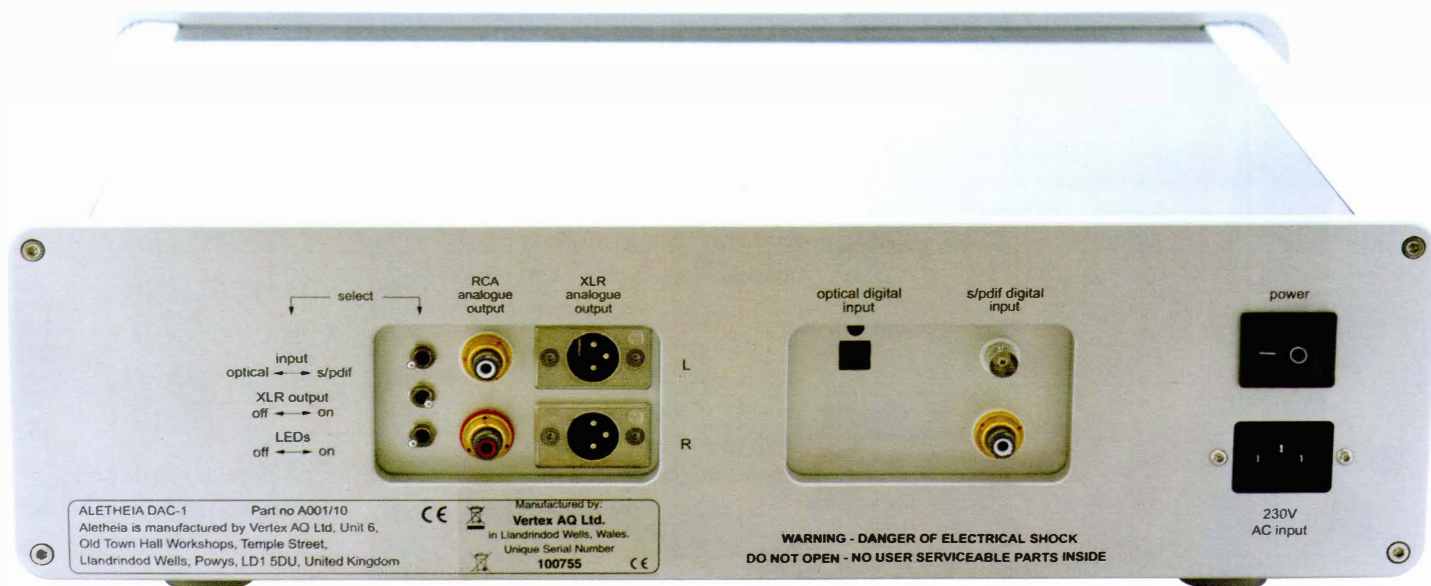
Weight: 13kg

Price: £11,500

Manufactured by: Vertex AQ Ltd

Tel: +44(0)1597 825993

Web: www.vertexaq.com





Cabasse Pacific 3SA loudspeakers

By Paul Messenger

Founded way back in 1950, Cabasse is one of France's oldest speaker manufacturers. It has long been known for technically advanced drive units, including introducing cellular foam diaphragms and multi-way co-axial units, the better to control directivity.

Owned by the eponymous family for the first 55 years of its history, the company was purchased by Japanese multi-national Canon in 2006. While this takeover has hopefully ensured the brand's future, it doesn't seem to have affected the direction of the company in any significant way. Family members are still heavily involved – Christophe Cabasse, the son of founder Georges arrived to set up the Pacific 3SAs prior to this review. Over and beyond keeping a strategic eye on things, it would seem that Canon's involvement is largely to do with administration, manufacture, warehousing, distribution and so on.

Cabasse makes two versions of the Pacific 3. Both are costly and unusually tall floorstanders, but this £11,000/pair SA version is unquestionably the better looker. Although the two models are clearly closely related, the SA is much less deep and has elegantly sculpted sides, with two sweeping curves

inset into the sides, echoing the concave curve across the lower part of the front panel and creating a sort of 'fluted' effect. The enclosure

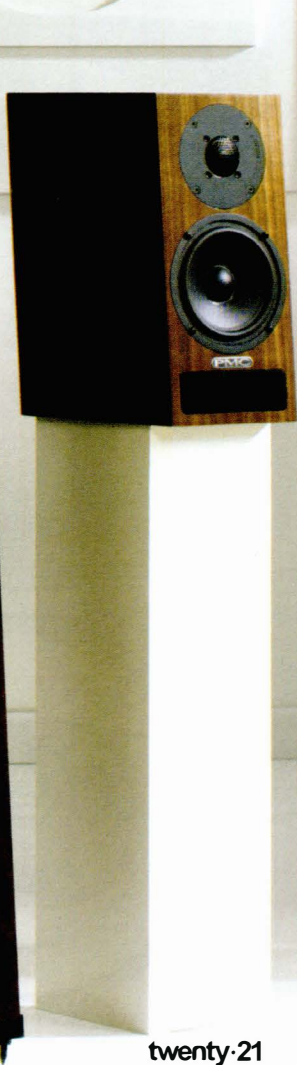
“It has long been known for technically advanced drive units.”

twenty

Celebrating 20 years of truly great loudspeaker design

Platinum
Twenty Year Warranty

twenty series, the next generation of beautifully elegant, handcrafted, British loudspeakers from PMC. Four stunning new models that reveal every nuance, every breath, every element that brings music to life - *pure musicality*



musicality(n.) the property of sounding like music

Book a demonstration – see www.pmc-speakers.com



PMC[®]
www.pmc-speakers.com

T +44 (0) 870 4441044
sales@promonitor.co.uk

▶ proper sits just clear of a matching spike-equipped plinth that extends the footprint and ensures fine stability, while all is normally finished in the currently fashionable high gloss black, with pearl white the optional alternative.

This SA variation might be smaller and cuter, but it's also decidedly less conventional. Whereas the standard Pacific 3 is a conventional passive loudspeaker, that SA suffix stands for 'semi-active', which means that each speaker has a built in power amplifier which drives the bass section alone, an arrangement that has several implications. The most significant advantage is probably the ability to vary the relative bass level by +/-6dB, in order to take account of differences in room characteristics and the positioning of the speakers therein.

Both Pacific 3s have the same width (29cm) and height (129cm), but the SA 49cm depth is 10cm less than the passive version, which actually makes a surprisingly large difference visually. The simple reason is that building in a power amplifier dedicated to driving the bass also allows a degree of equalisation to be included. Applying a degree of low bass boost ahead of the amplifier effectively allows the enclosure to be shrunk for the same bass extension, and also operate in sealed-box mode without worrying about the loss of efficiency.

An advantage of this approach is that the system's regular amplifier will be relieved of much of its duties. With only the midrange and treble to drive, it doesn't have to work nearly as hard as if it had to cover the whole audio band. And because the sensitivity of a full bandwidth speaker system is normally limited by the bass section, the inclusion of a powerful bass amplifier – the digital bass amp used in the Pacific 3SA has a maximum power rating of 450W – helps the sensitivity of the mid and treble to be high. (The specification quotes a respectable enough 91.5dB, but our far-field in-room technique gives a much higher 95dB.) Both these factors provide some encouragement for those who favour valve amplification.

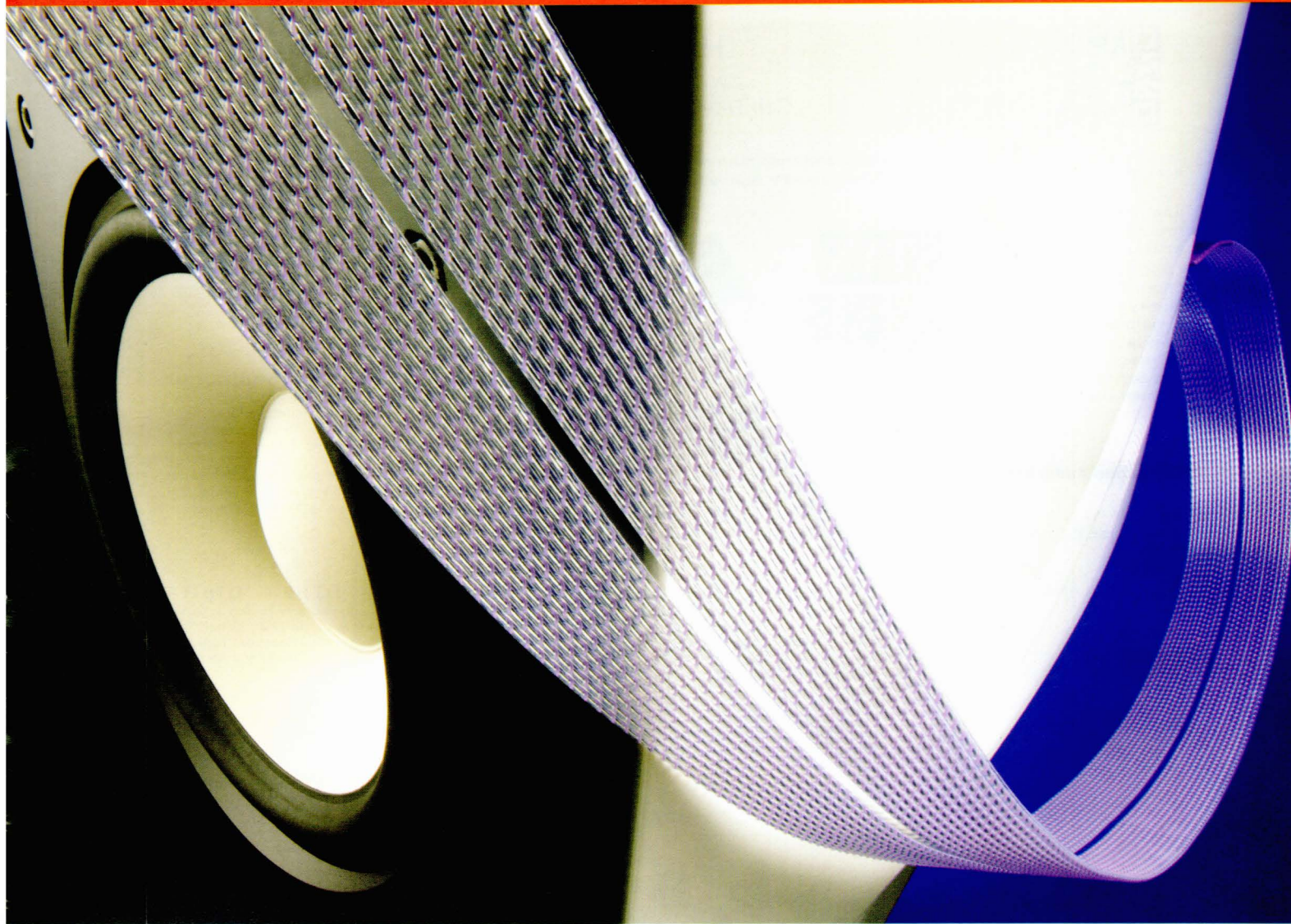
“If this part-active approach is the speaker's most significant feature, the drive units are no less interesting.”

However, there is a down side. These various advantages do come at a price. Whereas the passive Pacific 3 costs £8,400/pair, adding the amplifier and associated electronics (and shrinking both the enclosure and the weight) increases this rather substantially to the Pacific 3SA's £11,000/pair.

If the part-active approach is this speaker's most significant feature, the drive units are no less interesting and unconventional. Cabasse has a long history of developing ingenious co-axial drive units, which it describes as its SCS (Spatially Coherent Sound) system. The BC17 example used here from 175Hz upwards is effectively the same as that used in Cabasse's well regarded upmarket sub/sat Riga speaker system, and is claimed to deliver “constant control over directivity....175-20,000Hz”. Based on a 7-inch (180mm) chassis, the midrange section has a quite large and decidedly convex annular diaphragm with 155mm outside and 90mm inside diameters, fashioned from some species of hard foam; this annulus surrounds a horn/waveguide-loaded tweeter with a 25mm soft plastic dome.

The same 'coherent source' philosophy applies to the bass drivers. The 210mm units have dish-shaped honeycomb diaphragms 150mm in diameter, positioned above and below the co-axial BC17 mid/treble unit, so they effectively coincide with the BC17. ▶





One Step Beyond...

Norse Series 2 – one giant leap for audio kind!

First was the Space Shuttle and ribbon topology SPM. Next came Valhalla and Micro Mono-Filament construction. Together they created near perfect conditions for optimized signal transfer. Then the Norse series brought those technologies to cables with more down to earth, real world pricing. Now, Norse Series 2 delivers the next step.

By refining the dimensions, spacing, number and arrangement of the conductors, we have created a range of cables that are finally as mechanically sophisticated as they are electrically elegant. Superior materials, signal transfer and now physical behavior, elevate the musical performance to levels that you might have thought were out of this world. You'll get all the resolution, transparency, speed and musical coherence that you expect from Nordost – but you'll also get real-life dynamic range, greater weight, more drive and a natural sense of presence and energy. Making great music is all about delivering a great performance – and that's exactly what these

cables do. They can't make a bad system into a good one – or a bad musician into a better one. But they sound like they can, simply by getting out of the way and finally revealing what your equipment is really capable of. Like so many things in hi-fi, when it comes to cables, hearing less really is more.

**It's not rocket science –
it's much, much better
than that!**

NORDOST
MAKING THE CONNECTION



High End Cable

www.highendcable.co.uk

Call Dave Jackson on 01775 761880

Top Brands

Acoustic ART
Acoustic Systems
 Analysis Plus
 Argento Audio
 Artisan Silver Cables
Audience
 Chord Company
 Clarity Cable
 Dynamique Audio
 Ecosse
 Furutech
 Leif Series
 Michael Green Audio
 Nordost Corporation
Quantum QRT
Raidho Acoustics
 Revelation Audio Labs
Purist Audio Design
StereoLab
 Synergistic Research
STAX
 Telos
 Townshend Audio
 van den Hul
 Vovox

Power Conditioning
Audience
adeptResponse
 Isotek
Quantum QRT
 QBase

Power supply upgrade
Fuses

Telos

Enhancement CDs

Treatment
 Room treatment
Acoustic Art
 Room Tuning Resonators
 DecoTune
 RoomTune RoomPak
 RoomTune Squares
 MiG's

Sort Kones
 Pulsar points
 Quasar points

Equipment
Raidho Acoustics
 Bel Canto
STAX headphones
 Townshend Audio

ACCESSORIES

DIN cables
 Jumpers
 Firewire

Cables for dCS systems
 Chord cables for Naim

Sub woofer cables
 HDMI
 Digital cables
 Optical cables
 S video
 Component cables
 Chord ipod cables

Every now and then manufacturers release **Limited Edition** models from their ranges. These editions usually represent some of the finest products they make and come collectors items. These are a few we sell.



SRM-600 Ltd. energiser

We had thought that these were no longer available, but STAX have released the last few to the UK after some were not taken up by other markets around the World. Stax have re-allocated them for the UK market and are fully factory issue and full warranty. The original UK allocation was sold in 2010 within a very short timeframe and we could have sold more, so we are particularly pleased to procure what we think is their best sounding, and value for money energiser.

aR8-TSS2 TEFLON Power Conditioner

Audience are one of the World's Acclaimed designers and manufacturers of Power Conditioners. They will for a limited period produce a 240v 50hz version of their award winning aR8 adeptResponse Power Conditioner using Teflon components.

Previously only available in 120v format the introduction is for those who have thought it might never be made due to the cost consideration. Now is that chance to own one. Trade in allowed.



StereoLab Tombo 75ohm SP/DIFF Digital

High End Cable have always appreciated the work Chris has put in on his cable design in particular his work with digital cable. Now this work has reached a pinnacle with the TRON digital. These unique cables will be made in very few numbers by Chris himself. High End Cable are committed to stocking this cable but delivery can vary due to very limited production levels and each cable will be burned for 240 hours by us prior to shipping.

The TRON digital cable is a very special product, and the first in the TOMBO compartment of StereoLab's stable of connection products. Designed by Chris Sommovigo and hand built to exacting specifications, TRON is a truly limited production product

Best of the Tweaks



Quantum Qv2 AC Line harmoniser



Sort Kones



Auric Illuminator CD/DVD enhancer



Acoustic Resonators



Hi-fi tuning Fuses

NORDOST

LEIF



4 new high quality, well engineered ranges to suit all budgets. Familiar names but totally new designs which will enhance every system



Red Dawn LS — Blue Heaven LS — Purple Flare LS — White Lightning



Raidho C1.0 speakers



Only the best Hi-fi systems deserve the best speakers



Product of the year 2008



▶ The digital power amplifier is a Class D design sampling at 200kHz, and is a joint operation between Cabasse and longstanding Asian partners. It's made in the Far East but the design of the fully balanced analogue pre-amp section was done in France. The low-pass filter has a steep 24dB/octave (4th-order) rolloff above 175Hz, while the bass end also incorporates a second-order (12dB/octave) boost to compensate for the enclosure size and sealed-box loading, which is feasible since the amplifier has a generous 450W maximum power output.

I put the speakers through my usual basic, simple measurement regime, which proved rather interesting. The overall frequency balance more or less passes muster, with a generally even and well ordered broad midband, but the bass alignment (with bass gain set to the recommended middle, '12 o'clock' setting) and the treble output could both have been smoother. The bass rolls off quite rapidly below 30Hz, while the treble rises quite strongly above 7kHz, but from 60Hz up to a mild presence dip above 1.8kHz, all is well behaved.

However, the big surprise is that the sensitivity came out at a rather dramatic 95dB, well above the 91.5dB claimed in the manufacturer's specification, and way above the norm for a direct radiating speaker. That's partly because the active bass is no longer part of the equation of course, but it's very impressive nonetheless.

Although the reasons remain rather elusive, I've long suspected that high sensitivity is a good thing in itself, and the Pacific 3SA has certainly gone some way towards confirming this. It also convincingly answered any doubts I might have had about the whole 'semi active' concept, which had certainly raised some doubts in my mind when it was initially explained.

After all, what's the difference between a Pacific 3SA and any of the other dozens of sub/sat systems with powered subwoofers that are on the market, selling mainly to AV-oriented customers? Well, there are similarities, but also some significant differences which are arguably more than sufficient to justify the 3SA's configuration. For examples: two subwoofers are invariably better than one when it comes to achieving a reasonably even room drive; the bass enclosures used here are significantly larger than those used in most subwoofers, and therefore require less extreme equalisation; no regular sub/sat system creates a comparable spatially coherent source; and the active filtering is specifically dedicated to integrating the bass and mid/treble sections. Add to that the observation that Cabasse's Riga sub/sat speaker system, on which the 3SA is based, is itself a very costly package with advanced drive unit technology, and there's every reason to have high expectations.

Happily, these were largely fulfilled by a substantially positive listening experience, which certainly laid any ghosts about potential problems with either the part-active approach, or in the use of digital bass amplification in such an application.

The driving system used for the listening was substantially Naim-based, using NAC552 and NAP500 amplification and a CDS3/555PS Cd player. FM radio was supplied by a Magnum Dynalab MD106T tuner, while vinyl signals came from a Linn LP12 fitted with a RubiKon subchassis, Naim Aro tonearm and SoundSmith Strain Gauge cartridge.

Even though the overall tonal balance is quite laid back, the dynamic behaviour here is most impressive, bringing a good impression of grip right across the band and ensuring that voices sound unusually expressive and intelligible.

Timing is also very good, and while the bass might perhaps have had a little more weight, it was always quick and agile, bringing a measure of authority

and a fine sense of direction and purpose, with no real evidence of the somewhat uneven bass delivery that measurements had suggested.

A number of alternative components were tried during one extended listening session, and this showed that the speaker system is exceptionally transparent to the signal with which it is fed – so transparent, in fact, that I wondered briefly whether it might actually be exaggerating sonic differences, unlikely as that may sound. It clearly revealed the differences between my regular Vertex AQ HiRez Moncayo speaker cables and alternatives like Chord Signature and Naim NAC A5. It was interesting to note that listeners' reactions varied somewhat here, some preferring the 'quieter', 'cleaner' character of the Vertex cable, others the coarser, livelier character of NAC A5. (Chord Signature came somewhere between the two, but its sonic character was significantly closer to the Naim than the Vertex AQ examples.)

If anything the Pacific 3SA was even more transparent to changes in the power amplification. While the differences between the powerful solid state Naim and the very low power (3.5W) single-ended Howes design based on vintage PX4 triodes are obvious enough, these Cabasse speakers somehow seemed to heighten the contrasts, which was both surprising and impressive.

With the NAP500 the speakers sounded clean and clear if just a little matter-of-fact, clearly mirroring much of the tonality predicted by the in-room measurements, and with the sort of laid back presence that encourages playing the system at quite high levels. Interestingly, however, the measured output rise in the upper treble didn't seem particularly audible or intrusive. ▶

ISOtek®

The power to deliver 'clean' power

Syncro is IsoTek's latest product and the company's most advanced mains cable – but it's also so much more.

Syncro incorporates innovative electronics, housed in an anti-resonant aluminium case, designed to synchronise the mains supply in order to promote a perfectly symmetrical sine wave, delivering significant sonic improvements.

- Stops transformer buzz, a common problem referred to as DC on the mains.
- Can be used on all high quality Hi-Fi separates including mains filters.
- Improves sound quality.
- High quality 24ct gold connectors.
- Advanced power cord with active shielding.
- Award winning design team.



"Syncro offers really serious improvements... It's really not a question of whether to purchase, but when."

HI-FI PIAC MAGAZINE

"IsoTek is the leader in mains conditioning products"

HI-FI NEWS

"IsoTek is the UK's biggest name in mains filtration"

HI-FI CHOICE

"IsoTek has built itself a reputation as a purveyor of mains conditioners that actually improve (as opposed to just alter) the sound"

HI-FI WORLD

To obtain your free IsoTek brochure please call:

01276 501 392

info@soundfoundations.co.uk
www.soundfoundations.co.uk www.isoteksystems.com



▶ The Howes SET monoblocks brought an immediate improvement in midband dynamic expression, delicacy and transparency, though one was equally conscious of its relative lack of tautness and control at the low frequency end of things. There's no such thing as the perfect amplifier lurking out there, any more than there's a perfect loudspeaker. Personally, I think life would be a whole lot easier and a lot more dull if there were a perfect amplifier.

However, the fact that the speaker sensitivity is as high as many horn designs, and is largely uncompromised by a load which has a relatively easy impedance at all frequencies. The bass section is fed from a high impedance source of course, while the BC17 mid/treble co-axial unit comes in very gently below 200Hz. While its impedance looks fairly complex, it stays above 6.5 ohms throughout.

This means that the Pacific 35A is particularly suitable for partnering low powered valve designs. Even the mere 3.5W available from my PX4 SET monoblocks proved well able to drive the speakers to decently high levels, and do so without the bandwidth compromises found with nearly all single-driver horn systems.

The lasting impression created by the Pacific 35A is of a particularly clever design which is noteworthy for its fine imaging and excellent dynamic expression. It also proved unusually transparent to the sonic character of components and accessories responsible for supplying its signals, attesting to the fine integration of the active bass section and the skilful control of enclosure colorations. While the bass alignment wasn't ideal under our conditions, and some listeners might prefer a little less presence restraint, there are no real grounds for criticism. Although it's far from inexpensive, the Pacific 35A is up there with some of the best speakers around, and is therefore very decent value for money, especially for those using modestly powered valve amplifiers. +

TECHNICAL SPECIFICATIONS

Type: Floorstanding 3-way, active bass

Drivers: Co-axial BC17 mid/treble
2x 21ND34 bass

Sensitivity: 91.5dB spec; 95dB measured

Crossover points: 175Hz, 1,830Hz

Frequency response: 38-20,000 Hz

Nominal impedance: 8 ohms

Minimum impedance: 4 ohms

Power handling: 150W, 1,000W Peak

Dimensions (hwxwd, cm): 128x29x49

Weight: 42 kg

LOW FREQUENCY AMPLIFIER

Nominal power: 450W RMS

Peak power: 900W RMS

Filter: Low pass fixed frequency

Level adjustment: +/-6dB

Voltage: 115/230V, 50/60Hz

Maximum power consumption: 625W

Standby power consumption: 0.3W
(230V)

Price: £11,000/pair

Manufactured by Cabasse

URL: www.cabasse.com/en

Tel: +33 298 05 88 70

Note: Cabasse loudspeakers are sold direct to dealers in the UK, please visit the Cabasse website to find your nearest retailer.



Classé CP-800 Digital Hub

By Jimmy Hughes

Classé's £4,450 CP-800 is an analogue/digital preamp offering balanced/unbalanced inputs and outputs, plus a 24bit/192kHz USB DAC. Remarkable claims are made for the CP-800. Not only is it an extremely good purist analogue preamp, it also features digital tone controls, parametric equalisation, and Bass Management.

More radically, Classé asserts that CDs ripped to a computer hard drive, and played through the CP-800's DAC via its USB port, will deliver outstanding sound quality; superior (they claim) to any CD player, regardless of price. If true, that's absolutely incredible – a game-changer, no less.

Effectively it means a CP-800 upgrades your entire CD collection, while enabling you to access music from sources such as an iPhone, iPod, and iPad, or your home computer. Audibly better sound quality, and greater convenience? Game On! But can ripped CDs really sound better than the discs themselves?

Before answering that, let's look at the CP-800 as a purely analogue preamp. Outwardly, it appears to be a fairly simple Spartan device. There's a power on/off button, a menu button, and a volume control. Access to the various options can be made through the remote handset, or an illuminated front panel touch pad.

More than meets the eye

Although the CP-800 seems outwardly simple, hidden away are various options including left/right stereo balance, parametric equalisation, plus a 'tilt' type tone control which boosts the bass while reducing the treble – or vice-versa – with user selectable frequency points. You can individually pre-set the gain of each input.

The volume control is a continuous rotation type with a large digital display that reads from -90 to +14. This makes it easy to set volume levels precisely – useful when you're comparing items and need to maintain consistent volume settings. There's a choice of two balanced inputs (XLR) and three unbalanced inputs (RCA).

There's the option of balanced or unbalanced outputs (XLR and Phono), and a series of digital inputs – S/PDIF, Tos-Link, and USB. But it's the Asymmetric USB input that makes the CP-800 different and special, enabling Classé to 'clock' the digital signal with unusually high precision – see separate panel.



“Classé’s claims regarding superior USB performance seem to hold water. Okay, we haven’t compared the CP-800 to every high-end CD player out there. But it’s certainly a very tough act to follow.”

Classé’s claims regarding superior USB performance seem to hold water. Okay, we haven’t compared the CP-800 to every high-end CD player out there. But it’s certainly a very tough act to follow. Via the CP-800’s USB input, ripped CDs do sound exceptionally open and clear.

They exhibit a clean natural tonal quality, wide dynamic range, enhanced clarity, and a firmer noticeably more solid and powerful bass. That slight high-frequency ‘congestion’ you typically experience with CD is virtually eliminated. The sound has notably greater purity, and feels more ‘analogue’..

Musically-speaking, ripped CDs exhibit crisper attack and seem more solidly focused. Slight changes of dynamics and tone colour appear to ‘tell’ with greater clarity. The sound has greater cleanness and transparency, and seems truer and more natural – as though a layer of grunge had been stripped away.

Via the CP-800, ripped CDs have something of the purity and relaxed naturalness you get from SACD. It would be going too far to say that the CP-800 makes CD sound as good as the best SACDs on a top-class SACD player, but the sonic gulf is much reduced.

Enter the Dragon...

Nevertheless, Musical Fidelity’s £7k AMS CD player provided stiff competition. The MF delivered excellent clarity and outstanding transparency, with low levels of congestion. The CP-800 sounded slightly cleaner, and seemed a tad more open and natural. It was a close-run thing, but (for us) the CP-800 shaded it.

Audio being subjective, some may prefer the AMS CD player over the CP-800. But, factor-in the latter’s lower price, plus its versatility, and clearly it’s delivering exceptional performance and value. Classé claim the CP-800 eliminates the need for

high-end CD players. While we acknowledge this, we don’t entirely agree.

Many of us like CD, and prefer music in a physical format. Also, certain CDs (discs that play perfectly well on CD players) failed to rip for some reason, and therefore could not be stored. Lastly, because the CP-800 sets such high standards, you need an exceptional CD player (like the AMS CD) to keep pace with it!

Also, for those with very large CD collections, there probably isn’t enough time to rip everything to hard drive. Lastly, some of our discs refused to rip – whether due to hardware or software problems was not clear - so a CD player is needed for such discs. For these reasons, we would not want to be without a high-end CD player.

Aside from the sonic benefits, the advantage of storing music on a hard drive really shows with long continuous works, like opera, that are spread over several discs. It means you can listen without annoying breaks between acts, and (assuming enough stamina!) experience an entire work without having to leave your seat.

CDs ripped to a hard drive or storage device give you faster more convenient access to music. By itself, this is a hugely attractive proposition. And, when combined with audibly improved sound, the advantages of listening to music via Classé’s CP-800 become very difficult to ignore. Even for the Luddites among us, it’s a no-brainer!

Using iTunes, and storing music in Apple Lossless, we tried experimenting with the various ‘equalisation’ settings found under Options. The one labelled Acoustic seems to do a very good job, imparting extra depth and dimensionality to the sound, and (I can’t believe I’m writing this!), it’s become our preferred choice.

As an analogue preamp, we’d say the CP-800 is it up there with the best. It delivers a crisp, open sort of tonality that sounds very neutral – it’s definitely not rich, warm, or euphonic. Yet the presentation seems very truthful and unexaggerated, delivering a rightness that is unmistakable.

For best results, ticking the Analogue Bypass box on each analogue input is essential. This switches off the various internal clocks so there’s no risk of digital noise affecting things. It works! You hear a slight improvement in top-end cleanness when the Analogue Bypass box is ticked.

Tone Controls? Parametric Equalisation?

The CP-800’s tone controls and various equalisation options function digitally, which means tonal compensation can be implemented with less signal degradation than is invariably the case with analogue circuits. Parametric ▶

- ▶ Equalisation allows you to correct frequency imbalances independently on each channel.

The Tilt control is very effective at brightening or darkening the sound, and being able to choose turn-over frequencies allows you to fine-tune things for best results. There's also something called Bass Management, which will help reduce bass boom in rooms that create excessive emphasis at specific low frequency points.

With analogue sources, best results will usually be achieved using the CP-800's Balanced inputs and outputs. Being able to individually alter the gain of each input allows the sensitivity of Unbalanced sources to be raised, so they're comparable in volume level to Balanced.

But, while the CP-800 more than holds its own as an analogue preamp, it's likely that most potential buyers will principally be attracted by its performance as a digital device. It offers a smooth easy entry into the world of computer audio – whether from ripped CDs, downloads, or both.

TECHNICAL SPECIFICATIONS

Frequency Response: 8 Hz - 200 kHz < 1 dB, stereo analog bypass

8 Hz - 20 kHz < 0.5 dB, all other sources

Channel matching: better than 0.05dB

THD+N: 0.0005% (digital, analogue),

0.004% processed analog

Dimensions (WxHxD): 45x12x45cm

Weight: 18.4kg

Price: £4,450

Manufactured by: Classé Audio

URL: www.classeaudio.com

Tel: 0800 232 1513 (UK only)



Interestingly, Classé doesn't produce a separate outboard DAC using its special technology. It claims there's no point, because it couldn't be configured to give comparable results to their USB preamp. We actually tried putting a USB signal through three high-end outboard DACs. None sounded as clean as the CP-800...

Rip it up

So, while having a USB input on your CD player allows you to listen to ripped CDs from a hard drive, the sound is unlikely to be much better than listening to the disc itself via a good CD player. There may be a difference, but you won't get the sort of improvement delivered by the CP-800.

To many audiophiles of a certain age, downloading music is not something that appeals. As creatures of habit, we prefer to have music on CD. But, after getting a CP-800, such attitudes may change! While still not choosing to download if a CD can be purchased, you'll soon warm to music stored on a hard drive.

The improved quality of sound delivered by the CP-800 is one reason, but so too is the ability to listen to long works without breaks. We predict you'll find yourself listening to a lot more music each evening – simply through not having to get out of your seat every hour or so. By itself, this is a huge benefit.

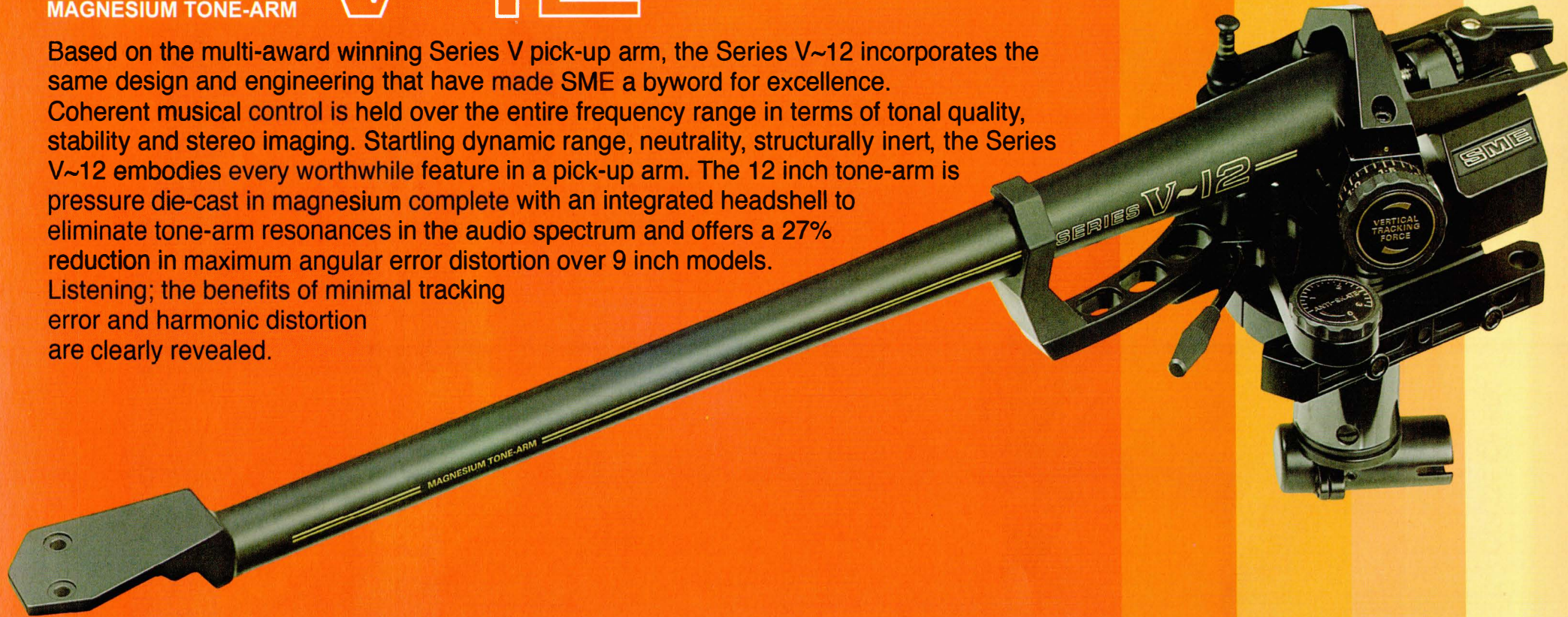
Confession time; your reviewer wasn't looking to replace his existing preamp, but having experienced the CP-800 and what it has to offer, it's become difficult to live without. We've actually bought a laptop exclusively for use as a USB music storage device. We're hooked! There's no going back! ▶



SERIES V~12

MAGNESIUM TONE-ARM

Based on the multi-award winning Series V pick-up arm, the Series V~12 incorporates the same design and engineering that have made SME a byword for excellence. Coherent musical control is held over the entire frequency range in terms of tonal quality, stability and stereo imaging. Startling dynamic range, neutrality, structurally inert, the Series V~12 embodies every worthwhile feature in a pick-up arm. The 12 inch tone-arm is pressure die-cast in magnesium complete with an integrated headshell to eliminate tone-arm resonances in the audio spectrum and offers a 27% reduction in maximum angular error distortion over 9 inch models. Listening; the benefits of minimal tracking error and harmonic distortion are clearly revealed.



SME

"The best pick-up arm in the world"



THE CP-800 EXPLAINED.

The CP-800's USB subsystem is galvanically isolated to prevent noise from connected USB devices entering the audio circuitry. In other words, there's no direct electrical connection between the USB source and anything inside the CP-800.

According to Classé, the problem with the standard USB/DAC interface is that the USB device determines the amount of jitter in the system. Worse, USB sources may cause degradation to DAC power supplies and analogue circuits due to noise-coupling through power supplies and electromagnetic pathways.

A USB/DAC has a USB microcontroller which loads the incoming audio data into a buffer. This is clocked to the DAC, and is synchronous to the USB source. In this arrangement, the computer or portable device is in charge, and (as with S/PDIF) jitter is introduced into the system that no amount of post-processing can eradicate.

The two clocks are kept synchronized by continually adjusting clock rates, which entails pulling data from the buffer and into the DAC. Unfortunately, this forces the USB DAC to lock to a compromised high-jitter clock system.

This synchronous technique is also known as Adaptive USB, since the output rate adapts itself to the average rate of the incoming data. It is therefore susceptible to noise and clock degradation. Tweaks can be applied upstream of the USB input which may result in audible changes, but they do not solve the fundamental problem

Asynchronous USB

Performance improvements to the USB subsystem are possible using external control options offered by certain USB microcontroller chips. One involves controlling the clock locally in the USB/DAC. By making it asynchronous to the clock in the computer or portable USB device, the

USB microcontroller now controls the flow of data from the source, rather than the other way round.

In the CP-800, dedicated master clocks are used for different sampling frequencies. The CP-800 achieves complete galvanic isolation, severing all electrical pathways from the source to ensure unwanted noise is kept out of the audio path. At this point, most manufacturers would probably stop. The Classé Design team, however, went further.

Single Clock Substrate

The CP-800 employs a technique called Single Clock Substrate to ensure best possible performance. The USB microcontroller is itself rather noisy, with its own clock and that of the source device loading its buffer. These microcontrollers are good at many things, but keeping clocks isolated is not among them! While you can partition functions on the silicon, you cannot isolate them.

The solution developed for the CP-800 places a Field Programmable Gate Array (FPGA) near the DAC and Master Clock oscillators. Data from the USB microcontroller on the digital input board is received and buffered by the FPGA located adjacent to the DAC on the motherboard.

Data is transferred to the DAC synchronously from the CP-800 master audio clock (the only clock used in the FPGA). This, of course, is synchronous with the data arriving into the buffer via the USB microcontroller's asynchronous transfer algorithm.

This topology ensures the greatest isolation of clocks and data from all upstream artefacts. The digital signal arrives at the DAC with correct data and precise timing, ready for conversion to analogue. Thanks to the technical superiority of this unique configuration, Classé believes the CP-800 outperforms even the best CD players. +



TL-5.5II Preamplifier

Fully balanced differential linestage
 Two balanced / five single ended inputs
 Balanced / single ended / rec outputs
 Optional internal MC/MM phono stage
 (with adjustable gain/load/RIAA/rumble)
 Precision regulated supplies
 Tube life extender circuit
 117 step differential volume control
 Full RS232 control, programmable
 input offsets, HT pass-through
 Luxurious precision machined cosmetics
 Fully featured aluminium remote

True music lovers have long admired VTL amplifiers for outstanding performance and lasting value. Incorporating modern features (such as precision-regulated power supplies, auto-biasing, comprehensive fault sensing and remote control) whilst providing both the dynamic realism and tonal purity that can only come from an elegantly designed valve amplifier, VTL stands tall amongst its peers with this unique approach. Intelligent design ensures that convenience never compromises sound quality; VTL amplifiers simplify where it matters - short, pure signal paths and user-friendly, intuitive ergonomics. The result? Truly modern equipment that is simply a joy to own.

VTL

Pure Tube Pure Passion Pure Music



MB-450 Series III

Monoblock Amplifier

450 Watts Tetrode Mode,
 200 Watts Triode Mode.
 Fully balanced differential circuit.
 Zero Global Feedback.
 User-adjustable damping factor.
 Precision-regulated screen and
 bias supply for longer valve life
 and precise sound.
 Enhanced interleaved and
 coupled output transformer.
 Premium Mundorf silver/oil
 coupling capacitors.
 Improved Auto Biasing, fault
 sensing and protection.
 Standby Mute function for
 increased tube life.



The new Series III version of the long-standing MB-450 features a fully balanced design that offers the power and dynamics to bring your system to life, while at the same time delivering the subtle sonic cues that tell you it is real. With fully automatic biasing and comprehensive fault-sensing, valve ownership is now even easier than ever.



Esoteric K-01 CD/SACD Player

By Chris Thomas

I keep wondering if what so many people tell me is true. Has the day of the high-end CD player finally passed and is it folly to invest in one? It's a comment I have been hearing for a while but it seems that every time I get to live with a player of this calibre I just can't help thinking that they just keep getting better. Whether we will all be using our computers to stream high definition files before the CD player has reached its zenith remains to be seen but, from what I have heard, there is still some way for that technology to go before it can rival both the sound quality and certainly the convenience that the top CD players can offer at this moment in their history.

Esoteric, the high-end wing of TEAC has been manufacturing exquisitely built CD/SACD players for many years and the K-01 is their latest single-box flagship, completing the path trodden by the X-01 and the X-01D2 before it. And when I describe the build quality as exquisite I am really not overstating the case as the K-01 has taken that to a new level with a fit and finish that companies without Esoteric's enormous resources can only gaze upon enviously. Inside and out this player is a remarkable piece of electronic engineering and a peek beneath the lid shows no let-up in the attention to detail and quality. This thing could comfortably wear a glass or acrylic see-through lid to reassure you where your money has been spent. The rounded shape, borrowed straight from the expensive separates, gives the K-01 presence that I much prefer to the square-edged X-01.

It is hard not to be impressed by the fit and finish of the transport mechanism that bears every hallmark of being totally yet satisfyingly over-engineered, especially if you have held the mechanisms from other manufacturers in your hands. The prized VRDS-NEO "VMK-3.5-20S" version, that forms the heart of the player, is the very latest CD/SACD transport straight from the P-03 separate. This monster weighs in at 5.2kg (11.5 lbs) and is fed, on the front panel, by a slim machined tray that glides out only after a slot door wafts silently open. This keeps dust and any extraneous light from entering the mechanism. Its mechanical action also reinforces the Esoteric's overwhelming sense of precision that continues through its operational modes through to its notable sound quality. With regard to the transport, there is also a new driver circuit that allows for smoother and higher accuracy

servo control of the spindle motor. As usual with Esoteric, the closer you look, the more you understand that the new machine's innovations and improvements just keep coming as the company's design philosophy includes full trickle-down of the technology previously found only in their high-end separates. These are certainly quintessentially Japanese machines and as such are designed and built very much for the classic Japanese audiophile who absolutely demands this level of technical detail and build quality.

So, just about every single aspect of the K-01 is a notable technological step-up from the X-01 D2 and it would take the whole



of this article to outline the improvements and innovations that Esoteric has included as it seems to have really thrown the kitchen sink at it. But, briefly, they also include the new Dual Mono 32-bit AKM D/A converters that have eight circuits per channel, each mounted on their own board. This mirrors the complete dual-mono design and construction throughout. Each of these is mounted in its own individual "room" for isolation, as are the twin transformers and power supplies. D-to-D conversion possibilities keeps up the good work. They feature a mode that will convert DSD and PCM formats directly to analog outputs as well as PCM upsampling to 2x (64/88.2/96kHz). You can also convert PCM to DSD.

User configurability is extensive (would you expect anything less?) and includes no less than four types of digital filtering for PCM signal processing plus an additional two short-delay digital filters, all accessed through a surprisingly straightforward and easy to use menu system. The latter pair are what have become known as Apodizing filters and are claimed to eliminate pre-echo and ringing to present the audio signal as a more natural and precise sound. There is also an off feature with bypasses all of the four digital filters. Have a think about the above alongside the processing features and weigh up the user-adjustable options and combinations that this player provides.

The K-01 provides three different methods of inputting a digital signal if used as a separate D/A converter. You can access the processor with USB, coaxial and optical connections and these inputs all support

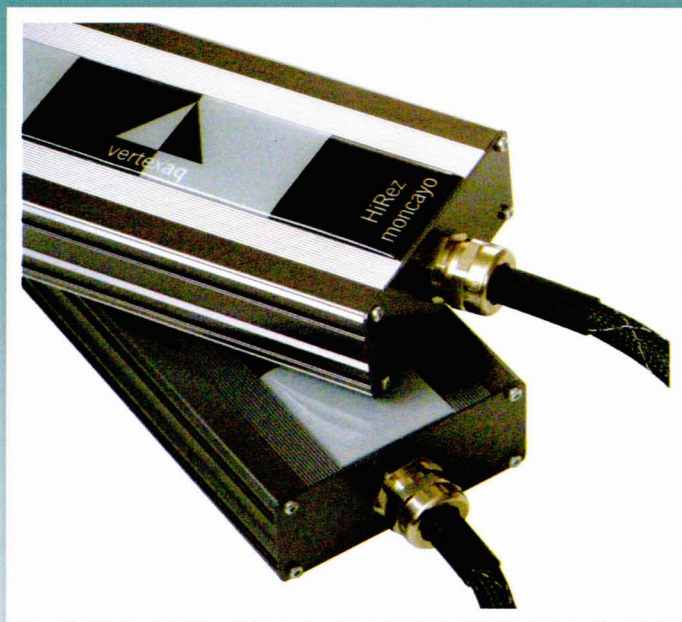
sampling rates up to 24 bit/192kHz. This of course means that those embarking on the computer-based music route can connect directly through the USB that supports high-quality asynchronous transmission. In fact it will allow for three transmission modes with two types of high speed (including asynchronous) and a standard full-speed mode to allow for compatibility with many computers and operating systems. Esoteric is taking this feature seriously as it has gone to the trouble of incorporating a USB isolator which separates the power and signal paths in an effort to reduce any interference from the computer itself or other external devices.

At 31kg this is a heavy component and I found it to be quite



responsive to siting and there are worthwhile gains to be had here. As a Stillpoints admirer and user I tried the Esoteric with various levels of their resonance control devices and much preferred it this

Outstanding Performers



HiRez Moncayo Speaker Lead

Packed with Vertex technology, the HiRez Moncayo has a profound effect on your system. Solid-core silver conductors maintain the highest signal integrity, but it's what these cables do with vibration and RFI that's the real key to their performance. Conventional speaker leads, and the wiring in your speakers, can act like huge radio aerials, picking up RF signals (mobile networks and wi-fi!) and inject it back into your system. But the RFI/EMI absorption soaks up most of those signals, resulting in a massive drop in unwanted RF noise pollution.

And conventional speaker leads can pass lots of vibration back to your electronics too, causing considerable levels of microphonic distortion. The advanced acoustic absorption within the modules fitted to these cables significantly reduces this effect.

The reduction in RFI and vibrational effects deliver a truly staggering performance lift to a system. Dynamics, drive and scale increase significantly, along with massive improvements in sweetness, detail and imaging, bringing you so much closer to the passion and emotion in your music.



Standard Taga Mains Distribution Block

The Standard Taga is a great way to get some Vertex engineering into the heart of your system. With an IEC inlet and six outlets (13A, Schuko or US) it's a very practical item for a tidy mains solution – with real performance benefits!

Within the Taga are two modules; the first is an acoustic absorption module through which passes the main feed wiring to the outlet sockets. This arrangement significantly lowers the level of vibration around your cable loom. The second module is a silver-wired 'shunt' mains filter, which gently syphons off RFI from the mains. Because it's 'shunt' of course, means it's not in the current path to your electronics – so it can't limit dynamics at all.

The Standard Taga can be one of the first items you use from the Vertex range. Replacing a standard distribution strip with the Taga brings a significant improvement to your system's realism and listenability. Tones are richer, with far less hash and sibilance, detail and clarity are improved, as is depth and image placement. Musical pulse and flow take a big step-up too – connecting you to the energy of the performance.



Find out more – the Vertex AQ Book

So that we can tell you a lot more, we have a 50-page book that goes into great detail about the theories, technology and how to use the Vertex products. It's a great read and it's free. Simply contact us or a Vertex dealer, with a postal address, and we'll make sure you get one. Alternatively, go to the Vertex website where it's also downloadable. After that, all you have to do is try a few bits of Vertex at home. You won't regret it!



HIFICRITIC Awards 2009

'BEST BUY'

Vertex AQ
Moncayo 'speaker leads

HIFICRITIC Awards 2009

'RECOMMENDED'

Vertex AQ
Kinabalu support system

HI-FI+ Guide to
'THE CRÈME
DE LA CRÈME 2011'
Vertex AQ
Moncayo 'speaker leads

Product info, reviews, dealer listings, click or call

www.vertexaq.com

tel: +44 (0)1597 825993 | email: info@vertexaq.com

Vertexaq



► way rather than sat on its own feet. The rest of the system was a David Berning Pre One and a pair of his Quadrature Z power amplifiers and a pair of Focal Diablo speakers. Cabling was alternatively Nordost and Vitus.

The older single-box Esoteric players like X-01 range all announced themselves with a vivid yet tonally bleached view of the music. In lesser systems this could appear as brightness. Personally I never really minded this trade-off and was always more fascinated by the extremely fine, detailed resolution and the forthright way the music was presented. In fact I was surprised when I listened to the two-box P-03/D-03 that it had such a different and somewhat less strident musical balance. The K-01 strikes just about the perfect compromise. It's tonal palette is less chilly but I am glad to say that it has lost nothing where resolution is concerned and has in fact grown somewhat by having a far more layered performance with impressive depth and a ultra-solid musical soundstage that is one of the best I have heard from a single-box player.

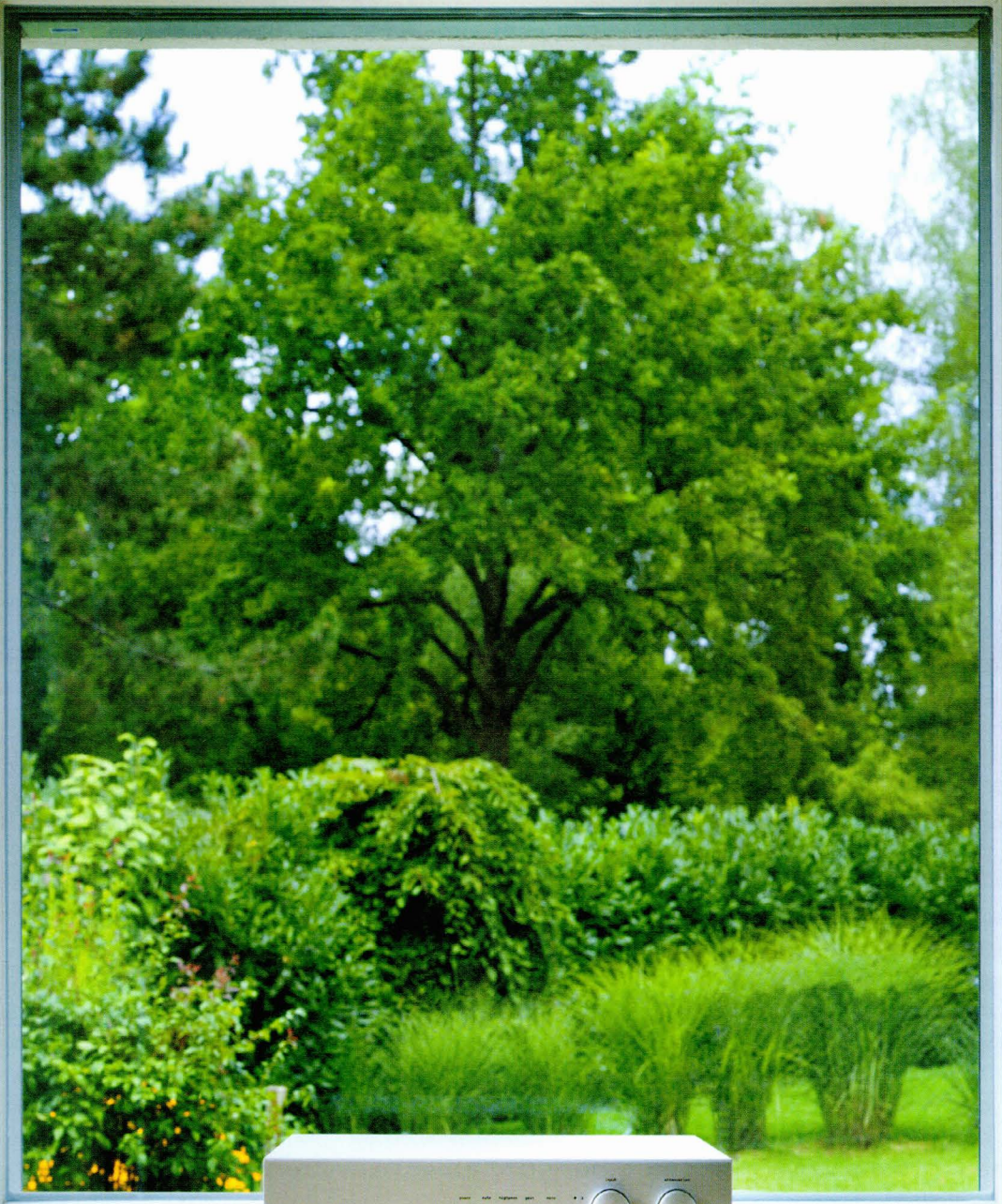
But the first thing that is likely to exercise a new owner is the filter and sampler settings. As I mentioned before these are quite extensive and you can plunge yourself into deep confusion trying to establish a single setting you will be happy with. Japanese audiophiles relish this level of configurability and will probably identify different settings for different discs. I spent an afternoon trying to establish some specific configurations. Some are better for complex music and others seem preferable with simpler recordings or acoustic music. I wish you luck with your own experimentations as I think that, depending on systems and taste, you will find the right solutions as there are no rights or wrongs here. Often the differences are extremely slight and it's hard to come up with definitive choices. Eventually I settled on no digital filtering and DSD conversion and forgot about it.

If I mentioned the word precision earlier then it is no surprise as this is an aspect of the K-01's musical style and presentation that appeared regularly throughout my notes. There is something explicit and pristine about the way the player deals with leading edges of instruments. No snatching or blurring, just a concise flow of detailed dynamic control with quite remarkable flow. There is no sense of the music being either over-damped or processed either

and that is another of the big improvements over the X-01. Esoteric have addressed exactly the areas they should have and this has resulted in the K-01 being the most organic and tonally lush machine I have heard from them. I would even say that, in this regard, it is actually more memorable that the older P-03 and D-03 and I realise that is a big statement to make, considering the price of that particular combo.

It shows you a huge soundstage and etches the instrumentation within the ambience in a really special way. This is particularly evident on SACD and I was fortunate enough to have a dozen or so of Esoteric's own re-mastering of classical performances from up to 30 or 40 years ago. At times these can be sensational because the event itself was so great. The recordings have been treated with respect and great care and the dynamics are real and completely captured in-scale and with a tonal complexity that engineers these days seem to ignore in favour of an exaggerated view of dynamic range and presence.

But, I think it is the K-01's stunning performance on regular CD releases that make it so desirable. It just opens the doors to let you explore the music by maintaining a superb sense of control over each and every one of its elements. Power, grace and beauty are all part of its considerable charms and it couples this with a feeling of relentless ►



soulution
nature of sound

Highend Audio Equipment
made in Switzerland



reddot design award
winner 2006

Distributed by
Select Audio
Tel 01900 813064
www.selectaudio.co.uk
www.soulution-audio.com



► rhythmic structure and most importantly, drive. Nick Bartsch's Ronin are a fascinating band. They record on Manfred Eicher's singular ECM label and their 2008 release *Holon* gave him the perfect opportunity to do what Eicher has always done better than almost anyone else. He establishes a tangible acoustic and creates a musical experience within it.

This lends much ECM music an almost mysterious quality and *Holon*, experienced through the K-01 illustrates this absolutely perfectly. The opening track, Module 42, as the title suggests, is a component of the whole. Its curiously metronomic feel is established and then the sumptuous flavours and colours are added, particularly by the warmth of the bass clarinet. Gradually the piece builds in complexity and then subsides as quickly as the piano and bass return home to the beat. On this music the Esoteric K-01 fulfils its role perfectly. As a conduit into the mesmeric, clock-like rhythmic signature it becomes almost hypnotic. Its sense of absolute precision allows the mind to wander along different tracks of thought but there is always that pulse, locked into the brain that reminds you of the distance from A to B and retains focus on the progressive nature of the piece. I am deeply struck as to how much room can be created around the pulsed root of the piece. The Esoteric's dynamic power brings this music alive and provides an unwavering focus on the elements that is compelling.

But it is equally at home on Howe Gelb's *Alegrias* disc which is a very different musical challenge altogether. With A Band Of Gypsies alongside him Gelb has crafted a kind of Flamenco Cowboy fusion of flavours as a backdrop to his microphone-in-mouth vocals. It swings but relies on what seems to be a fairly louche approach to behind the beat tempo. The K-01 is happy to play along. This was recorded in Spain and those flavours drip out of the speakers. The Ballad Of Lola Y Manuel allows the player to show its lighter side. A broad, deep acoustic with an intoxicating mix of instrumentation and vocals scattered three-dimensionally over the soundstage has a kind of Tex-Mex feel to it. It is sweet but with a hint of musical bitterness and the flexible K-01 is entirely with

the mood and as enjoyably informative here as it is with both the classical performances and opening the ECM acoustic.

The K-01 is a very impressive achievement from Esoteric I think. For a single-box player, with all the advantages that brings, to be so musically rewarding and so useful as a separate processor goes a long, long way to justifying its high price. But be warned, it asks a lot of the rest of the system. +

TECHNICAL SPECIFICATIONS

Type: Single box CD/SACD player

Outputs: Analog- 2xXLR, 2x RCA

Digital: Co-axial RCA, Optical, USB

2.0/192kHz-24-bit Asynchronous

D/A converter: 32-bit AK 4399 x 8 DAC

per channel kHz, 96 kHz, 176.4 kHz,

192 kHz

Dimensions: 162x445x438 mm (HxWxD)

Weight: 31kg (68.5 lbs)

Price: £14,995

Manufacturer: Esoteric, Japan

URL: esoteric.teac.com

UK Distributor: Symmetry Systems

Tel: +44(0)1727 865488

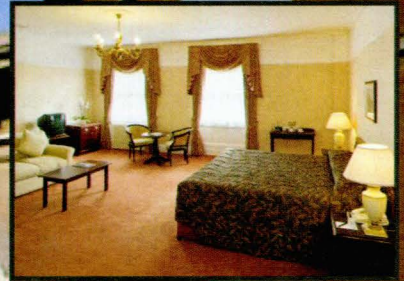
URL: symmetry-systems.co.uk



**AUDIO
WORLD**
24th - 25th March
Oatlands Park Hotel - Surrey

CHESTER GROUP
The show that's always ahead of the pack

The Chester Group are committed to doing everything possible to help the UK Audio market and that means constantly reviewing the Venues that host our very successful events.



The Spring Show (as most people now call it) has been at Heathrow for 8 years and we are quite certain in our own minds that it would now benefit from a new venue and location.

Over those 8 years the market has changed a lot, with much clearer divisions in the product types and technology plus a specific resurgence of appeal in the Higher End market.

Hence this new choice of venue, but no change in the date.

Just like our National Audio Show (Whittlebury) we are sure this will generate new interest from both exhibitors and visitors alike and we look forward to re-establishing Audio World in its new home and its greater appeal. Full details available on our newly designed website.



Scan this with a QR Code reader for full details, tickets, latest exhibitors and much more! Alternatively visit:



WWW.CHESTERGROUP.ORG

OTHER SHOWS BY THE CHESTER GROUP



Chester Group (Exhibitions) Ltd

Chester - Sydney - Florida

Justin Bird - Show Manager

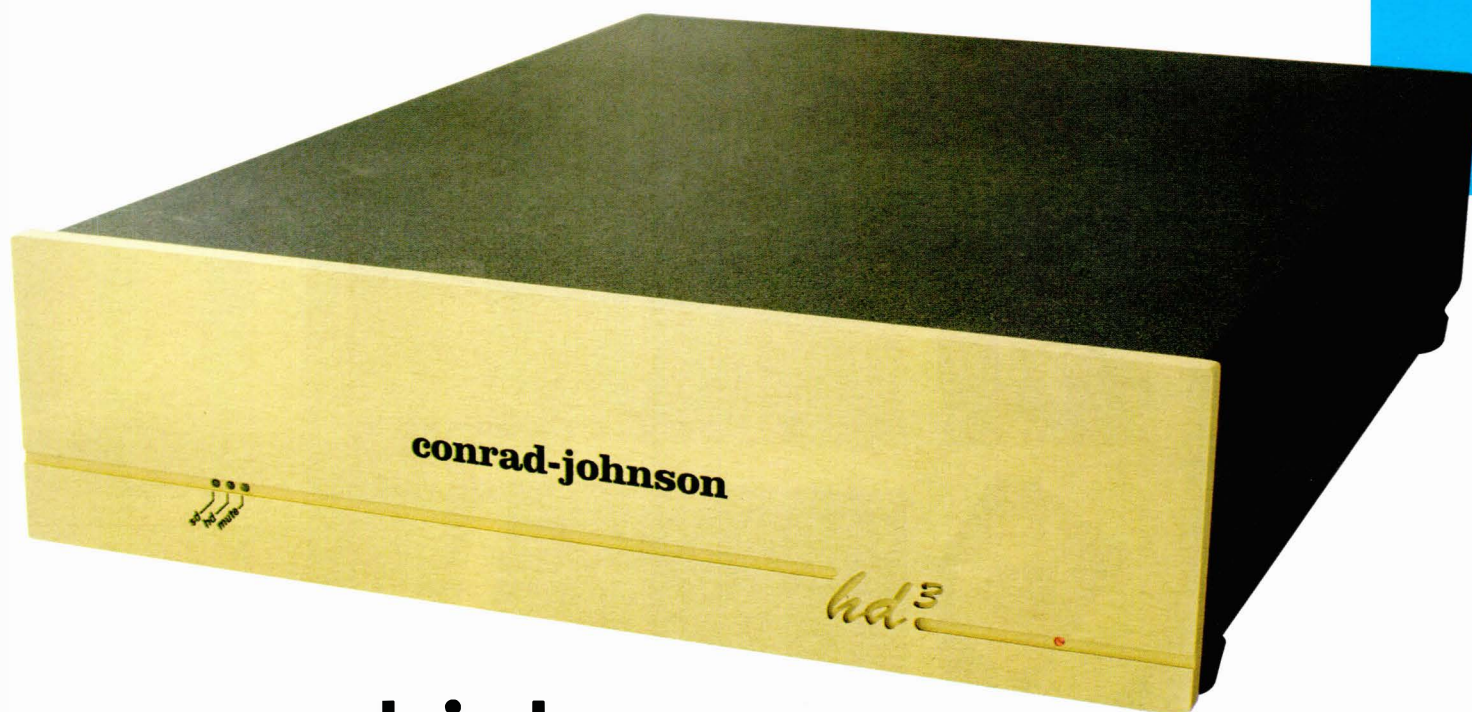
+44 (0)1244 559033

Justin@chestergroup.org

Show organisers. All Intellectual rights reserved.



EQUIPMENT REVIEW



conrad-johnson HD3 converter

By Alan Sircom

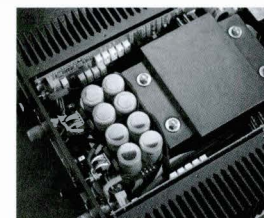
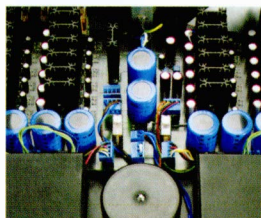
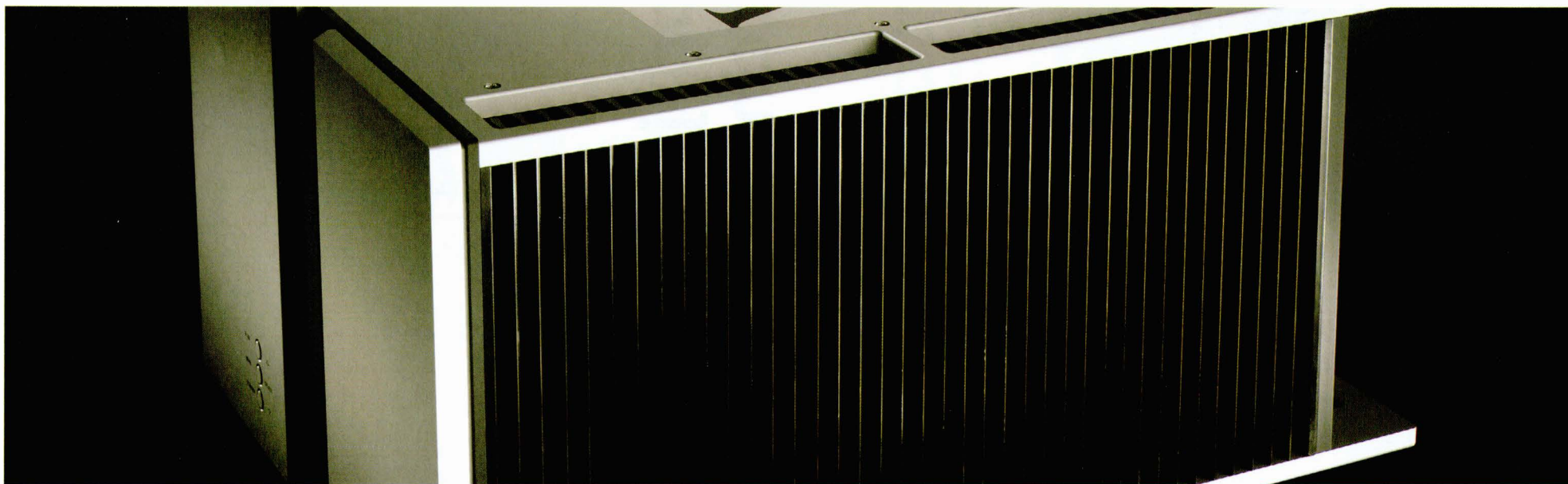
The conrad-johnson HD3 DAC defines how the audio business is changing in perfect microcosm. The DAC is a 24-bit, 96kHz design that sports just one input – a USB socket – and will be sold direct by the distributor to keep the costs down (while £1,995 is not bargain basement price, if it went through a formal dealer distribution chain, the price would go up by a significant amount). It's also indicative of the changes in audio that c-j's first digital front end for some years is a computer-audio DAC, rather than a CD player.

The HD3 uses a Burr-Brown delta-sigma chipset for the D-A process and this is fed by that galvanically-isolated asynchronous USB input. The digital side is powered by the USB input itself – so those thinking of using a custom cable with a severed Vbus +5v line will end up disabling the DAC in the process. It also means the lock lights on the left of the front panel will light and the device will be recognised by a computer even when there is no plug in the HD3's socket. There's no lock light beyond 96kHz, in part because post-96kHz USB connectivity is still something of a mess. But it invites the question of whether 192kHz is a goal worth attaining, anyway. I'd rather have a DAC that sounds this good with my ripped CDs, than something that sounds bright and tinny all the way up to 192kHz.

Once the signal goes analogue, it needs mains power to drive the output stage, bristling with polypropylene/Teflon capacitors, metal foil and metal film resistors in the manner to which all good c-j users have become accustomed. This also gives the HD3 a best of both worlds scenario; the USB power feeding the digital conversion process from a galvanically-isolated but essentially optimal 5V USB input without the possibility of ripple from the mains, and mains power driving the more hungry analogue output stages, without the need for a separate and dedicated power circuit for the digital side.

It's all served up in a half-sized box with a cool laser-cut HD3 line across the front panel, and some of the nicest powdercoating I've seen on a top-plate. This doesn't mean much, but it's the details that count. Be careful of the front panel edges, though; they are almost Densen-sharp!

E M O T I O N E N G I N E



VA

MANUFACTURER

Vitus Audio, Denmark
+45 9626 8046

www.vitusaudio.com

UK DISTRIBUTOR

Focal
0845 660 2680

info@focal-uk.com

“It doesn’t make your PC sound like a record deck, but it does temper some of the bright and shiny sound of computer audio.”

▶ The analogue output delivers a very healthy output. In fact, rated at 3.5V, it’s healthy enough to challenge some older line inputs without some form of attenuator in place. In most cases though, it won’t be an issue at all, but will sound perceptibly louder than many rivals. In fact, the higher output will make it seem ‘better’ rather than ‘louder’, giving it something of an advantage in comparison. An advantage that it really doesn’t need, because it is also better sounding than many rivals when those volume levels are brought in check.

The HD3 is very much a product of today. It has got the sort of sound that typifies the best of modern computer audio-ready DACs. It’s inherently open, with an entertaining bounce that keeps the melody and the fun factor ever present. It’s these aspects that draw people to computer audio. Where the HD3 scores highly is that it doesn’t also come with the elements that help push them away, like the brashness and the ‘all top, all bottom, nothing in between’ sound common to many computer audio systems. In other words, it brings some much-needed conrad-johnson sonic values to the table.

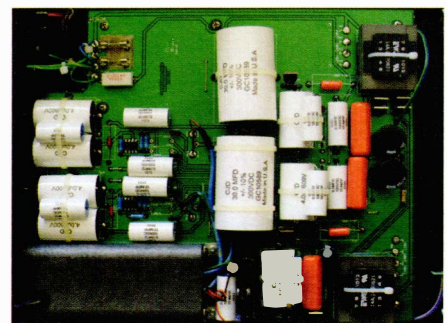
In fact, what defines the HD3 is completely at odds with what most DACs aimed at computer audio try to do. We are possibly still in the early stages of the computer audio ‘migration’ and the first DACs to make the crossover often seem to highlight detail as if to show how exciting the format can be. Trouble is, many people want to be able to listen long-term rather than be temporarily awestruck by the detail. It’s why people keep coming back to vinyl in a thoroughly digital age. It’s the secret sauce of the conrad-johnson DAC, too. It’s not analogue-y sounding, it doesn’t make your PC sound like a record deck, but it does temper some of the bright and shiny sound of computer audio today.

This has two great advantages; it makes good music more enticing and it makes bad music more like good music. While there is good frequency extension at both ends of the scale, unlike many computer-derived sounds, the HD3 also remembers there’s an awful lot in between called ‘mid-band’ and it does it extremely well, making an intrinsically ‘right’ sound in the process. So, when you listen to Al Green stepping up to the mic, that seductive soul voice is irresistible and somehow leads you to Jeff Buckley, then to Bessie Smith and on to Rufus Wainwright. Mozart speaks to you in musical sentences, Wagner’s leitmotifs are like little sonic portraits and the Right of Spring makes you want to throw chairs. It’s all good.

That honest, yet tonally rich midrange gives an openness and presence to almost everything it touches. And this is where the ‘makes bad music more like good music’ kicks in. Sadly, not every recording is of pristine quality; signal compression (as opposed to data compression) is a function of a lot of modern music and brightness and the lack of dynamic range that results stumps many a DAC that highlights brightness and relies on showing off its dynamic range. The HD3 doesn’t seem so showy, and as a consequence dynamically-compromised recordings don’t sound quite so dreadful here. It shows Muse as a bunch of talented musicians who push the sound too far,

not a tuneless noise that has you reaching for the next track.

The DAC world is vastly overstocked and its numbers are growing fast. Sometimes it gets difficult to justify the existence of yet another converter. Fortunately, that’s not a problem here; the HD3, by virtue of the sheer enjoyment it builds in the music it plays means it deserves very high recommendation. +



TECHNICAL SPECIFICATIONS

c-j HD3

Input: Asynchronous USB B-Type

Output: 2x RCA phono

Output level (0 dB): 3.5 Vrms

S/N Ratio: better than 100 dB

Frequency response: 2 Hz to 20 kHz +0/-1.0 dB

Total harmonic distortion: less than 0.05%

Dimensions (WxHxD): 25.4x7x33cm

Weight: 3.2kg

Price: £1,995

Manufactured by: conrad-johnson design inc

URL: www.conradjohnson.com

Distributed by: Audiofreaks

Tel: +44 (0)20 8948 4153

URL: www.audiofreaks.co.uk

What do you listen to?

≈ COOL GALES

We're often asked this question. At Cool Gales, we're fortunate to be able to audition a huge range of high-end hi-fi gear, from the well-known "usual suspects" to obscure exotics, from components with eye-watering price tags to those that are eminently affordable, from classic vintage gear to the latest cutting edge.

Little wonder, then, that our customers frequently ask us to distil our experience, curious to know what exactly we fire up in the evening when we want to listen to music.



For digital formats, of course, we use Esoteric, so established as the de-facto standard in digital replay that other manufacturers use Esoteric transport mechanisms in their own CD/SACD players. The X-05 is the entry-level model of Esoteric's high-end one-box series, a perfect choice for any audiophile wishing to select a "final" CD/SACD player without spending a fortune. *The Absolute Sound* declared, "There aren't enough superlatives to describe this machine."

But did you know that Esoteric manufactures equally fabulous amplification components? The new E-03 phono stage, with two configurable inputs, a de-mag function, and "magnificent instrumental textures and vocal accuracy, fluidity and rhythm, expansive dynamics on large orchestral surges and tremendous litheness on instrumental flutters, with deep and resolved bass, extended and nuanced treble and imaging and staging to die for" (6moons.com), is certainly one of the finest phono stages on the market.



The C-03 linestage, "as good as I've heard," according to SoundStage.com, and the A-03 dual-mono power amplifier, "sonically superior to all other amplifiers I've had in my system" (SoundStage.com again), both beautifully crafted in sculpted aluminium, would form the bedrock of the highest of high-end systems.

There's even a massive four KT88 valve power amplifier, the A-100, that can also function as an integrated. "Only a handful of amplifiers on this planet are as revealing," raved *The Absolute Sound*.



And for smaller systems, the one-box RZ-1, a 100 W integrated amplifier with CD/SACD player, USB input for computer audio, and even an excellent moving-magnet phono stage, is a compact corker!

What do *you* listen to? If your system beguiled at first, but now proves tiring over a evening's listening, why not give us a call on 0800 043 6710? We can arrange for an audition either here at Cool Gales or in your home. For more information, reviews, and brochure downloads, visit www.coolgales.com/esoteric



Cool Gales, hi-fi made easy.
Give us a click. Give us a call.

www.coolgales.com

0800 043 6710

The Victoria School House ≈ Bath

EQUIPMENT REVIEW



Brinkmann Bardo

By Jason Kennedy

There's an interesting piece on the Brinkmann website which tells us a lot about the way Helmut Brinkmann's mind works. In essence it explains how Helmut noticed that the tiny screws that adjust the cantilever on the EMT cartridge were made of steel and realising that this was probably not a good idea he set about trying screws of different materials and in different arrangements to find the best sounding arrangement. These screws are 1mm in diameter, the man's attention to detail is clearly in another league to that normally encountered even in German engineering. After considerable experimentation he came to the conclusion that having one of the three screws in titanium produced the highest fidelity. I'm impressed that he made the time to listen, clearly German TV is no better than the programming we get over here!

The Bardo is Brinkmann's second direct or magnetic drive turntable. It was preceded by the Oasis (which looks like the same design on a plinth) and has the same rather elegant drive system. The motor and the bearing are one piece, that is they are combined because they both need to be in the same place. This is obviously not new, Technics and many other Japanese manufacturers did something similar over thirty years ago but I can think of only one other example with audiophile aspirations. That example is the Goldmund Studio which is no longer produced but had a pretty strong reputation even in the context of that company's exalted range.

While the idea of putting the motor around the bearing would seem to be a logical thing to do in practice it's not without difficulties. The main one is that electric motors 'cog', that is their rotation isn't totally fluid but consists of a series of small jumps as the rotor is pushed from one coil to the next. Brinkmann has sought to combat this by placing the coils at 22.5 degrees to one another and having overlapping magnetic fields, this was found to reduce cogging and make for higher sound quality compared to a traditional 90 degree layout. The Bardo also has somewhat more substantial platter than direct drives of yore, it weighs 22lbs (10kg) and the inertia that this provides further helps to smooth out any remaining cogging.

“The man's attention to detail is clearly in another league to that normally encountered even in German engineering.”

Interestingly the speed control system uses analogue electronics where a digital system would undoubtedly have been cheaper, but as you will have surmised Brinkmann is not about making things at minimum cost. The speed control is done with a strobe or tachometer under the magnet in the bearing/ ▶

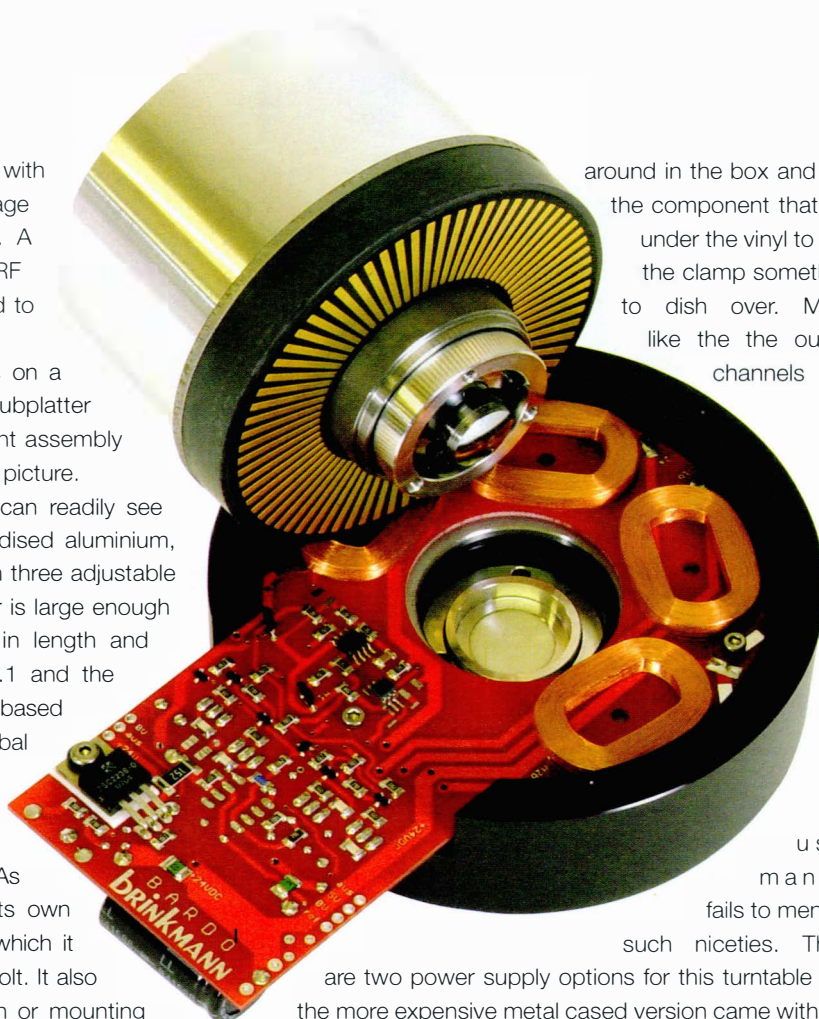
▶ sub-platter, its voltage output is compared with a temperature stabilised reference voltage and feedback is used to align the two. A digital system would be simpler but its RF emissions were considered to be a hazard to sound quality.

The bearing is a steel shaft that sits on a Teflon cup but the rest of the motor and subplatter is machined from aluminium, it's an elegant assembly and I hope that there is space to publish a picture.

The parts of the turntable that you can readily see are finished to a superb standard in anodised aluminium, it's a simple single beam construction with three adjustable feet and a single arm mounting. The latter is large enough to accept arms from nine to 12 inches in length and Brinkmann makes two tonearms the 12.1 and the 10.5, the name indicating size. Both are based on the classic Breuer design and have gimbal bearings for both axis. The counterweight is a split type that can cope with a wide range of cartridges but the effective mass of 12g would appear to suit moving coils. As mentioned the company doesn't make its own cartridges but has a variant of the EMT which it calls Ti presumably in honour of that tiny bolt. It also has a resonance optimised contact patch or mounting made with a sandwich of materials. It has a Van den Hul stylus and various other modifications as well as a medium to low compliance suspension.

The Bardo sample sent for review had a pair of XLR sockets on the plinth beneath the arm but you can order this turntable with RCA phono sockets or use a DIN plug straight into the arm itself. Inconveniently the XLR outputs are not channel marked so you need a familiar record to establish this particular fundamental. Even though few phono stages take advantage of the fact the phono cartridge is naturally a balanced output transducer, so XLR sockets make a lot of sense. Fortunately I was able to use another German component to assess its potential in this respect, namely a Burmester 100 phono stage which has the requisite sockets and is a very fine piece in its own right.

But before I get carried away with the sound its worth pointing out that the platter is normally supplied with an acrylic top surface but for a premium can be had with glass instead. It comes with a screw down clamp that's made to the same high standards as the rest of the player but you need to route



around in the box and find the component that sits under the vinyl to give the clamp something to dish over. Much like the the output channels the

user manual fails to mention such niceties. There are two power supply options for this turntable and the more expensive metal cased version came with this sample. On/off and speed switching is achieved with the toggle switch under the plinth, the tip of which glows green when its up to speed (or red if you push down for 45rpm).

The final part of the puzzle is a granite slab that Burmester supplies as an option and which provides a solid ground for the turntable. You don't need it to use the thing but it's relatively inexpensive and has a positive effect on the low end performance, adding gravitas and power that you don't get even with a well isolated stand. This 1.25 inch thick slab is supplied as standard in the US but it's a £339 extra in these parts.

The player as a whole is extremely revealing and very even handed, it's not as warm as an SME but it's considerably more full bodied than a Clearaudio of similar price. The balance is on the lean side really but it could never be described as forward, in fact it's very good at getting out of the way and letting the music through in all its emotional glory. I was struck by how much woe there is on Conjure's 'Oakland Blues', this is a fabulous song written by Carman Moore and sung so effectively by Robert Jason that I have been listening to rather ▶

Are you listening to your room or to your audio equipment?

By controlling the unwanted room resonances and reflections you release the full potential of your audio system with improved imaging and create a larger sound-stage.

Acustica Applicata



Phemo



DaaDs



Polifemo

ACUSTICA APPLICATA

ACCUHASE

AUDIO ANALOGUE

AVALON ACOUSTICS

BENZ-MICRO

CARDAS

CONRAD-JOHNSON

DAVINCIAUDIO LABS

FINITE ELEMENTE

FURUTECH

FUTUREGLASS

HRS

KARAN ACOUSTICS

LEBEN

LYRA

MAGNUM DYNALAB

MIT CABLES

NAGRA

NOTTINGHAM ANALOGUE

PEAK CONSULT

SILTECH

SME LIMITED

SPECTRAL AUDIO

STAX

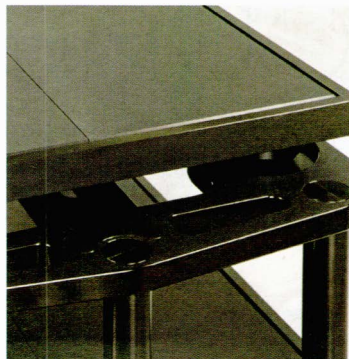
TRANSFIGURATION

ZANDEN

Are you listening to distortion created by acoustic feedback or to your audio equipment?

By eliminating the structure-borne and air-borne resonances that feed back to the audio equipments' chassis, you remove distortion revealing the true sound intended by the designer.

Harmonic Resolution Systems (HRS)



Isolation Bases



Nimbus Couplers
and Damping Plates



SXR Audio Stand

Please call for advice on how to achieve the best results with these products

For further info about any of our products please visit our website www.audioconsultants.co.uk

Demonstrations by appointment

Mondays to Saturdays 10am to 6pm. It is advisable to call us before visiting. Part exchange welcome. Ex-demonstration and previously owned equipment listed on our website.

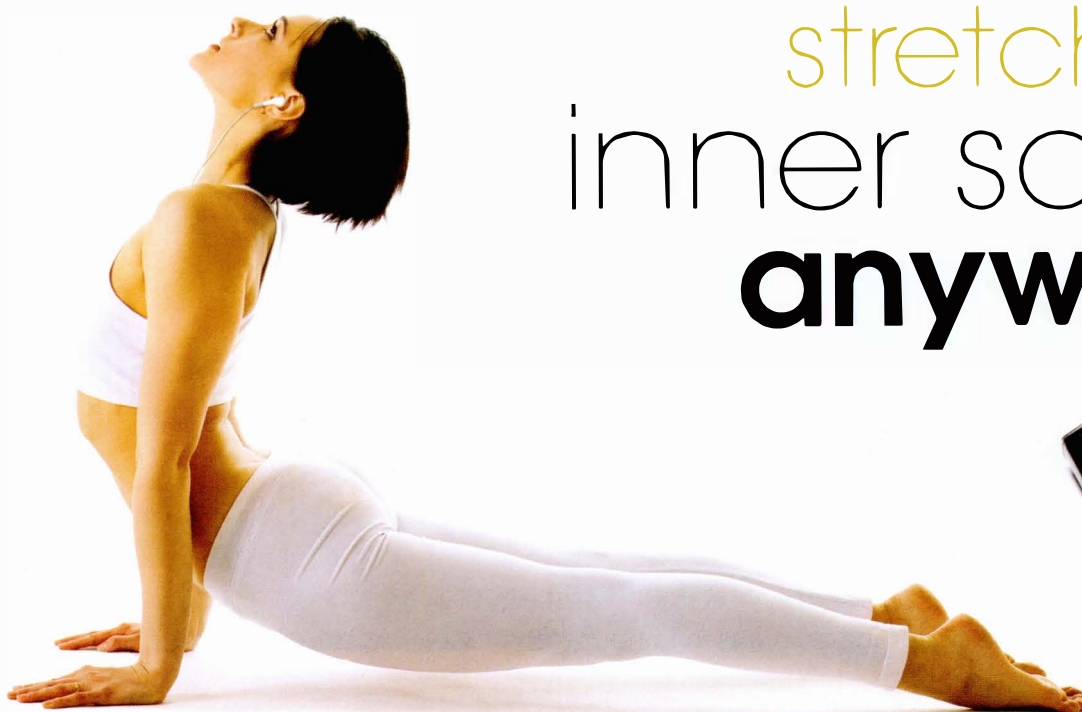
FURUTECH
PURE TRANSMISSION



WWW.FURUTECH.COM

sound foundations
www.soundfoundations.co.uk

+44(0)1276-501-392
info@soundfoundations.co.uk



stretch your
inner sound,
anywhere.



ADL CRUISE : a pocket-size amp with attitude :

ADL
ALPHA DESIGN LABS

by **FURUTECH** Tokyo • Japan
service@adl-av.com

sound foundations
www.soundfoundations.co.uk

+44(0)1276-501-392
info@soundfoundations.co.uk

▶ a lot on streamers of late but it takes on whole new depths with this turntable. It sounded very real thanks to the layers that the Bardo reveals in pretty much everything you spin, it also extracts the life in the recording in no uncertain fashion. A lot of seemingly neutral turntables fail in this crucial respect and effectively undermine one of the key qualities of vinyl, but this one lets all the vitality of the music out in the context of a presentation that's as open as the recording allows.

Its timing, while strong, is not in the front league, high mass turntables, whatever the drive system, rarely are but this is not all that apparent without comparison. What it does rather obviously is put the music squarely in the room, it creates a physical presence that makes everything in the mix more real and tangible. This is largely because it tracks dynamics so well, maximising the contrast between the various instruments and voices in the mix gives the result a true sense of life that is hard to resist.

This is all the more apparent when someone like Leo Kottke starts picking his acoustic guitar, the quality of playing is intoxicating because the turntable has no apparent

overhang – notes stop and start

with precision but without

any undue emphasis or

ring. As mentioned the

Bardo can sound

a bit lean at times

and needs the rich

muscularity of the

EMT cartridge to

balance this out,

but its tautness

and body

with a

van den

Hul Condor

is also extremely

engaging. So much so

that I found myself listening

at unnecessarily high levels

just for the fun of it. Under such

circumstances its musical skills are

brought to the fore and the records sound even better, at

least for as long as the neighbours can tolerate it.

Put on a spectacular recording such as the

recent Premonition Records pressing of Patricia

Barber's Café Blue and you can't help but be

overwhelmed by the experience – to be frank I'm

not a huge fan of her work, at least I didn't used to

be. In the Bardo's hands the second track Mourning Grace changed all that.

It's impossible to say what the direct drive element contributes to this turntable, the last time I reviewed a Brinkmann (La Grange) I thought it was superb and this model has made a very similar impression. What makes them good is not merely the drive system but the attention to detail that Helmut Brinkmann puts into their creation. It would nonetheless be fascinating to put this up against one of his belt drive designs just to find out. +

TECHNICAL SPECIFICATIONS

Drive: Direct drive magnetic field

Bearing: Hydrodynamic journal bearing

Platter: Aluminum alloy with glass surface

Chassis: 15mm Duralumin

Armboard: Movable (rotating)

quick release

Connectors: RCA, XLR or 5-pin DIN

Speeds: 33 1/3, 45rpm

Dimensions: (w x d x h) 420 x 320 x 100 mm

Weight: 14.8 kg (Chassis 5 kg, Platter 9.8 kg)

Accessories: Granite platform 440 x 310 x 30mm

Price: £5,885

Tonearm: 10.5

Effective length: 259.8mm

Overhang: 15.8mm

Effective mass: 10g

Weight: 280g

Price: £3,895

EMT Ti

Type: Moving Coil

Weight: 11g

Stylus: vdH, radius 4 µm

Compliance: 15 µm/mN

Tracking force: 1.8 - 2 g

Output voltage: 0.21 mV

(velocity 1 cm/sec)

Output impedance: 25 Ohm

Price: £2,495

UK Distributor: Symmetry Systems

Tel: 01727 865488

URL: www.symmetry-systems.co.uk

Manufacturer:

URL: www.brinkmann-audio.de



MEET YOUR MAKER

Brinkmann

I asked company founder Helmut Brinkmann a few questions about the path he took to his current situation and about the details of the Bardo.

JK: How long have you been making turntables?

HB: Our first "own" turntable was at our former company called Audiolabor, the model was the Konstant. We made that because a friend joined our company who was experienced in making turntables, but not in drive motors. So we came together for this first model, from about 1980 to 1984. That was a belt drive.

JK: What inspired you to start the company?

HB: In 1984 we sold the Audiolabor company which was owned by me and two others. My turntable friend and I had thought about making a better TT and that was the birth both of a new company under my own name and our first turntable model Balance, which we still have in production.

JK: Is the Bardo the same as an Oasis but without the plinth?

HB: The Oasis and the Bardo are made with the same motor, same PSU, arm board and platter. The chassis parts (the metal plates that hold the motor and the arm board) are different, the feet are different as well as some parts of the inner construction and of course the Oasis has the wooden plinth. Because of that both TT give a different sound, but not in performance quality, more in the colour and character of the sound. The Bardo is minimalist and the Oasis has a much bigger and more massive construction. The sound differences are difficult to explain but obviously noticeable.

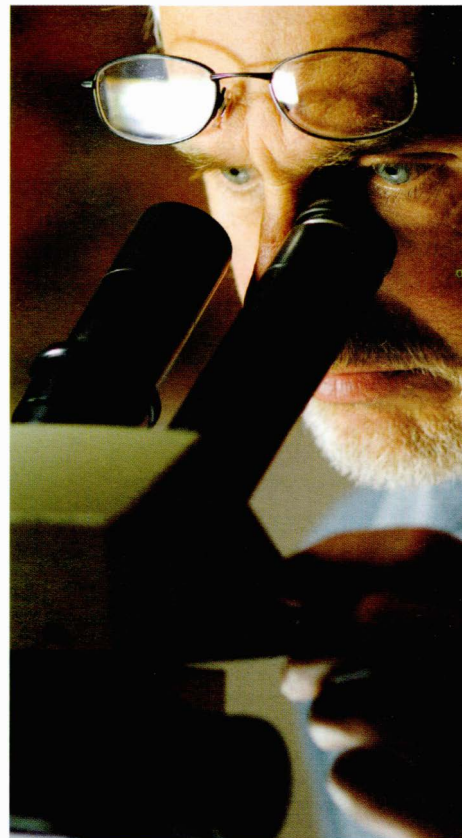
JK: How does your magnetic drive differ from the system used by companies in the studio field such as Technics?

HB: Our DD is not made for fast start ups, it runs smoother. The electronic speed control works very slowly, below the audible bandwidth, in this way it is just used for the stability of the speed over the time, to compensate for thermal runaway. We need to have a very smooth working bearing and a quite heavy platter to achieve this.

The motor just speeds up the platter and then the platter spins by itself, the electronic control just keeps it spinning with a very small amount of magnetic energy. We found it essential to keep pulses of either mechanical or electrical noise outside the audible bandwidth.

JK: I note that you publish wow and flutter measurements for the Bardo but not your belt drive designs, is the Bardo better in this respect?

HB: The belt drives have similar measurements. We would not publish this for the DD, but people started discussions in threads and the magazines published their measurements. Wow and flutter is usually limited by the record, so it is OK just to be somewhat below that. If you make a special effort to keep these figures very low you need a highly controlled mechanism, which in my opinion limits the musical quality.

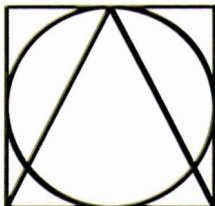


JK: What is the platter made of?

HB: The platter is made of aluminium, a kind which is softer and contains a little copper. This has a good inner damping and is further damped by the glass plate which is about 4mm thick and is glued onto the platter with a kind of soft glue.

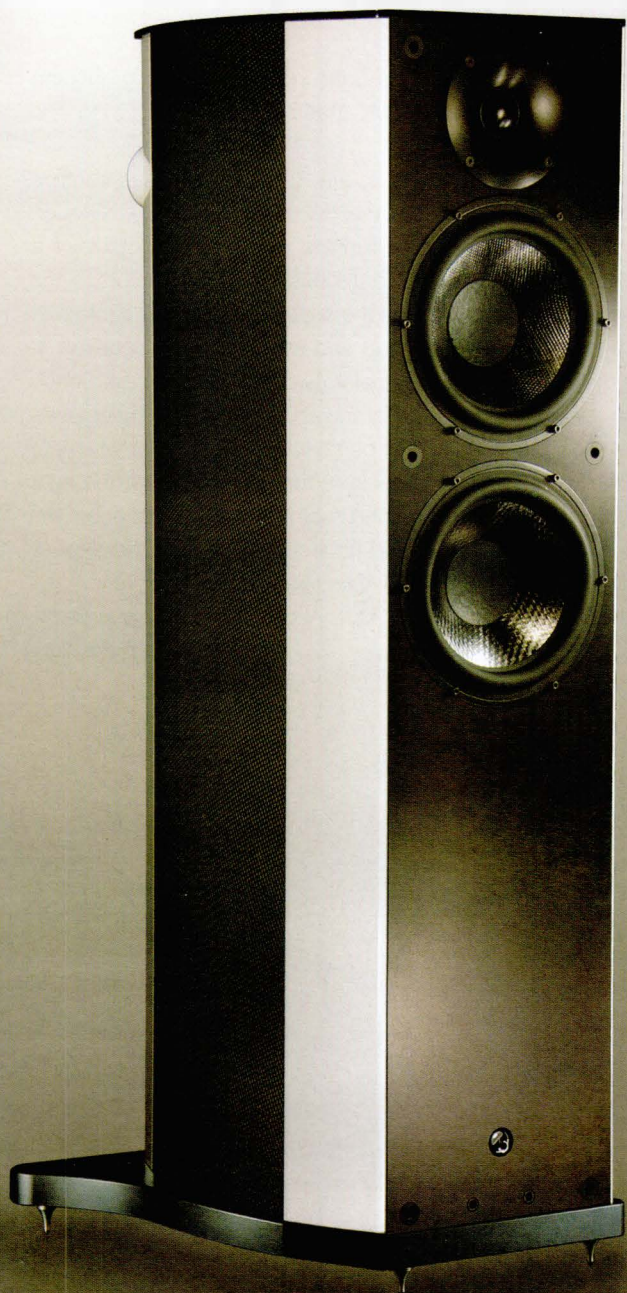
JK: Finally, why call it Bardo?

HB: Wikipedia says: Bardo is a concept of a transitional state in Buddhism. It is also used as a forename. We thought it would describe our smallest TT as a transitional state (to go on or to stay for longer :-)) to our bigger turntables. And we looked for a short word, which was not yet used elsewhere in the hi-fi scene. +



Wilson benesch

Geometry Series



MANUFACTURING

Advanced Carbon Composites allied with Aerospace Alloys

Assembled with Passion & Precision

Wilson Benesch: Built for You



Tel. 01142852656

www.wilson-benesch.com

info@wilson-benesch.com

EQUIPMENT REVIEW

REL R-328 subwoofer

By Alan Sircom

We are constrained by our biases and prejudices. Too often, when exploring those prejudices, we find they are baseless. So it is with the audiophile's intrinsic dislike for subwoofers. REL's subwoofers are some of the few that get under the radar, but we regularly have to refresh people's memories as to why they are so useful. This review of the R-328 is partly that re-explanation.

In fairness, perhaps it's not hard to see why subs get such short shrift with music lovers. They are commonplace in home theatre systems where they are almost invariably set too high for audio use. They might boom and bang and make whomping sounds when the gunplay happens and the starships clash on screen, but we often want a bit of subtlety and finesse, not simply noise and grunt.

In musical usage, a good subwoofer should be like a Victorian child – seen and not heard. So, what would be the point of a subwoofer under such conditions? Paradoxically, absolutely not what you'd expect.

In a way, we blur two kinds of bass reinforcement together, and home theatre systems are after a different kind to most audiophiles. Carefully – and I mean, really carefully – installed and set-up subwoofers act to help control stray in-room resonance and boom in a room, acting as an active bass controller more than a bass provider.

Of course, this places some not inconsequential demands on the sub design. A big bass driver in a box with some amps will happily chuff and grunt along with the film score, but when acting to keep up with the flow of musical content, it's all about speed and precision. This is where REL has always scored highly, and the latest Serie R electronics builds on the strength of the R-Series and previous models, harking right back to the early 1990s. A lot of this comes down to the REL-D input stage, which the

company claims gives the right impedance and grounding environment for the 350W Class D amplifier driving the active unit.

Like all Serie R models, the REL sub here has controls for high and low level and crossover frequency and – although it has a phono input for running off the LFE output of a multichannel amp, in audio it's best used connected to the loudspeaker terminals, with the supplied long black cable with bare conductors at one end and a blue Neutrik Speakon at the other. Install one subwoofer (two, three or four are better) in line with the loudspeakers and adjust lower and lower levels until the subwoofer cannot be heard... and wonder why your enjoyment of your loudspeakers took a big step in the right direction. Suddenly, the sound seems more free and open, the treble is more coherent and understandable, the midrange is more dynamic and expressive and the bass is more precise and taut. And often lighter sounding in the process; not light



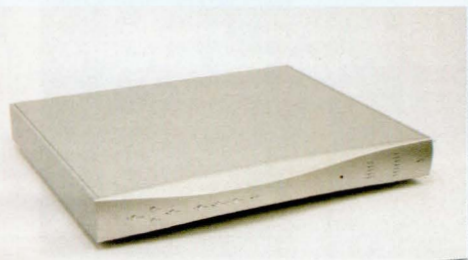
**More dCS ways to play
24/192 high resolution
music. Vivaces amongst
'the best of the best'**

Now
Vivace speakers
rated amongst
'THE BEST OF
THE BEST'

Not all 24/192kHz chips are born equal and dCS have taken time and care before offering the upgraded facility on the Debussy DAC and the Puccini U-Clock.

This means that dCS owners will be able to play some of the highest quality recordings, enjoying a greater sense of ease, space and naturalness.

The excellent dCS upgrade policy means that existing equipment that accepts 24/96kHz input can be fitted with the new circuit board, for a small charge. Upgrades for the Paganini and Scarlatti ranges will be available later.



The Debussy DAC – with RCA, BNC, AES and computer USB inputs

Some people are uncertain how to tackle computer-based audio so dCS have published a valuable guide that you can download from our web site under the 'Digital sources/dCS' buttons. The guide is straightforward and comprehensive, covering both Mac and PC computers, the connections, the procedure and the software to use. We are also delighted to advise if you want any help.

If you've not heard high-resolution music what can you expect? In simple terms: more of everything.

- More natural 'presence' on instruments and voices
- Finer detail that brings out more emotion
- Greater scale to the performance
- More dynamics and excitement
- Sweeter treble and cleaner bass

All of these improvements stem from the greater amount of detail that is contained within the format.

Music can be downloaded from a growing number of sites and a web search will offer plenty of choice. Just make sure that the files are not compressed, losing data.

Our new **Kawero Vivace** loudspeakers made a stunning début at the Heathrow show last year and wowed more listeners at Whittlebury Hall in September. Both times people returned to the room or stayed for long periods, awarding spontaneous 'best sound' comments such as:

'Just about the best system I have ever heard in 45 years of listening to hifi.' Thank you Ray!

The magazine hifi+ reviewed the Vivaces and has now included them in their lineup of 'the best of the best', alongside B&W802D and Sonus Faber Amati Futura, saying *'It's one of those speakers that gets under the listener's skin and you find yourself unable to listen to anything else.'*

The Vivace speakers catch people by surprise in many ways: the naturalness, scale and power from such compact, slim speakers. The secrets are how the speakers work with the room, using its natural ambience, and the way humans hear sound.

To 'engage' the room there is a passive mid-range driver and the main bass driver on the back, all the best Scan Speak units.

We like upgradeability with our products and the Vivaces can benefit later from improved internal wiring and an amazing crossover built around Vertex RFI/EMI and energy absorption technology. Read more under 'Loudspeakers' on our web site.

Kawero Vivace – choose your own finish, veneer or colour to match the decor



Customers say we make some of the best sounds at shows and in our studio they have ever heard, so you know we can do the same in your home. Our advice takes account of your best components and guides you where change is needed, in stages you can afford.

You avoid expensive mistakes, enjoy music and save money in the long run.

Just listen and you'll know

CD: Accustic Arts, Bel Canto, dCS, Gamut, Resolution Audio, Vertex Aletheia, Wadia Vinyl: Aesthetix, Clearaudio, Graham, Lehmann, Transfiguration
Tuners: Magnum Dynalab Amplifiers: Accustic Arts, Bel Canto, CAT, Gamut, Sonneteer, Storm Audio, Vitus, VTL
Loudspeakers: Audio Physic, Focal, Gamut, Kawero, NEAT, Totem Cables: Chord Co., DNM, Kubala Sosna, Nordost, Siltech, Tellurium, VertexAQ.
Mains: Vertex AQ Supports: Arcici, Black Ravioli, Hi-Fi Racks, Stands Unique, Vertex AQ

www.rightnote.co.uk

01225 874728 or lo-call: 0845 230 7570



KEF 50
INNOVATORS IN SOUND YEARS

Audio Destination
Devons audio specialists

REFERENCE SERIES LOVE MUSIC - DEMAND PERFECTION

'It's a speaker that delivers a sublime performance for real-world people in real-world homes using real-world systems at something approaching a real-world price.'

Model 201/2, Hi-Fi+, Issue 74

www.kef.com

Experience the world famous KEF Reference Series at the dedicated demonstration rooms at Audio Destination. Regarded by many as the benchmark for high-end audio loudspeakers, KEF's Reference Series is legendary for its clarity and precision.

Join us in the relaxed and comfortable surroundings of the show room for an expert demonstration from the Audio Destination team.

Audio Destination, Suite 7a, Market Walk
Tiverton, Devon, EX16 6BL
www.audiodestination.co.uk
01884 243 584

GP Acoustics (UK) Limited, Ecclestone Road, Tovil, Maidstone, Kent, ME15 6QP, U.K.
Telephone: +44 (0)1622 672261 Fax: +44 (0)1622 750653

I believe

that in the past we debated brands and physical formats... whereas today we're debating physical interfaces and digital formats

find better connections with soundlocation, specialists in Siltech, MIT, Bertram and others

www.soundlocation.co.uk t. paul 07973-253136

- ▶ as in floaty and insubstantial, but 'light' as in port-resonances and rear wall proximity effects are less overt and have less control over the sound.

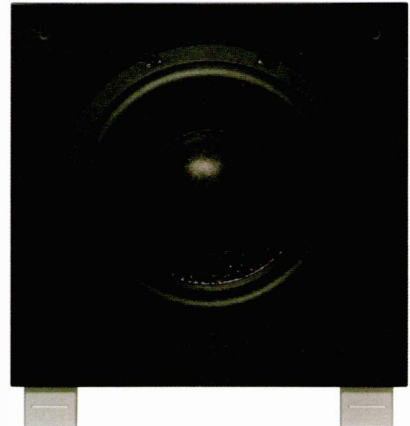
Selection of the subwoofer is relatively simple; the bigger the room or the speakers, the bigger the subwoofer. Using the entry-level R-218 (with its downward-firing single 254mm driver and 250W amp) doesn't have the same room filling capabilities as the R-328 (with its forward-firing 254mm long-throw driver and a 305mm down-firing passive radiator). The 328 will work well in most mid-to-large size rooms, where the 528 (305mm both active and passive, 500W class D amp) will work with even the biggest speakers in the biggest rooms. A second sub in line with the listener's chair alongside the side wall, or even a sub per loudspeaker and two more sitting either side of the listener will do more of the same (more insight into the mid and top, better room/bass integration).

I can't stress enough just how careful and how low you need to be with the setting of the REL R-328. It's in "Is this thing on?" territory. If you unplug the speakers all you should hear is the gentlest, muffled but really, really deep 'whump, whump' underpinning of the sound, quiet and subtle enough to be seemingly swamped by the output of the loudspeaker. If that sound begins to make the room shake like the T-Rex in *Jurassic Park*, you have it (or your amp's volume level) set too high. Do this in reverse though (have the speakers plugged in and throw the power switch on the subwoofer) and the change is marked; it's like someone replaces your speakers with a far better pair. Turn it on, bigger, more natural sound. Turn it off, your speakers sound that bit smaller and less 'free'. If you have the right subwoofer for the speakers and the room, it does this regardless.

It's an odd effect for many audiophiles, because we assume the low-end of a full-range loudspeaker is deep-bass enough. It's not, because it's not about deep bass, it's about in room bass control. No matter how full range

the loudspeaker, the place where best to put loudspeakers for good mid and treble performance is one of the least useful places for accurate bass. In particular, it's the worst possible place to try to use the bass to mitigate some room resonance and help open up the sound beyond 200Hz. For that, you need subwoofer support, and you need a sub like the REL that's capable of underpinning the sound without lag, flap or flab.

There are many ways to crack the room



acoustics nut. In some cases, the cure is worse than the disease (bass trapping vs. divorce proceedings, DSP and other forms of active equalization vs. the space between the notes, and so on), but a well-sorted sub like the R-328 can work wonders. They can even be hidden as low side tables (just remember not to water plants on them). The only downside is they are addictive. You start with one, and pretty soon you have three or four...+



TECHNICAL SPECIFICATIONS

REL R-328 subwoofer

Drive Units: Custom-Designed 254mm long-throw front firing drive unit, 305mm down firing passive radiator.

Inputs: Line level phono, speaker level Neutrik Speakon (cable supplied)

Amplifier: 350 Watt high-current Class D power amplifier.

Dimensions (WHD): 34x38x39cm (height includes feet, depth includes grille).

Weight: 20.4 kg.

Price: £999

Manufactured by REL Acoustics

URL: www.rel.net

Tel: +44(0)1656 768777

EQUIPMENT REVIEW

VPI Classic 3 Turntable

By Neil Gader



I know I'm going to be chided for what I'm about to say but I love a turntable that looks like a turntable, in the classic sense. By that I mean, a single chassis design, with a piano black base while I'm at it, and parts enclosed and internalized rather than externals popping up on outboard pods, pillars and modules. Many turntables today resemble either an icy edifice reminiscent of Superman's Fortress of Solitude while still others have a gimmicky, comic book sense of the surreal like some designer channeling his inner Salvador Dali. To each his own. By my admittedly curmudgeonly standards, the VPI Classic 3 is well named—classic all the way. An old school, Lucite-free spinner.

Fittingly, the VPI Classic 3 takes the proven platform of Harry Weisfeld's original Classic and Classic 2 efforts and essentially upgrades and hot rods the living hell out of them. The fixed (unsuspended) plinth is 13mm-thick machined aluminium bonded to a 6mm steel subplate. The subplate is in turn bonded to 50mm of MDF. The result is not merely damping via mass but a sandwich of dissimilar materials, helping to eliminate resonances. The hefty footers have been redesigned for greater balance and isolation. The platter is an 8kg, machined 6061T aluminum on an inverted bearing and stainless-steel damping plate. The base is a scrumptious piano black. ▶

“The VPI Classic 3 take the proven problem of Harry Westfield’s original Classic and Classic 2 efforts and essentially upgrades and hot rods the living hell out of them.”



B&W Bowers & Wilkins 800 Series Speakers

CLONEY
Audio

55 Main St Blackrock, Co Dublin
Tel: 012888477/ 2889449
www.cloneyaudio.com

“This Amplifier is faithful
to the original recording”



ASR EMITTER II EXCLUSIVE

Tel: 0161-304-0099
www.manger-audio.co.uk

Analogue Seduction
Where music is our passion



See the review of the VPI Classic 3 on page 70.

Analogue Seduction are dedicated towards two channel Hi-Fi, specialising in vinyl replay. Specialists in all VPI turntables.

As well as our on-line shop we have dedicated demonstration retail facilities based in Peterborough, Cambridgeshire and we can offer our customers home demonstrations.

We stock the finest in amplification, analogue, digital replay and speakers. We also specialise in a cable termination and cable burn in service.

Please visit our website www.analogueseduction.net to browse or purchase products that are not easily available elsewhere.

New vinyl records now stocked

Tel: +44 (0)1733 350878

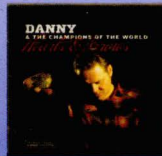
diverse vinyl

The UK's largest stockist of brand new LP releases, reissues and audiophile formats.

Over 3000 LPs in stock plus a large range of new CDs & SACDs

COMING SOON ON DIVERSE RECORDS:

Richmond Fontaine
'Post To Wire'
180g Single LP & 7"
Heavyweight Gatefold Sleeve



COMING SOON ON DIVERSE RECORDS:
Danny & The Champions Of The World
'Hearts & Arrows'
180g Single LP
Heavyweight Sleeve

tel. 01633 259661

www.diversevinyl.com



**"vinyl is not dead...
it just needs a new
turntable!"**

John Peel



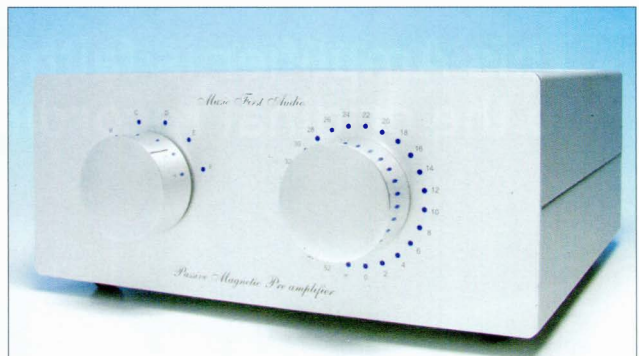
Scan me to go to the
Diverse Vinyl homepage.



Did you know that many of the adverts you see in the 'UK Hi-Fi magazines' are created by us? We arguably design more Hi-Fi adverts in the UK than any other design agency and have done so for over five years. Why not see how we can help you?

audiography

email. design@audiography.co.uk web. www.audiography.co.uk
mobile. 07590 900 320



**"...so good I swear it is
surrounded by magic"**

- Noel Keywood ~ Hi Fi World

Our award winning Hi Fi products are hand made in Hastings, East Sussex on the south coast of the UK

They let you hear your music the way it was recorded

Please contact us to arrange a demonstration of
in the comfort of your own home



www.mfaudio.co.uk :: info@mfaudio.co.uk :: +44 (0) 1424 858260

▶ The tonearm is unique to the Classic 3, an advanced variant of the JMW. It's a unipivot design that has been rigorously updated with a new stainless-steel arm tube, bearing assembly, mounting base, and Nordost Valhalla wiring straight through from headshell to the Swiss-made LEMOs plug and socket and into the termination block. It offers turn-knob VTA adjustment. Overhang and rake are manually adjusted by shifting the cartridge on the headshell. While there is no built-in tracking-force gauge, any number of aftermarket devices can do this trick. VPI includes the Shure gauge for good measure. The floating unipivot design also makes the tonearm a dream for users who are inclined to make cartridge-swapping a way of life. Just pull the cable plug from the socket, slip off the anti-skating thread, and the entire tonearm/counterweight lifts off. The only thing faster would be a removable arm wand, which VPI makes optionally available for all of its tonearms.

“I like the heft and substance of its components and the sure feel of its controls, from the side mount on/off toggle to the headshell lift and cue control.”

The Classic 3 isn't just a 'table/arm combo but arrives as a bundle complete with VPI's Periphery Ring Clamp (PRC) and HR-X Center Weight. The former is, as the name implies, a beautifully machined halo of non-magnetic stainless steel whose only contact point with the record is the outer lip that just kisses the vinyl's edge before the lead-in groove. When it is used in conjunction with the HR-X Center Weight, edges and warps are effectively flattened, resonances dampened, and overall coupling of the vinyl to the turntable surface improved. Operationally it's a bit awkward to use, but its benefits are undeniable. And this tandem makes life easier for cartridges, all of which rely on seeing the flattest possible surface within the groove—all the more so for a unipivot tonearm, which, unlike its fixed-bearing pivoted cousins, can tend to roll laterally with a record's undulations. Short of a full-on vacuum system, the PRC is the way to go.

VPI maintains that thanks to the length and resultant geometry of the 10.5" tonearm little if any anti-skating is ever required. And, cleverly, the specific twist of the tonearm cable and its insertion angle into the adjacent five-pin plug actually compensates adequately under most circumstances, says Weisfeld. However if more is needed a mechanical system is also included. Finally, the Classic 3 arrives complete with set-up tools that include an alignment protractor for overhang, a narrow rod for assisting in azimuth adjustment, plus an extra belt.

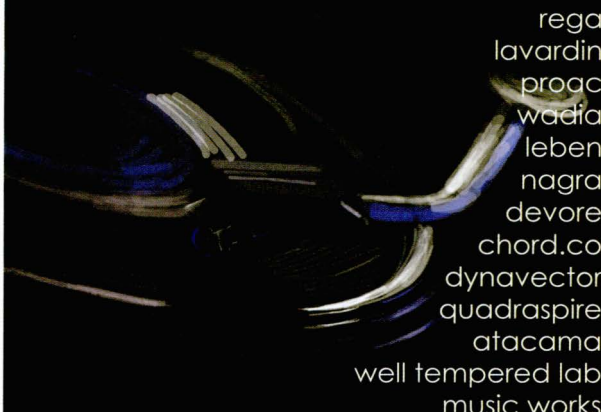
Usability is superb. I like the heft and substance of its components and the sure feel of its controls from the side-mount on/off toggle to the headshell lift and cue control. Changing speeds from 33 rpm to 45 rpm is a simple matter of slipping the belt down to the wider diameter portion of the pulley. Operationally, the only set-up area that made me feel a bit ham-handed was setting azimuth. It can be accomplished in two fashions. The first option is to swivel an azimuth adjustment ring towards the side that appears lower

SOUNDSMITH COUNTER “INTUITIVE” AND E-Z MOUNT SCREWS

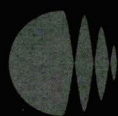
As if intuiting my azimuth problems Harry Weisfeld referred me to Peter Ledermann, president of SoundSmith, a cooperative of designers, mod-experts, and other resident electronics wizards. They've created the Counter Intuitive (CI)—a polymer damping ring that fits around the VPI's existing counterweight and allows fine independent adjustments for both tracking force and azimuth settings. It comes with a self-adhesive scale that is applied by wrapping it around VPI's counterweight. The scale can be marked with a Sharpie to note settings for specific cartridges or if you're using a single CI and swapping out armwands. Merely slip the Counter Intuitive around the scale and you're good to go. Ledermann recommends performing both tracking force and azimuth adjustments in the normal manner with the VPI counterweight. Only when those adjustments are as close to ideal as possible, should you begin moving the Counter Intuitive. Like I said it's a fine-tuner. For azimuth, lightly rotate the ring to the right or left around the counterweight.

The other gizmo I can't speak more highly about is the EZ-Mount cartridge screw set. Delivered in a set of four pairs (nylon, aluminum, stainless, and brass, plus nylon washers and stainless nuts), they have an easy to tighten knurled knob on top eliminating the need for mini-hand tools. Since they range in weight from 1.04 gram a pair for nylon up to 6.24 gram a pair in brass, you can use them to add or remove headshell mass, depending on the cartridge and tonearm. All you need are your hands to install the EZ-Mounts, particularly on pre-threaded cartridge bodies, and they make adjusting cartridge alignment really easy since they're a breeze to untighten, move, and retighten. Genius. ▶

where sound
becomes **music**



rega
lavardin
prog
wadia
leben
nagra
devore
chord.co
dynavector
quadraspire
atacama
well tempered lab
music works



SONATA
high-fidelity

west hampstead london

0330 111 5653 www.sonatahifi.com rob@sonatahifi.com

Analogue Seduction
where music is our passion
Αναλογική Seduction



See the review of the VPI Classic 3 on page 70.

Analogue Seduction are dedicated towards two channel Hi-Fi, specialising in vinyl replay. Specialists in all VPI turntables.

As well as our on-line shop we have dedicated demonstration retail facilities based in Peterborough, Cambridgeshire and we can offer our customers home demonstrations.

We stock the finest in amplification, analogue, digital replay and speakers. We also specialise in a cable termination and cable burn in service.

Please visit our website www.analogueseduction.net to browse or purchase products that are not easily available elsewhere.

New vinyl records now stocked

Tel: +44 (0)1733 350878



REFERENCE SERIES
LOVE MUSIC - DEMAND PERFECTION

'It's a speaker that delivers a sublime performance for real-world people in real-world homes using real-world systems at something approaching a real-world price.'

Model 201/2, Hi-Fi+, Issue 74

www.kef.com

KEF 50
INNOVATORS IN SOUND YEARS

Audio)) Destination
Devons audio specialists

Experience the world famous KEF Reference Series at the dedicated demonstration rooms at Audio Destination. Regarded by many as the benchmark for high-end audio loudspeakers, KEF's Reference Series is legendary for its clarity and precision.

Join us in the relaxed and comfortable surroundings of the show room for an expert demonstration from the Audio Destination team.

Audio Destination, Suite 7a, Market Walk
Tiverton, Devon, EX16 6BL
www.audiodestination.co.uk
01884 243 584

GP Acoustics (UK) Limited, Eccleston Road, Tovil, Maidstone, Kent, ME15 6QR U.K.
Telephone: +44 (0)1622 672261 Fax: +44 (0)1622 750653

▶ or alternatively, pivoting the counterweight ring slightly to the right or left. However if you're not careful that can alter tracking force as well. Check out the accompanying Sidebar for a cool solution to this quandary.

The first step I take in evaluating a turntable is to listen for, hopefully, no evidence of start-up chatter, motor rumbles, or resonances from the chassis. The Classic 3 was, in a word, excellent in all these regards. There was a bit of feedback, which I created by tapping along the side of the base. It wasn't perceptible during listening, but as always turntable placement is paramount in order to limit the nefarious effects of airborne or physical feedback.

Sonically the character of the Classic 3, to the extent that one can be isolated from the stylus/phono preamp interface, is fast, lucid, and responsive. Rhythmically the VPI has a charismatically upbeat, forward-leaning personality that will take a heavy groove like Yes' 'Owner of a Lonely Heart' [Atco] and lock onto it like a vise. In combination with the superb Parasound Halo JC 3 phonostage this playback system was almost chameleon-like in the way it discerned the finest gradations and differences between cartridges—from the rich slightly romantic Sumiko Palo Santos Celebration to the more sinuous, speed-addicted Ortofon 2M Black, meanwhile HP himself admitted to being very partial to Benz, Clearaudio and Dynavectors. This in and of itself demonstrates how little coloration the VPI adds to the sonic picture.

During Copland's 'Fanfare' from Atlanta Brass Ensemble's *Sonic Fireworks* [Crystal Clear], I felt the Classic 3 revealed special talent in the lower frequencies for pitch clarity and timbral detail as the tympani and bass drum began their bombing runs. There were no traces of mistracking in these deep grooves, just thunderously well-resolved impact. While my own SOTA/SME rig edges out the VPI in terms of sheer hellacious impact and extension, the VPI plays a very close second fiddle.

However, the highest praise I can give a turntable is the way it imparts speed and unwavering tracking stability to a recording. With the Classic 3, music simply locks in and asks you to enjoy the ride. Whether it's a flotilla of orchestral and choral images from the Bernstein conducted Carmen or a solitary arpeggio from Michael Newman's classical guitar on the Sheffield direct-to-disc, notes appear cleanly struck, fully retrieved, and devoid of ambiguity. I noted this same effect when I listened to the SME 30/12 with the twelve-inch version of the SME V tonearm a couple years ago. It conveyed the sense that the system had moved beyond merely riding the groove. It had transcended the mechanics and become an integral part of the record itself. A great piano recording like 'Nojima Plays Liszt' [Reference Recordings] is an exemplary demonstration disc in this regard. Any turntable will allow you to hear the basic sound of the concert grand piano, but what the Classic 3 will do is let you hear the piano in its full and awesome power. It will impart the weight and breadth of the instrument on stage, the micro-dynamic delicacy and intense power of Nojima's touch on the keys. Or the way the soundscape lightens or darkens as harmonics gather and disperse. On a track like Dire Straits' "Private Investigations" a song that emerges with all the twists and turns of a le Carré novel, the VPI doesn't flinch in the face of its weird ambience, vertiginous panning, and found-sound minutiae. Sonic complexities like these leave it utterly unruffled. It's all there, rock solid, immovable, and alive within the soundstage.

First published in The Absolute Sound issue 216

"The character of the Classic 3, to the extent that one can be isolated from the stylus/phono preamp interface, is fast, lucid and responsive."

The VPI Classic 3 is an exceptional effort by a company that knows the analog landscape like few others. With each spin it invites you to become reacquainted with every record in your collection. A class-leading product by any yardstick. Simply put, a class act. +

TECHNICAL SPECIFICATIONS

Wow and flutter: Less than .02%

Rumble: Greater than 80dB down

Speed accuracy: Within .1%

Dimensions: 20.5" x 15.5" x 10"

Weight: 65 lbs.

Price: £5,854 (inc. arm)

VPI INDUSTRIES, INC

URL: www.vpiindustries.com

Distributed by:

ANALOGUE SEDUCTION

URL: www.analogueseduction.net

Tel: +44(0)1733 350878

SOUNDSMITH

URL: www.sound-smith.com

Distributed by:

ARTISAN AUDIO

URL: www.artisanaudio.co.uk

Tel: +44 (0)1494 858471

hi-fi+

is now available for iPad and iPhone

EQUIPMENT REVIEW Tannoy Definition DC10T

By Alan Sirhan

I had started down the Tannoy review with high hopes of Tannoy super-tweeters. I'd looked up Kingdome 74, and expected to begin my Definition DC10T review with something like "wow. Hat a day later, all I'd get is 'if you can bang your head when all about you are turning it down and blaring it on 'hot', and 'you're a Tannoy fan, my son!' hardly worth the effort really, but at least Kipling fans can sleep safe in knowing the poem goes unforgotten for another month.

But the Definition DC10Ts are worthy of some epic words. Because they are epic. They look good, sound good, are easy to drive, will sound fine in big rooms and small, are practically impossible to blow up (even if you believe me) and put a huge smile on your face.

These are the largest of a three-model range the others are a smaller DC8T floorstander and a single two-way driver DC8 standmount. The Definition range itself represents the upper-middle Tannoy tier – above the classic Kingdome Royal, the Prestige ranges, and the mighty Kingdome Royal. The DC10T features Tannoy's distinctive 254mm (10-inch) Dual Concentric driver – a large doped paper drive unit with a 25mm Tullio Waveguide horn-backed titanium cone tweeter built into the acoustic cavity of the driver unit. The tweeter here is one of Tannoy's Woodland designs, extending up into the super-tweeter range. A matching treble pup 254mm bass driver (only without the tweeter) sits below the dual concentric unit.

Tannoy's love of the super-tweeter (the one reaches to 35kHz) is based in part on the idea that instruments have extended ranges beyond the audible and the Cochran experiments that show human brain states are more in line with the original unamplified music when listeners are played recorded music that retains the extended frequency range. Controversy still rages over the relevance of this in real-world listening, but regardless metal dome tweeters that extend far outside of conventional hearing are routinely seen going ringing effects in our audible range.

The cabinet is a thing of beauty. It's a high gloss curved and elegant, tapering with two rear-firing ports above the tweeter panel and a chrome curve along the bottom edge to match the cone surrounds, which looks fantastic in the right room. It's a bottom-heavy loudspeaker, which means the loudspeaker's lines don't need to be broken up with a large plinth. It's also not broken up by rivets for the speaker grille, as they are affixed magnetically. Physically, this size of speaker demands a medium-to-large room, even though the speaker doesn't seem troubled by the room itself. The speaker is best a couple of feet from the rear and side walls, but once again



EQUIPMENT REVIEW | Tannoy Definition DC10T

the speaker is not that busy and been lunge can help put the speaker up against the rear wall.

One of the unique aspects of the rear panel is that each speaker terminal. It's an earthing lug connection for amplifiers with a similar grounding terminal, which is said to enhance dynamic range and cut down on 180-degree interference.

I say "said to" because stability grounding needs were first on the ground plan because when the wires were in progress. Behind the terminal is some discrete safety technology: optically isolated components in the crossover network and wire-rated high-purity copper in the hook-up wire.

Like most Tannoy speakers, the DC10T is happy with quality over quantity when it comes to amplification. It's listed as a 100W efficient, eight-ohm impedance loudspeaker, but although that means on paper it can be driven by practically anything, it needs greater amplifier muscle than it first seems. I was happy with three power bits the Musical Fidelity M3 power amp, tested in this issue, and with the Denon D-Power (tested last issue) that it was with lower power amps. However, a good low-powered amplifier worked well too, and the SugaPro AC12 delivered a fine performance.

"This size of speaker demands a medium-to-large room, even though the speaker doesn't seem troubled by the room itself."

My biggest job as a reviewer of these loudspeakers is not to overstate their bigger strength. But it's difficult, these are possibly the most fun you'll have with a set of speakers. Driving them is like being in a baroque room or later they both end up being the excuse for a party in the case of the DC10T, and up to being Duff Punk and Black Eye Pass albums... and DC10T isn't and up to being Duff Punk and Black Eye Pass albums... and loving them. This is because they can take a lot of punishment, go back in an appreciable manner without tiring and by over a whole bass line.

Perhaps a little "hot" would, as in its very power. This is not done dependent, though, it's just deep and powerful. This is highly useful for some listeners – those of us who love good bass line will love it even more through the DC10T, but if you listen to the all-in-one, like in Duff Punk by L.A. or not, it's good bass, then, power and authority feel of bass. But you need to be one with and over Jack Black list.

If you've never used the term "bargain choice" it's a sentence or two more security. I don't know, like the Angus Young and headbanger for an afternoon, the DC10T still has a lot to offer. Its appeal is very much all the more and if music makes you, some waves of music can be done, but it's not the DC10T's strong point. This is about the



the absolute sound's

hi-fi+

REPRODUCING THE RECORDED ARTS • 76

POWER UP WHY AESTHETIX AMPLIFIERS SET THE NEW STANDARD

Attack
return of the
dophone king
mDAC
outer audio's
low-price pal
Fidelity,
VTL, Z-Axis

ATLAS

BAL I



hi-fi+ can be downloaded to your Apple iPad easily as a **subscription**, **single issues** or **back issues**.

For more details visit www.hifiplus.com or search for 'Hi-Fi+' on the App Store.

EQUIPMENT REVIEW

HRT HeadStreamer USB headphone DAC

By Alan Sircom

The HeadStreamer is an USB-powered, external sound card for headphone users. It's virtually a HRT Streamer II, with the isolation stage removed. It features Asynchronous USB input, sampling to 96kHz, bit depths up to 24bit, jitter, distortion and signal/noise ratio far below our abilities and capable of driving surprisingly difficult headphones (up to a point). Nevertheless, it draws less current off the USB bus line than its predecessor at just 200mA. It's about two-thirds the length of standard HRT streamers.

As it shares the same Audio Class 1.0 protocols with its stablemates, it means there's no need for loading up custom drivers for Mac, PC or Linux computers. Plug it in, click to whatever prompt box your operating system demands and the HeadStreamer is waiting for you.

As mentioned before, for an USB-powered headphone device, it's capable of driving relatively difficult headphones. The minijack input is a self-selecting device, in a way. Anything with a minijack – even if it's got a ¼" jack adaptor bolted on the end – will be happy with the HeadStreamer, but those rare headphones with ¼" jack sockets on their own (like the HiFiMan HE500) will tend to be ill-matched, in their own distinctive manners. The HeadStreamer had absolutely no problems whatsoever nailing the demands met by real-world Sennheisers, Grados and pro-Sony headphones, and any earphone I've run into thus far.

There's a fascinating and almost irresistible two-second demonstration you can play with the HeadStreamer – just compare it to the one built into your computer. I confess to doing a fair bit of headphone listening of late. Powered by the 9th macchiato of the day, headphones like the Sony MDR-7506 drown out the sound of the nearby Costa and let the words flow. And I must also confess to not bothering with anything other than the standard headphone output at the side of my MacBook Air.

Even in that noise-polluted environment, the difference between computer and HeadStreamer headphone output was significant, almost instantaneous and profound. Surprisingly, it's not about veils being lifted, or improved detail (although there does seem to be a more accurate, more detailed presentation with the feeling of less stages between studio and listener through the HeadStreamer). Instead, it's about control. The HeadStreamer gives headphones a sense of 'grip' that makes music and especially the bass snap into fine relief and pin-sharp focus.

Headphones generally trade imagery for precision, and the HeadStreamer capitalizes on that trade-off, making the headphones it controls more precise, especially in transitions across bass and mid. That means you can listen deeper into the mix, past what the headphones and computer are doing... and it does that universally.

This is a key new category product, and the HeadStreamer is, er, ahead of the game here, but the price and performance make it a real winner. +



TECHNICAL SPECIFICATIONS

Full Scale Output: 1.40 Volts RMS

Output Impedance: <1 Ohm

Output Power: up to 130 mW

Frequency Response (20 Hz / 20 kHz):
+0db / -.4dB

Noise Floor (DC to 30 kHz): 18 µV RMS

S/N Ratio (DC to 30 kHz): 100 dB

S/N Ratio (A-weighted): 103 dB

THD+N (1 kHz Full Scale): 0.008%

THD+N (1kHz -20 dB): 0.0006%

Jitter contribution (DC to 30 kHz): 130 dB
below full scale

Attenuator range: 50, 1 dB steps

Sample Rate: up to 96 kHz

Bit Depth: up to 24 bit

Asynchronous USB transfer protocol

Power Requirements (USB Buss): 200 mA

Dimensions (WxHxD): 6x2.5x7.4cm

Price: £145

Manufactured by: High Resolution
Technologies

URL: www.highresolutiontechnologies.com

Distributed by: Audiofreaks

Tel: +44(0) 208 948 4153

URL: www.audiofreaks.co.uk

Benz-Micro SLR Gullwing

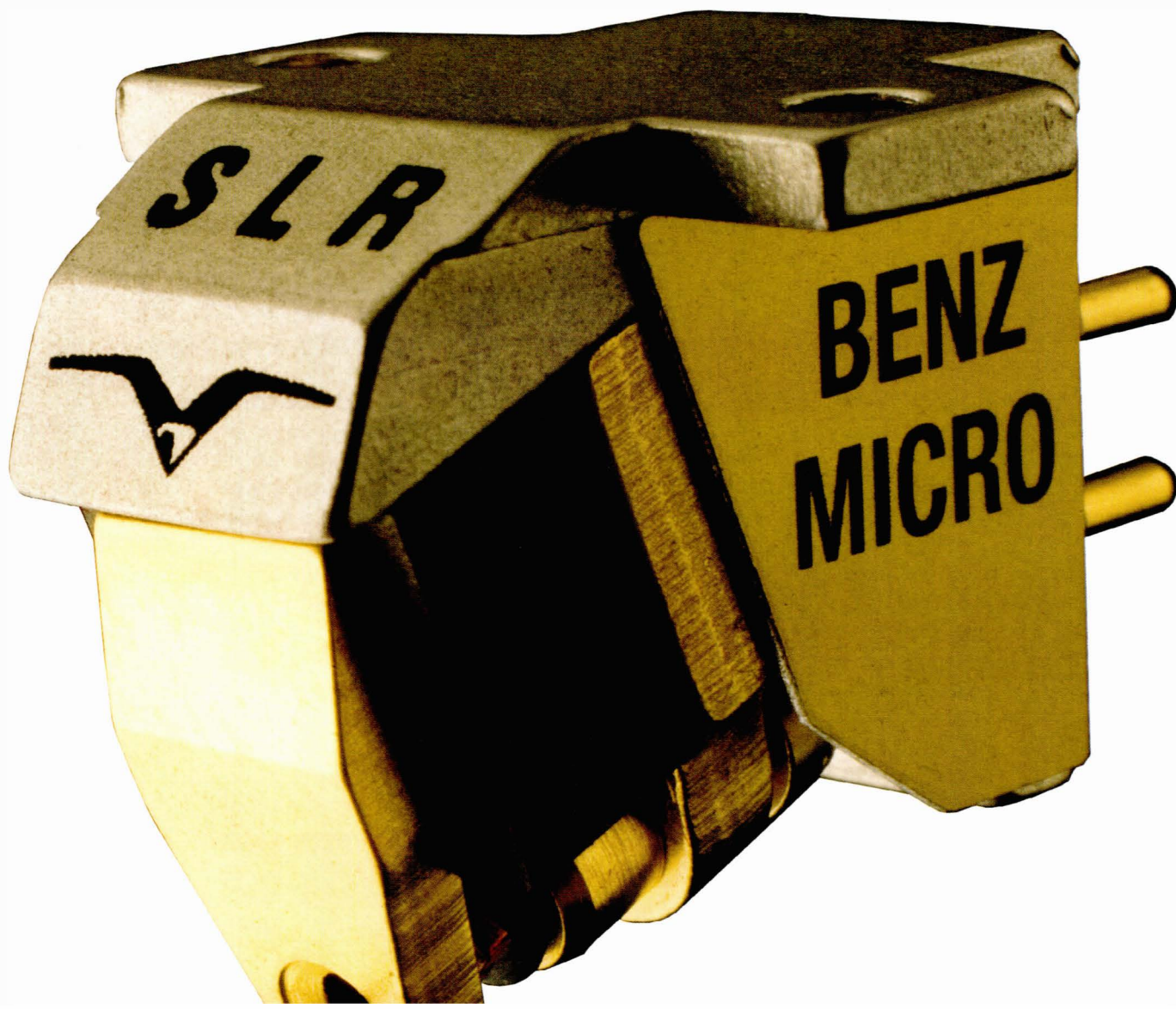
By Alan Sircom

A while ago, I summed up the Benz Micro SLR Gullwing in a pithy acronym-rich sound-byte: "SME+SLR=OMG!" It fitted the bill perfectly, because I'd not heard my SME arm in my SME turntable sound quite so good as when it was using the SLR for the purpose of needling. In hindsight, I got that wrong. It's not that the combination worked particularly well, it was that the cartridge works so well, it bestows that improvement on anything it touches.

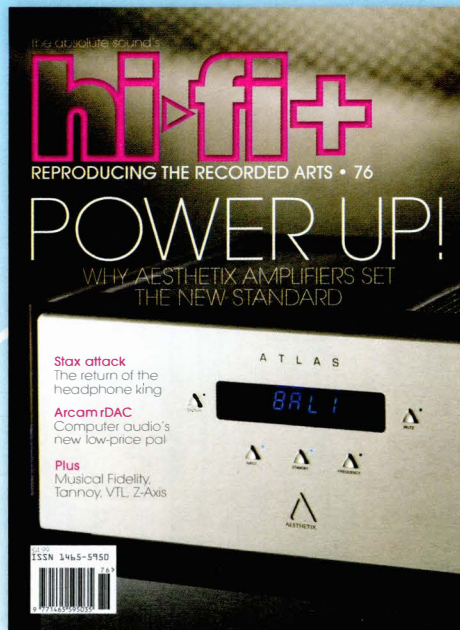
Round Two started out as a correction. It uses a Dynascan S profile, with a Gyger S tip side-bonded to a boron cantilever. The difference is subtle, but it points to new development in the cartridge design. But in the process, I realised I'd missed so much more, especially as I was getting some profound performance out of the cartridge itself.

This was a long, slow build-up of opinion, based on slotting the cartridge into a number of different turntable and arm combinations. I found myself

liking the sound of the turntable and arm combination more and more each time the SLR Gullwing slotted in the headshell. A combination of denuded cartridge and vanity (reading glasses? Pah! I'll just take the blinding headaches and the one hour per paragraph reading speed) makes slotting the SLR into a headshell 'fun', but despite the skeletal nature of the beast, the moving magnet cartridge has thus far been the perfect turntable host. ▶



back issues <<



the absolute sound's hi-fi+

« Complete your collection – new, previously lost issues available *

*Back issues sold out: 1,2,4,6,9,14,15,26,36,38

« Read previous reviews of the UK's best loved audio magazine

ORDER TODAY!
www.hifiplus.com

POSTAGE & PACKING:
£4 each or 3 for £10 (plus postage)
UK: £1/Magazine
Europe: £3/Magazine
Rest of World: £5/Magazine
UK orders are sent by Parcel Post, please allow 2 weeks for delivery. Overseas orders are sent by air mail.

TOTEM

ACOUSTIC



Shown: Element Metal (NEW)

breathing real life and space into the music and movies you love

Ceritech Audio
Wales 0844 736 5719

Studio AV
Eton 01753 631000

Audio Council
Manchester 0161 491 6090

O'Brien HIFI
London 020 8946 1528

Rayleigh HIFI
Rayleigh 01268 779762
Chelmsford 01245 265245
Southend 01702 435255

Loud & Clear
Glasgow 0141 221 0221
Edinburgh 0131 555 3963

Moorgate Acoustics
Sheffield 0114 275 6048

► It's a relatively low-output cartridge – delivering just 0.35mV – and it's a heavy beast too, thanks to that brass backbone, weighing in at a shade over 12g. That places some limits on the choice of arm, but if you are using a cartridge of this calibre, you are likely in SME or Graham territory and you'll find it not a problem. Certainly it behaved fine in practically every arm I've used with it and wasn't too much of a strain even for the Funk FXR II, despite the arm weighing a fraction of the weight of the cartridge. The moderate compliance (roughly 15µm/Nm) of the cartridge gives it a lot of scope, but is best with arms of an effective mass of between 10-25g, which makes it perfect for modern SMEs, Gramms, TriPlanars, Kuzmas, etc.

I have subsequently played around with phono stages to find a perfect match and in fairness it isn't that difficult, either. There is always a balance between sounding too bright and too flabby and the cartridge's loading would put that somewhere close to a 1kΩ setting or even closer to the >400Ω load required by the cartridge's 38Ω impedance. But I find it remarkably forgiving (perhaps this isn't so surprising; the company's own Lukashuk PP1 phono stage has a fixed 22kΩ impedance setting and Benz would

“The sort of detail and transparency that makes you think of master tapes”

want it to work with its own kit) and perfectly happy in almost any MC stage worthy of the name. I don't use step-up transformers in daily life any more, but there has been discussion that the non-iron ruby/neodymium generator in the cartridge isn't a fan of transformer-coupled phono stages. I can't check this either way. All I know is, the more I listen to the SLR Gullwing, the happier I get.

As I said in issue 79, I found my sample tracked perfectly at 1.85g. As I now feel I barely touched upon in issue 79, the sound of this cartridge tracking at 1.85g was sublime. It manages to combine the sort of detail and transparency that makes you think of master tapes (back in the day when there were master tapes, as opposed to files) with the kind of sweetness and simply an inviting sound that explains why vinyl is still so enduringly popular. The more I listened to the SLR, the more I found the words 'lovely' and 'sweet' forming in my head. Dynamic shades of sound unable to parse on other cartridges I've tried, peeled away to allow subtlety and finesse to a depth I'd not considered possible before.

I want to call this sound 'creamy' but that makes it read like it's some way colored by the Benz sound. It isn't at all. The sound is accurate and beautifully natural, just 'creamy'. Like you want music to sound. Like you are in the room with living, breathing musicians in a three-dimensional space. It's uncanny.

Just as the deadline loomed large, a new label – Gearbox Records – came up with a couple of belter albums. One – *Jazz Jamaica All Stars Massive Vol 1* – is a fine never-before-on-LP modern jazz cut with ska, reggae, you name it mixed in for good measure. It is a tough call for a cartridge because there's so much going on (the musician roll-call is long enough to be the cast list for a war movie) and the SLR decodes and presents this like it's the easiest thing in the world. It's not simply about good tracking (although I think it could track a ploughed field), this is something greater than the sum of the parts.

Having spent enough time working with the SLR Gullwing, I discovered that objectivity is next to impossible, because I'd bonded with the cartridge. Unlike electronics components, where people often change their allegiances, cartridges and loudspeakers engender a surprisingly loyalty. In a way, it's closer to a marriage than any other aspect of hi-fi. Having spent a bit more time with it, I have become more sanguine; perhaps the spectacles are just as rose tinted, but I can see why others don't share my enthusiasm and have picked their own cartridge 'partner'. Given my temperament, the SLR and I will probably grow old together, although I reserve the right to run off with a saucy young Dynavector sometime in the future.

I started this revisit with the “SME+SLR=OMG!” equation. It has too many variables in it, I have discovered over the months. You can simplify it down to “SLR=OMG!” It's a fantastic cartridge, simply one of the best you can buy, as distinct and yet every bit as good as the legends from Lyra, vdH, Dynavector, Koetsu and all the other cartridge titans. For me, for now, the search has ended. That is, unless the really big Benz boys (like an LP S-Class) turns up... +

TECHNICAL SPECIFICATIONS

Design: Low-output moving coil cartridge

Output: 0.35mV

Stylus profile: Dynascan/Gyger S

Stylus: 5x120µm

Impedance: 38ohms

Loading: >400ohms

Weight: 12.2g

Compliance: 15µm/Nm

Tracking: 1.8-2.0g

Price: £1,999

Manufacturer: Benz-Micro

Distributor: Select Audio

URL: www.selectaudio.co.uk

Tel: +44(0)1900 813064

Room Acoustics V: Good vs. Evil room shapes

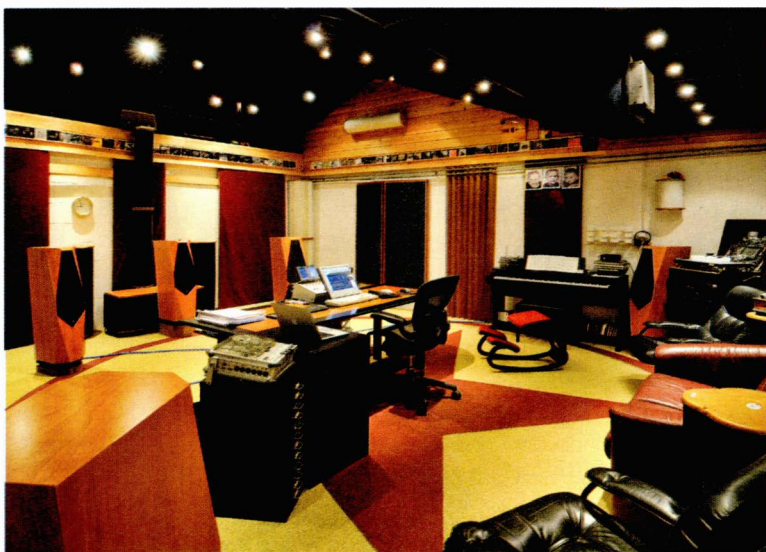
music matters

By Alan Sircom

If there is a mantra that is common to the pro and domestic audio world it is this; never listen in a square room and never, ever listen in a cube. The reason for this comes down to standing waves; if your room dimensions are identical, the propensity for some notes to predominate and some to virtually disappear is huge. A close second in horror rooms for audio purposes is an L-shaped room (or a room opening out into an ell), followed by anything with an alcove behind the loudspeakers.

In professional acoustics (as in, the design of auditoria, concert halls and theatres), the best spaces are disputed, with designers proffering complex spaces (such as the Philharmonic Hall, Berlin) and halls where the audience surrounds the orchestra (Disney Concert Hall), but many of the best concert halls in the world (Vienna Musikverein, Boston Symphony Hall) are essentially large rectangular 'shoebox' spaces. It's worth remembering that what works well in a symphony hall (a reverberation time measured in seconds, for example) will not sound good to the living room listener and that the demands of a hall (specifically to allow the maximum number of people to be able to hear the best sound possible) do not necessarily apply to domestic listening. However, it seems clear that the best listening space is generally a rectangular room.

There is a move in studio acoustics circles to build custom non-parallel control rooms, to help reduce standing waves. This is also considered the *ne plus ultra* by some audiophiles such as George Cardas. I'm not convinced, although this doesn't stem from the acoustics; flutter echoes – high-frequency sound bouncing back and forth between parallel walls – are eliminated by a non-parallel construction. The trouble is, this has to be a place that you live in, and non-parallel rooms don't tend to work well from a psychological perspective. If the room sounds fantastic, but its layout makes you feel as if it's closing in on you, it's not a good room.



“In fact, one of the best sounding systems I’ve ever heard was in one of the worst possible places from a technical standing.”

In fact, one of the best sounding systems I've ever heard was in one of the worst possible places from a technical standing. Bert van der Wolf's Northstar mastering room in Holland is a square breezeblock construction, about the size of an extended car garage. The best spot is where the listener sits, near to the centre of the room. OK, so the room is designed for multi-channel audio (five Avalon loudspeakers and a subwoofer, driven by a short stack of Spectral power amplifiers and Siltech cables), the room does have a low pitched roof running across the front section and the room is mildly treated with Acoustica Applicata room acoustic equipment, but principally this is an all wrong room that sounds all right. More than all right in fact... wonderful.

In general, with a combination of UK house-building construction techniques and planning permission, the dedicated listening room is a rare treat here. So many of us learn to make do and listen past the iniquities of a normal room. In an ideal world, we'd all have dedicated spaces 26' long, 16' wide and 10' high, the reality is we try to make the best of whatever hand life – and the mortgage broker – ends up dealing us. +

Photography by Werner Ero

EDITOR'S CHOICE
HI-FI CHOICE
magazine

EDITOR'S CHOICE
HI-FI CHOICE
magazine

hi-finews
HIGHLY
COMMENDED

AR

AUDIO REFERENCE
SUPPLIERS OF FINE AUDIO EQUIPMENT

GAMUT S1100
Hi-Fi News: Highly Commended September 2008

GAMUT D1150
Hi-Fi Choice Editor's Choice: January 2006
Hi-Fi Choice: The Hi-Fi Awards 2006 Bronze Award

GAMUT CD3
Hi-Fi Choice Editor's Choice: January 2007
Hi-Fi Choice: The Hi-Fi Awards 2007 Bronze Award

www.audioreference.co.uk
info@audioreference.co.uk

0 1 2 5 2 7 0 2 7 0 5

I believe

that in the past we debated brands and physical formats... whereas today we're debating physical interfaces and digital formats

find better connections with soundlocation, specialists in Siltech, MIT, Bertram and others

www.soundlocation.co.uk t. paul 07973-253136

subscribe}

hi-fi+

In order to ensure prompt arrival of your copy of hi-fi+, it is best to take out a subscription. This lasts for a year (10 issues) and means that your magazine is delivered to your doorstep as soon as it is published. You never miss an issue again!



SPECIAL OFFER!
SAVE 25%
1 year subscription
SAVE 36%
2 year subscription

FEATURE

Classic Album Living Room at Vintage

By Alan Jones

CLASSIC ALBUMS are a very effective way of introducing new artists to the hi-fi world. It's a fact that has been demonstrated time and time again. In the 1950s, the LP was the only format available to the consumer when making the buying decision.

It was an album that allowed the listener to hear an artist's music in a relaxed, comfortable environment. The LP was the only format available to the consumer when making the buying decision. It was an album that allowed the listener to hear an artist's music in a relaxed, comfortable environment. The LP was the only format available to the consumer when making the buying decision.



EQUIPMENT REVIEW

CLASSIC ALBUM LIVING ROOM AT VINTAGE



CLASSIC ALBUMS are a very effective way of introducing new artists to the hi-fi world. It's a fact that has been demonstrated time and time again. In the 1950s, the LP was the only format available to the consumer when making the buying decision.



Left: The vinyl record player, right: the turntable, and below: the classic album living room at Vintage.

TO SUBSCRIBE COMPLETE THIS FORM BELOW AND RETURN TO:

hi-fi+ Subscriptions, Unit 8 The Old Silk Mill, Brook Street, Tring, Hertfordshire, HP23 5EF, UK
OR CALL: +44 (0) 1442 820580
OR EMAIL: hifiplus@webscribe.co.uk
VIA THE WEB: www.hifiplus.com

I would like my subscription to start from current issue / next issue (please delete as appropriate)

One year Two years

ABOUT YOU:

Title
 Forename
 Surname
 Address

Country
 Post code/Zip code
 Daytime Tel

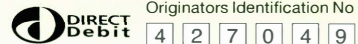
PAYMENT:

UK Europe, USA & Canada Rest of World

Cheques made payable to **Absolute Multimedia UK Ltd.**

Visa Mastercard

Card no.
 Expiry date
 Switch
 Card no.
 Issue no. Expiry date



Instruction to your Bank or Building Society to pay Direct Debits

Name(s) of account holder(s)
 Bank/Building Society account number
 Branch sort code

Name and full postal address of your Bank or Building Society branch.
 To: The Manager Bank/Building Society

Address
 Country
 Post code/Zip code

Instruction to your Bank or Building Society, Please pay Webscribe Ltd Direct Debits from the account detailed in this instruction subject to the safeguards assured by the Direct Debit Guarantee. I understand that the instruction may remain with Webscribe Ltd and, if so details will be passed electronically to my Bank/Building Society.

Signed
 Date

Bank and Building Societies may not accept Direct Debit instructions for some types of account

The Direct Debit Guarantee
 This Guarantee is offered by all Banks and Building Societies that take part in the Direct Debit scheme. The efficiency and security of the Scheme is monitored and protected by your own bank or Building Society - If there are any changes to the amount, date or frequency of your Direct Debit Webscribe Ltd will notify you 10 working days in advance of your account being debited or as otherwise agreed. If you request Webscribe Ltd to collect a payment, confirmation of the amount and date will be given to you at the time of the request. If an error is made in the payment of your Direct Debit, by Webscribe Ltd or your bank or building society you are entitled to a full and immediate refund of the amount paid from your bank or building society. If you receive a refund you are not entitled to, you must pay it back when Webscribe Ltd asks you to. You can cancel a Direct Debit at any time by simply contacting your bank or building society. Written confirmation may be required. Please also notify us.

EQUIPMENT REVIEW

Kaiser Kawero! Vivace loudspeaker

By Alan Jones



The Kaiser Kawero! Vivace loudspeaker.

EQUIPMENT REVIEW

Kaiser Kawero! Vivace LOUDSPEAKER

By Alan Jones

very elegant loudspeaker, and it also has a more modern look than most of the speakers in the range. It is a 2-way speaker with a 6.5" woofer and a 1" tweeter. The speaker is made of high quality materials and has a very elegant design. It is a 2-way speaker with a 6.5" woofer and a 1" tweeter. The speaker is made of high quality materials and has a very elegant design.

EQUIPMENT REVIEW

ASR Emitter II Exclusive integrated amplifier

By Alan Jones



The ASR Emitter II Exclusive integrated amplifier.

EQUIPMENT REVIEW

ASR Emitter II EXCLUSIVE INTEGRATED AMPLIFIER

By Alan Jones

There is no doubt that the ASR Emitter II is a very elegant integrated amplifier. It has a very elegant design and a very elegant sound. It is a 2-way amplifier with a 6.5" woofer and a 1" tweeter. The amplifier is made of high quality materials and has a very elegant design.

RATES:
UK, Western Europe & Rest of the World
ONE YEAR SUBSCRIPTION / 10 ISSUES
 Within UK, **£40**
 Western Europe, USA & Canada, **£55**
 Rest of the World, **£67.50**
TWO YEAR SUBSCRIPTION / 20 ISSUES
 Within UK, **£65**
 Western Europe, USA & Canada, **£90**
 Rest of the World, **£110**
SPECIAL OFFER:
SAVE 25% (1 year subscription)
Save 36% (2 year subscription)

record reviews

How To Read Them

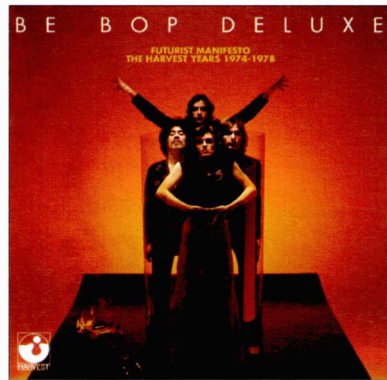
The information contained in the record reviews is presented in the following way. Albums are identified by label and – where possible – serial number. Beneath this you will find one or more icons which denote the available formats for the recording. The first icon refers to the format reviewed.

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.

This issue's featured reviewers are:

- DD** – Dennis D Davis
RSF – Richard S Foster
MP – Mark Prendergast

| | | | |
|--|---------------|--|------------------------|
| | CD | | 120g LP |
| | Gold CD | | 150g LP |
| | HDCD | | 180g LP |
| | XRCD | | 200g LP |
| | Double Disc | | 10" LP |
| | DVD | | Availability As S/H LP |
| | SACD | | Vinyl Double Album |
| | Hybrid SACD | | 45 RPM |
| | Multi-Channel | | |



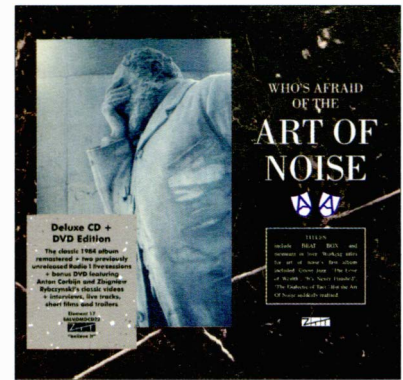
Be-Bop Deluxe

Futurist Manifesto - The Harvest Years 1974-1978

EMI

Back in 1990 EMI re-issued the core five Be-Bop Deluxe albums. Now, we get the first five albums over four remastered discs, sixteen bonus tracks and a complete disc of unreleased demos, rarities and live material.

Not only is *Sunburst Finish* one of the defining albums of the 1970s but one of the finest hard-rock guitar albums ever made. Even the song titles like 'Heavenly Homes', 'Ships In The Night', 'Crying To The Sky', 'Live In The Air Age' and 'Blazing Apostles' all reek of class and Nelson's guitar hits ecstasy and exuberance at every turn. Now an in-demand chart band Nelson pushed Be-Bop into making their second 1976 album in *Modern Music*, which amalgamated all his Symbolist fantasies with skyscraping guitar work and an almost symphonic rock vision. After a serious car accident Nelson changed tack, exploring Orientalism, Electro and experimenting with guitar synthesizers on 1978's *Drastic Plastic*. Thankfully the set ends on a complete high. The fifth bonus disc is superb, eleven slices of unreleased inspiration beginning with jazz-inflected guitar instrumentals all the way to the entire 'Modern Music Suite' played live and culminating in an inspired crowd-pleasing 'Down On Terminal Street'. An essential slice of rock history. **MP**



The Art Of Noise

Who's Afraid Of The Art Of Noise (Deluxe Edition)

ZTT SALVOMDCD22

Innovative, clear and always topped off by the gorgeous keyboard melodies of arranger Anne Dudley, the music of *The Art Of Noise* is one of the few genuinely thrilling sounds to come out of the UK during the early 1980s, a period in pop that saw the dreaded New Romanticism hold sway.

Lovingly compiled by Noise aficionado Ian Peel, this Deluxe edition gives us their first three big singles 'Beat Box' (a strong pointer to today's Hip-Hop sound), 'Close (to The Edit)' (a floor shattering version of the former) and their evergreen masterpiece the hypnotically Ambient 'Moments In Love'. Elsewhere you will hear much agit-prop sound collage as if the sampler is permanently watching old Russian newsreels and there are quite humorous uses of samples from Who's Next and Mendelssohn's wedding march! The rest of the set is made up of a DVD of brilliant videos including Anton Corbijn's early work and some unfortunate live footage fronted by journo and band mentor Paul Morley. By 1985 tensions between the musicians and the conceptualists (Horn & Morley) had reached breaking point and the golden age of AON was over. So bask in this delightful release and wonder at a time with English pop was willing to risk all for art's sake. **MP**

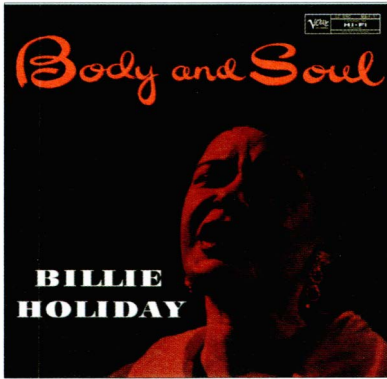




Why buy Digital magazines?

- ✓ **Dynamic Content:** State-of-the-art page turning technology, with page sliding and quick find functionality.
- ✓ **Value For Money:** Cheaper to buy than the printed version in the shops.
- ✓ **Fast Delivery:** No need to scan the shops and shelves to see where the newsagents have put your favourite magazine this month!
- ✓ **Socially responsible:** No carbon, no trees, no fuels or chemicals were used in the creation of this digital magazine.

For more details visit HiFiPlus.com or search for 'Hi-Fi+' on the App Store.



Billie Holiday

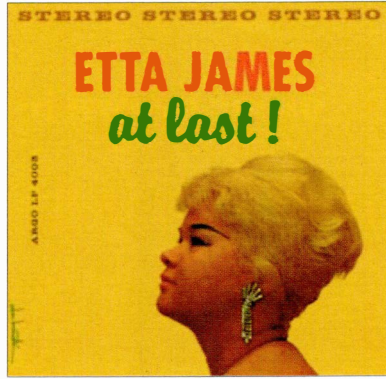
Body And Soul

Acoustic Sounds/Verve MGV-8197



How many times have I acquired this LP? Various Verve incarnations, the Clef original, Mobile Fidelity remastering and now this two disc 45rpm mastering. Mind you, I'm not grumbling, not when it comes to what amounts to a crown jewel of my collection. And this is not even my favourite Verve Billie Holiday album (see Issue 53 for my survey of Holiday albums). Critics have lined up in various camps over what Billie's best period or album is, but it can't be disputed that some of Verve recordings, including *Body and Soul* find Billie in her best form and certainly in her best sound. Each song on this album is a classic and while her presentation had certainly changed from her early Columbia sides, she shows no signs of her disintegration in the last few albums. So let's just say this is essential jazz singing. What about the sound? In a word, the sound is splendid. Sterling Sound has remastered these Verve reissues for Acoustic Sounds, and in some cases, like the Armstrong/Ella album, the reissue exceeds the original by some margin. Here the contest is much closer. If you have a pristine original the comparison is close, but for the other 99% of the record collecting world, this wonderful 45rpm issue will allow you to occupy your own little strip of audio and musical perfection. A desert island record. **DD**

RECORDING
MUSIC



Etta James

At Last!

Argo/Speakers Corner LPS 4003



James emerged into the R & B scene out of gospel singing in the 1950s. In 1960 she hooked up with the Chess brothers and her recordings on the Argo label propelled her to fame if not fortune. She toured with the big names in rock including the Stones, was inducted into the Blues Hall of Fame and earned a lifetime achievement Grammy, but Miss Peaches still flies under the radar today. Do a search at our local audiophile emporium, and this is all the Etta you will find. No 'Rocks The House', no 'Tell Mama'. The dry spell is over. James' first album on the Chess subsidiary label Argo, released in 1961, is the equal of her other great albums. Think of this as a collection of jukebox songs, including two hits ('All I Could Do Was Cry' and 'Trust in Me') that landed Etta in the hit charts. She also does one of the best renditions of Willie Dixon's 'I Just Want To Make Love To You' and her 'Stormy Weather' is subtle and sultry. While I usually prefer the mono version of these early Chess issues this stereo version was a very pleasant surprise. It's a nicely focused stereo image and the equal to my mono copy. While some Chess tapes seem to have deteriorated beyond use, this one seems to have survived intact and Speakers Corner and Pallas have delivered an excellent sounding reissue. **DD**

RECORDING
MUSIC



Gerry Mulligan

What Is There To Say?

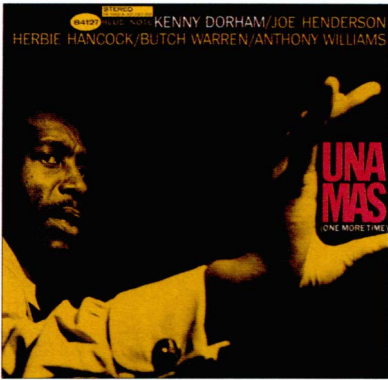
ORG/Columbia 111



I've wondered for years when someone would get around to reissuing this gem of a record. It's one of Columbia's masterpieces from a recording standpoint, with the band arrayed across a perfect soundstage. And Mulligan's baritone sax, when recorded well, is like audio candy, delicious and hard to set aside. The brilliance of the recording is matched by an equally perfect performance. Here, Mulligan teams up with Art Farmer on trombone, Bill Crow on bass and Dave Bailey playing drums. Recorded at two sessions in December of 1958 and January of 1959, Mulligan and Farmer trade lines back and forth without need to share the spotlight with a piano soloist, and they turn in one of the great albums of that era. ORG has now released two of Mulligan's best music creations and his best sounding albums, along with Mulligan Meets Ben Webster from Verve. As with the Verve reissue, this LP places each of the four players in a natural space with good stage depth. Comparison with a clean first pressing shows a loss of a bit of high end air, but better bass definition and a resulting tighter image of each instrument. And of course, ORG's packaging and pressing are first rate. But whichever route you choose, what is there to say? This is an indispensable album that no one should be without. **DD**

RECORDING
MUSIC





Kenny Dorham

Una Mas

Music Matters/Blue Note 84127



Kenny Dorham is a terribly under-appreciated trumpet player, despite some amazing LPs during a fairly short recording career. This is the second of his masterpieces for Blue Note released by Music Matters. Eight years after his 1955 album Afro-Cuban, Dorham returned with a stellar line up of mostly up and coming stars. Dorham championed a young tenor sax player named Joe Henderson, just a year out of the military. Unlike today's jazz recordings which more often than not involve working bands who tour and record together frequently, early 1960's sessions more frequently involved label mates, not band mates. Yet these musicians anticipate each other's directions flawlessly and turn in one of great masterpieces of the Blue Note catalog. The original album consisted of three Dorham compositions, two of which (Una Mas and Sao Paulo) have a Latin feel that harkens back to Dorham's Afro-Cuban. Music Matters fills out the fourth side of this two LP 45 RPM set with an alternate track If Ever I Would Leave You, but this is no mere filler. Yet the title track stands out as desert island material while all else on the album is merely essential. Kevin Gray's mastering is superb and I found myself using the album to fine tune speaker placement. **DD**

RECORDING



MUSIC



Oscar Brown Jr.

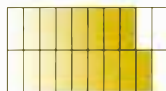
Sin & Soul

Speakers Corner/Columbia CS 8377

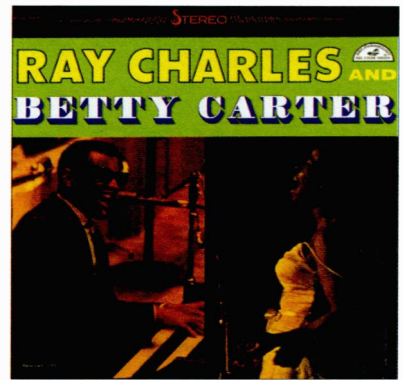


Oscar Brown Jr. did not easily fit into any specific category of music, much like Nina Simone. The closest match is jazz singer, but he also brought sufficient amounts of blues and gospel overtones to his declaratory style of delivery to merit those badges as well. Given his modest LP output, it would not be far from the mark to think of him as a songwriter first and foremost. But this is his best record and a great reissue choice. One side of the LP was labeled "Sin" and the other "Soul" but to my ears both qualities are in abundance on each side. This record was a cult favourite in the late 1960's when I was a student. It's still one of the most frequently played discs in my arsenal. There's not a weak song in the lot, but highlights include my favourite version of Watermelon Man and the show stopper But I Was Cool. Brown composed all the songs on the album but one ("Work Song"). This session was recorded in 1960 when Columbia was doing its best work, and this was a very nice recording. Speakers Corner has turned in a nice reproduction, lacking a bit in the highs and detail compared to an original 1A six eye original. A very underrated album that deserves a large audience. **DD**

RECORDING



MUSIC



**Ray Charles
And Betty Carter**

Analogue Productions/ABC-
Paramount ABCS 385



Neither Ray Charles nor Betty Carter spring immediately to mind when it comes to romantic ballad singers, yet here they come together to produce one of the great ballad duet albums. Arranged and conducted by Marty Paich, with the voices backed by strings and the Jack Halloran Singers on some of the songs. Over the years, I've owned many versions of this album, stereo and mono originals, and from DCC (now gone) both a gold CD and vinyl. This is a new 200-gram pressing from the Analogue Productions new Quality Record plant in Kansas. Mastering is from Kevin Gray at Cohearent Audio, with Kevin sharing credit with Zan Zanev, so I'm guessing Kevin now has grown big enough to bring another mastering engineer on board. The record, in any of these forms, is bursting with atmosphere. You can hear the air around the performers and Ray and Betty are firmly rooted in space, with lots of stage depth and width. This new mastering improves the dynamic contrast over any previous version. It makes the DCC sound positively polite. Gray has introduced a more extended top end and the acoustic bass is not only heard but also felt. A great reissue of a great classic. **DD**

RECORDING



MUSIC

FEB 2012
4TH - 5TH

HIGH END ON TOUR
CONGRESS CENTER, DARMSTADT, GERMANY

FEB 2012
24TH - 26TH

SOUND & VISION
THE BRISTOL SHOW MARRIOTT CITY CENTRE HOTEL, BRISTOL

MAR 2012
24TH - 25TH

AUDIO WORLD
OATLANDS PARK HOTEL, SURREY, UK

APR 2012
13TH - 15TH

NEW YORK
AUDIO AND AV SHOW 2012 - WALDORF ASTORIA

MAY 2012
3RD - 6TH

HIGH END
M.O.C. - MUNICH, GERMANY

SEPT 2012
29TH - 30TH

NATIONAL AUDIO SHOW
WHITTLEBURY HALL HOTEL, NORTHANTS

OCT 2012
12TH, 13TH & 14TH

ROCKY MOUNTAIN
AUDIO FEST

OCT 2012
19TH - 21ST

AUSTRALIAN
AUDIO & AV SHOW 2012

OCT 2012
19TH - 21ST

HIGH END SWISS
HOTEL MÖVENPICK, ZÜRICH, SWITZERLAND

OCT 2012
20TH - 21ST

HOME ENTERTAINMENT
THE MANCHESTER SHOW RENAISSANCE HOTEL, MANCHESTER

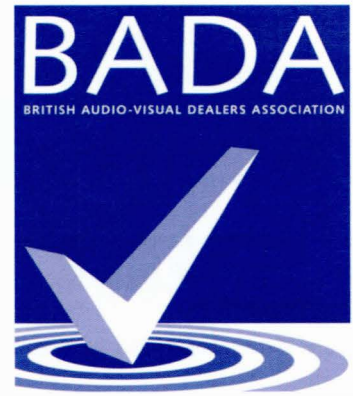
NOV 2012
17TH - 18TH

HIGH END ON TOUR
CONGRESS HOTEL, HAMBURG, GERMANY

The British Audio-Visual Dealers Association is an independent trade association which represents the best hi-fi/home entertainment dealers in the UK, together with many of the major manufacturers. It exists to protect your interests throughout the retail experience, by ensuring your dealer complies with the highest standards of customer service and demonstration as set by BADA and agreed by the industry.

All BADA dealers understand the importance of training. Their staff attend regular manufacturer courses so their product knowledge is second to none. Additionally, BADA's Demcraft training programme, devised in conjunction with the major manufacturers, trains shop staff to fully understand how to set up and demonstrate products, to give you the best possible chance of making an informed choice.

Make sure you look for the BADA membership sticker in the window and Demcraft certificate on the wall when choosing where to shop.



LOOK FOR THE TICK! THIS TICK ALONGSIDE AN ADVERT DENOTES A BADA MEMBER.

Infidelity
INDECENTLY GOOD HI-FI

Buying hi-fi should be a delight.
If choosing your new hi-fi in a civilised and relaxed atmosphere from a well-chosen selection of genuine performance equipment appeals, then we are for you. Bring along your own records or CDs, we'll provide the coffee, and hear the difference we can make.

9 High Street, Hampton Wick,
Kingston upon Thames, Surrey KT1 4DA
Telephone: 0208-943 3530

Open: 10am - 6pm, Tues - Sat (inclusive)

Oranges & Lemons
www.orangesandlemons.info
Audio-Visual
Multi-Room
Hi-Fi

020 7924 2040
61-63 Webbs Road London SW11
shop@orangesandlemons.info

hi-fi+ ADVERTISING INDEX

| | | | |
|---------------------------|--------------------------------|-----------------------------------|------------------------------|
| Absolute Sounds.....IFC | Coherent Systems.....95 | Kog Audio.....10 & 47 | Sonata Hi-Fi.....74 |
| Alternative Audio.....95 | Cool Gales Ltd.....58 | Lamplitude Audio Marketing.....28 | Sound Foundations.....40 |
| Analogue Seduction.....72 | Crystal Cable BV.....2 | Manger Audio.....71 | Sound Location.....68 |
| Argento Audio.....18 | Diverse Vinyl.....72 | Midland Audio Xchange.....95 | Symmetry.....16 |
| Audio Destination.....68 | Electrocompaniet.....OBC | Music First Audio.....72 | The Audio Consultants.....61 |
| Audio Reference.....83 | Emporium HiFi (Kent Branch) 95 | Nordost Corporation.....37 | The Right Note.....67 |
| Audiolincs.....95 | Enjoythemusic.com.....95 | Oranges and Lemons.....92 | Vertex AQ Ltd.....50 |
| Audiofreaks.....4 | Focal JMLabs.....15 | Oriton Ltd.....9 | Vitus Audio.....56 |
| Audiography Ltd.....72 | Fono Acustica.....27 | PMC.....35 | Wilson Benesch.....65 |
| BADA.....92 | Furutech Co. Ltd.....62 | Progressive Audio.....95 | |
| Chester Group.....54 | High End Cable.....38 | Select Audio.....52 | |
| Cloney Audio.....71 | Infidelity.....92 | SME Ltd.....45 | |



Brahms, Schönberg SA^(5.1)
String Quartet Opus 51, Verklärte Nacht Opus 4
 Amsterdam Sinfonietta conducted by Candida Thompson.
 Channel Classics CCS SA 30411.

The Amsterdam Sinfonietta is Holland's only professional string orchestra. The 23-strong group has already released recordings of string quartets by Beethoven, Shostakovich, Verdi, Haas and Schulhoff.

This excellent coupling may at first seem one more of convenience than intention, but it was Schoenberg himself who pointed towards Brahms' String Quartet op.51 no.1 in C minor as being related to Verklärte Nacht in its compositional techniques of 'developing variation' and forward looking harmonic style.

I have found myself turning to these performances several times in the last two weeks. The Brahms is particularly of interest to those who like chamber music. While it has been arranged for string orchestra, it is nothing short of excellent. Verklärte Nacht may fare better with a larger orchestration. I have no qualms with this production it's just that I'm used to hearing this with a larger scale orchestra. Still, these performances are admirable and for those unfamiliar with them, this disc would be a good starting place. Top quality sound on both the SACD and CD level. **RSF**
www.channelclassics.com

RECORDING
 MUSIC



Lavinia Meijer: Harp SA^(5.1)-D
Fantasies and Impromptus works by Pierné, Spohr, Saint Saëns, Fauré, etc
 Channel Classics CCS SA 31711

Harp music for many may seem to be a bit of a bore. Nothing is further from the truth. Meijer is in a class by herself here. This is the third release by Channel Classics of Meijer's harp music and it may just be the best. Ask me on another day and I might say something different "In 2008 she recorded her solo-CD "Divertissements" with Channel Classics (works by Salzedo, Caplet and Ibert). In 2009 she recorded with Channel Classics her next solo-CD "Visions" (works by Britten, Patterson, Byrnes, Yun and Takemitsu).

There are not many discs that can give me that 'goose-bump feeling' but this is one of them. Each work is very different and will show the listener the depths of her talent. Each composers work seems to prepare the listener for the next track and you will hear how different the harp sounds. Meijer is a talent of the first order.

The rich sonorous sound she creates is a beautiful thing that you must truly sample. While the SACD stereo mix is luscious the CD layer will definitely not disappoint. Readers should purchase this disc first and then explore her other releases on Channel Classics. **RSF**
www.channelclassics.com

RECORDING
 MUSIC

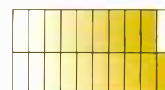


Peter Ilyich Tchaikovsky CD
The Nutcracker Ballet
 The Russian National Orchestra conducted by Mikhail Pletnev
 Ondine ODE-1180-2D.

This the second release by these forces of a Tchaikovsky ballet released by Ondine. The first was an outstanding production of Swan Lake (ODE 1167-2D). Pletnev founded the RNO in 1990 and it has quickly risen to one of the top interpreters of Russian orchestral music. And *The Nutcracker* is perhaps the acme of Tchaikovsky's artistic and orchestral output. That makes for a fine pairing.

These performances were recorded and mastered at the Emil Berliner Studios in Hannover and I am most impressed with the sound quality. I think this performance is first rate and compares very favorably with recordings commissioned during vinyl's Golden Age – I'm thinking of Dorati, Ansermet and Colin Davis to name but a few. There is a playfulness as well as a precision this orchestra and conductor bring to this release and is a grand affair by all. The strings are wonderful and the brass and percussion set new standards for me of *The Nutcracker*. I cannot recommend this recording more highly. If you have any interest in this composer, this is not a set of discs you should miss out on. Highest recommendation for performance and sound. **RSF**
www.ondine.net

RECORDING
 MUSIC





Jean Sibelius



The Tempest, Op.109 (Overture, Suites 1 & 2); *The Bard*, Op.64; *Tapiola*, Op.112

The Lahti Symphony Orchestra conducted by Okko Kamu.

Bis-SACD-1945

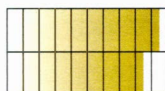
The Lahti Symphony Orchestra has a deep rooted following in the works of Sibelius, while Okko Kamu has been a presence on the international scene ever since the early 1970s, when he made a highly-acclaimed set of Sibelius symphonies in partnership with Herbert von Karajan.

The Tempest is music composed for Shakespeare's play. Afterwards, Sibelius again turned to the realm of magic in his masterful evocation of the forest, the symphonic poem *Tapiola*. These two large-scale works are here separated by the seven-minute long symphonic poem *The Bard* from 1913, a work which in its treatment of the thematic material and the chamber-music-like quality of its scoring invites comparison with the Fourth Symphony.

This disc is outstanding in both sound and performance. High praise indeed; it's not easy to find a great performance of *The Tempest*. Moody with wonderful orchestration, this is music to get lost in. I've returned to this disc often and is one that I can heartily recommend. **RSF**

www.bis.se

RECORDING
MUSIC



Peter Ilyich Tchaikovsky



Symphony No. 6 in B minor, Op.74; *Capriccio Italien*, Op.45

The Russian National Orchestra conducted by Mikhail Pletnev.

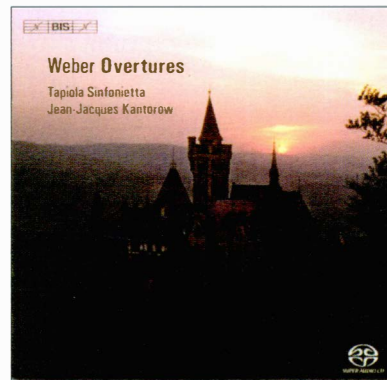
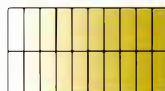
Pentatone Classics PTC 5186 386

Tchaikovsky premiered his Symphony No. 6 in 1893, a few years after his patroness, Nadezhda von Meck, ended their odd personal and financial association and the very year the composer died of cholera.

Of the seven symphonies he wrote – I'm including the *Manfred* here-my favourites and the favourites of many others are clearly 4th, 5th, and 6th. I previously wrote about the 4th in issue 80 and while I was very impressed with what I heard, I think this 6th is quite fabulous. I've always been a fan of the RCA Living Stereo version of this symphony with Leopold Stokowski and the Boston Symphony Orchestra and this is the first recording that supplants that. There is a tension built by the conductor and his orchestra that is hard to imagine. They are precisely in tune. The *Capriccio Italien* is a wonderful near 16 minute outing which allows the listener to hear how playful this composer can be. The sonics on this disc are spectacular as an SACD and those with CD only playback will not be disappointed. This is just a stunning disc. **RSF**

www.pentatonemusic.com

RECORDING
MUSIC



Carl Maria von Weber



10 Overtures
Jean-Jacques Kantorow conducting the Tapiola Orchestra Bis-1760.

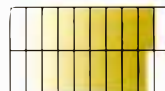
Weber is considered the father of German Romantic opera, and this disc features overtures to: *Abu Hassan*, *Euryanthe* and *Preciosa* as well as Weber's first surviving opera *Peter Schmall und seine Nachbarn* – composed at the age of fifteen – right up to *Oberon*, written in London for Covent Garden less than two months before his death from tuberculosis, aged 39.

The 10 overtures on this disc are a wonderful insight into the skills of the composer. They are less than 10 minutes each and there is no doubt that the listener will not be bored. To this listener, each work is extremely interesting but I must admit that I think that this collection is an important release for those who either are or are not familiar with the works of this. I must admit to be partial to the Overture to *Der Freischütz* as I've listened to this opera often.

This is an uplifting disc and should command a wide audience as the music is very easy to listen to. The recording for the SACD layer is absolutely first rate and the CD layer is also quite excellent. I strongly recommend this disc for all. **RSF**

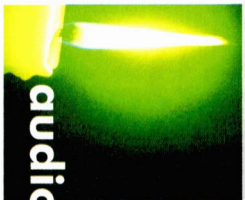
www.bis.se

RECORDING
MUSIC



Alternative
AUDIO

01984 624242
peter@alternativeaudio.co.uk
www.alternativeaudio.co.uk
Taunton, Somerset



audiolincs

www.audiolincs.com

*...because the flame
is worth the candle*

Coherent
Systems

T: 0845 5191833
M: 07815 890303
E: info@coherent-systems.co.uk
W: www.coherent-systems.co.uk

**To advertise in
the Hi-Fi+ Dealer
Directory contact
Tom Hackforth**

Tel: +44 (0) 1425 655255
Mobile: +44 (0) 7900 252975
Email: tom@hifiplus.com

midland
MidlandAudioexchange

www.midlandaudiox-change.co.uk
E: sales@midlandaudiox-change.co.uk
T: 01562 731100

Progressive Audio Ltd
www.progressiveaudio.co.uk
Dealing in musical HiFi Equipment since 1988

Some of our major brands are:-
PROAC, LEMMA ACOUSTICS, SUGDEN,
CHA PIER ELECTRONICS, SIME, AVID, MICHELL,
THORENS, MONOPULSE, AUDIO ANALOGUE,
OPERA CONSONANCE, GRAAF-LTD, MICRO BENZ,
REVOLVER, UNISON RESEARCH and more

Dedicated demo facility (by appointment)
We give trials in your home & part exchange

All major credit cards accepted along with paypal
We have an Ebay shop • Easy parking
Contact Dave on:- 01634 389004 or
email:- dave@progressiveaudio.co.uk

Enjoy the Music.com
Audiophile Equipment & Music Reviews
Your Resource For High-End Audio News & Information

[Search]

Audiophile Review Magazine
High-End Equipment
Audiophile Reviews!
Plus DIY Audio!

Partnered Magazines
hi-fi+ Magazine
The Absolute Sound
HIFICRITIC
Hi-Fi World
Sound Practices
VALVE Magazine

Audio Industry News
Linn's Digital Music Collections
HIFIMAN HM-101 & HE-300
Righteous Brothers & Andrea Bocelli
1/2 Off Energy & Klipsch Heresy III
HiFi+ December Edition Now Online
Crystal Cable's Arabesque Mini
Benchmark Media Systems Trade-Up
Combak Dinosaur DNS-0610 Stands
ASL AQ1001 MK II & AQ1003 MK II
Audioengine A5+ Powered Monitor
Charlie Brown Christmas @ 24/192
Rein Audio X-DAC 24-bit/192kHz
Bryston SP-3 Preamp/Processor
Save 20% At HDtracks
Save 50% Off Energy & Mirage
Lindemann USB-DAC 24/192
Fleetwood Mac & U2 In High Rez
XTZ MH800 DSP Speaker System
Spectral Audio SDR-400GSL CD/Proc
Nov High-End Audio Reviews
Aurender S10 By Widealab Sever

High-End Show Reports
RMAF 2011 Show
TAVES 2011
CA Audio Show
T.H.E Show Newport
High End Munich
AXPONA Atlanta
Salon Son & Image
CES Consumer
Electronics Show 2011
T.H.E Show Audiophile Event
Show Reports Before 2011

Classic Audiophile Site
Audiophile Contests
Cool Free Stuff For You
Tweaks For Your System
Vinyl Logos For LP Lovers
Lust Pages Visual Beauty
300B Tube Comparison

Resources And Information
Music Definitions
Hi-Fi Definitions
High-End Audio Manufacturer Links

Add Us To Your Favorites
Make Us Your Homepage
Link Your Website To Us
Add Us To my MSN com

Audiophile Mailing List
Join FREE for audiophile
contests & information.

For The Press & Industry
About Us
Press Releases
Official Site Graphics

Internet Browser
Audiophile Browser V11

Mobile Phone Apps
Android Audiophile App
Windows Phone 7 App

[ShareThis] [RSS] Audiophile RSS Feed

for Windows® Phone 7

www.EnjoyTheMusic.com 10:08

Tool – Lateralus

every home should have one

By Alan Sircom

If there's one musical genre that is chronically and mysteriously unsupported in hi-fi, it's metal. There should be a lot more metalheads into audio, a lot more metal tracks played in demonstrations, and there should be a lot more hi-fi in the rooms of metal fans. Why? Because if a predominantly male audience of musical obsessives, who actively listen to a form of music that is extremely demanding of the equipment used in replaying the sound isn't a rich hummus for growing audiophiles, what is?

It's not as if the music is poorly-recorded dreck. OK, so there are the Metallica *Death Magnetic*/RHCP *Californication* debacles that practically define the worst excesses of the Loudness War, but there are also remarkably well-recorded albums like *Crack The Skye* by Mastodon.

And then there's Tool. *Lateralus* by Tool should be in every audiophile's, er, tool kit. In fact, any of Tool's albums are worthy additions to a collection, but *Lateralus* is also an HDCD pressing. Although now virtually forgotten (after Microsoft drew Pacific Microsonics into the Seattle fold in 2000, the whole HDCD encode/decode process faded away), HDCD was both praised by recording engineers for being the best dithering process known to man, and mostly ignored by the buying public for its ability to fake 20 bit resolution on a 16 bit CD. Nevertheless, HDCD recordings were often synonymous with good sound quality, and *Lateralus* certainly hits that spot.

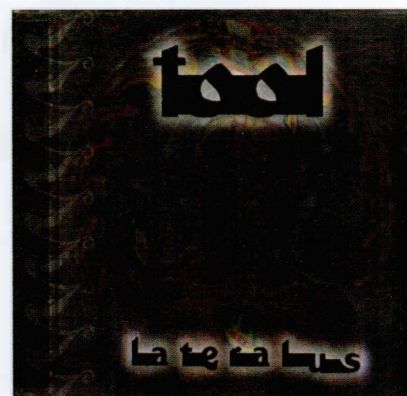
It's an album that marks a distinct development away from alternative metal into late-model progressive metal, somewhere between Porcupine Tree and Opath on the metal hardness scale. Released in 2001, it's technically 13 tracks long (and it is long... 78 minutes and 51 seconds is about as much data as a regular CD can fit) but the ebb and flow of the music makes it hard to think of it as distinct tracks, more like themed sections in a musical whole. And those expecting the typical graunching guitars and ABACAB song layout are in for a bit of a shock; the title track and the time signatures throughout the album are built around the Fibonacci sequence, and 'Mantra' is a slowed down sample of the sound of singer Maynard James Keenan hugging one of his cats.

Such lofty ideas could so easily make *Lateralus* slip into pretention, but it stays just the right side of pompousness, in part because the band really do think this way about their life and their music. It's like a Buddhist chant cycle, with guitars and FX, because that's kind of how they view the world around them. It's not floaty hippy drippy stuff, though – Keenan has a lot of rage to spare and that guitar sound is every bit as dark and powerful as anything Dimebag served up with Pantera.

Of course, this also only works because there's some excellent musicianship and some fine production by David Bottrill and the

band. Danny Carey in particular should be singled out for some of the finest drumming in rock on the track 'Ticks & Leeches'. The combination of talent, musicianship, good recording quality, a sense of foreboding to the lyrics and trippy experimentation has meant Tool occasionally being likened to a modern day Pink Floyd by friends and enemies alike. Or a metal Radiohead. But this is wrong; Tool is Tool. And Tool is still not on iTunes!

There's nothing wrong with a spot of jazz. But the halls of hi-fi shows are too full of polite, plinky plonky slices of the stuff today. Perhaps it's time to use some different Tools for demonstration purposes... +



TOOL – LATERALUS

Recorded: Oct 2000-Jan 2001, in various studios in Hollywood, CA

Released: May 2001

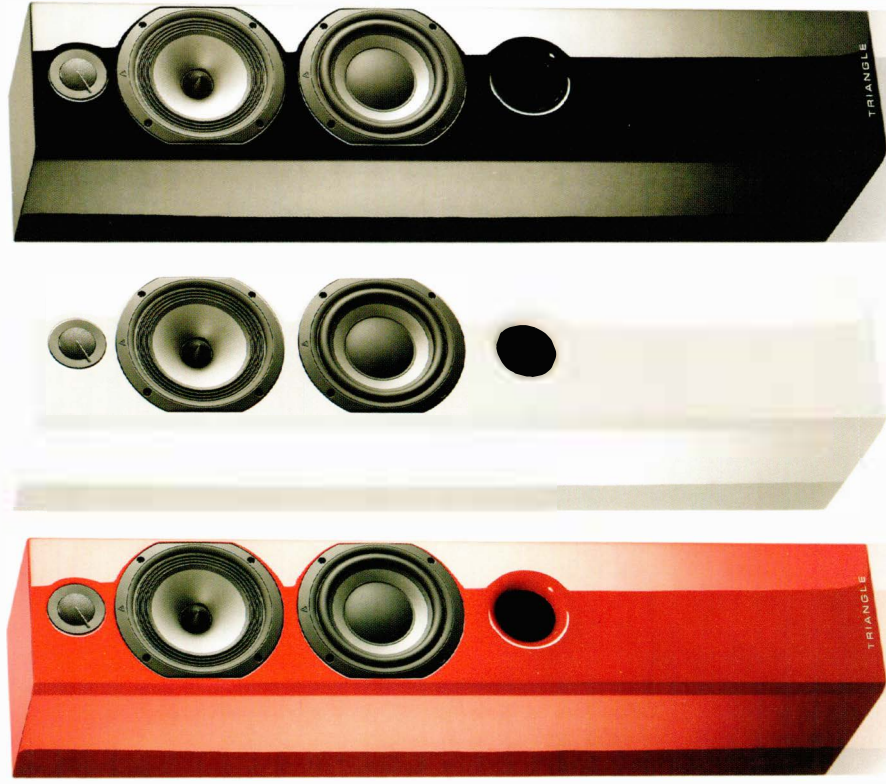
Produced by: David Bottrill, Tool

Label: Volcano Entertainment

Track listing

1. "The Grudge" (8:36)
2. "Eon Blue Apocalypse" (1:04)
3. "The Patient" (7:13)
4. "Mantra" (1:12)
5. "Schism" (6:47)
6. "Parabol" (3:04)
7. "Parabola" (6:03)
8. "Ticks & Leeches" (8:10)
9. "Lateralus" (9:24)
10. "Disposition" (4:46)
11. "Reflection" (11:07)
12. "Triad" (8:46)
13. "Faaiip de Oiad" (2:39)

color ma vie!



color FLOORSTANDER

color
by TRIANGLE



THE REAL TRIANGLE SOUND AT A REAL-WORLD PRICE

color BOOKSHELF: 280€ • color FLOORSTANDER: 550€*

*Recommended retail price per unit

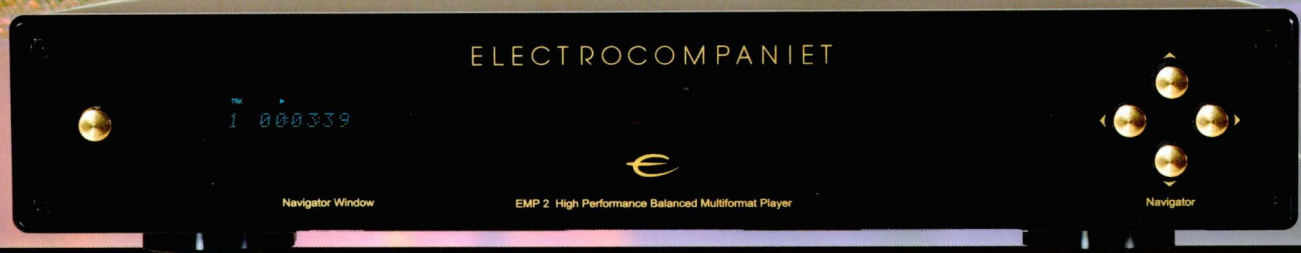
AVAILABLE AT YOUR AUTHORIZED TRIANGLE DEALER

Find your local Triangle dealer on: www.triangle-fr.com



ELECTROCOMPANIET

If music *really* matters™



NEW

Electrocompaniet EMP 2 Multiplayer

Blu-ray, DVD, CD, SACD, DVD Audio

Electrocompaniet EMP 2 is a fully fledged and versatile player with support for all modern audio and video formats and media. Included Blu-ray in 2D and 3D, CD, SACD, DVD and DVD Audio. Modern video- and audio processing in both two- and multichannel gives excellent picture quality and HighEnd sonic quality.

Lots of connections give great flexibility both for use in a surround or stereo set-up, or a combination of the above. The EMP 2 is a real multiplayer that works perfectly as a Blu-ray player in a multichannel set-up and as a two-channel CD/SACD player. For connection to your surround system you can choose HDMI or 7.1 RCA connectors.

We have equipped the EMP 2 with our newest DAC and analogue output section. The connection to your stereo system is by balanced XLR connectors, they way you would expect from Electrocompaniet.

In addition to playback of all available disk format the player also works as a streamer for music and pictures that are stored on you computer, USB memory stick or E-SATA disk.

Made in Norway

www.electrocompaniet.no