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John Atkinson

## A Bad Year

**T**hough the January 2010 issue of *Stereophile* will be hitting newsstands before the holidays, this is nominally the last issue of 2009. But already in October, on my return flight from Denver to New York following this year's Rocky Mountain Audio Fest, it struck me that 2009 had not been a good year for the world of high-end audio. Yes, the worldwide recession has bit deep into the economic health of audio manufacturers and retailers, but in the past 12 months too many of those who have helped make our hobby great, and have helped promote our shared passion for listening to music with as high a quality as possible, have breathed their last.

As I wrote in this space last March ([www.stereophile.com/asweseeit/communities](http://www.stereophile.com/asweseeit/communities)), John Crabbe<sup>1</sup>—one of my mentors, the editor of the UK's *Hi-Fi News* magazine from 1965 to 1982, and arguably the man who made it possible for me to sit in *Stereophile's* editorial chair for almost 24 years now—passed away on December 12, 2008, after a fall. John's death was quickly followed by that of John Potis, a reviewer for *SoundStage!*, [www.6moons.com](http://www.6moons.com), and *Positive Feedback Online*, who passed away at the age of 49 (see "Letters" in August). Then, on January 27, Al Stiefel, 66, who cofounded the Rocky Mountain Audio Fest in 2004,<sup>2</sup> died suddenly and unexpectedly (see [www.stereophile.com/news/012909al\\_stiefel\\_rmaf](http://www.stereophile.com/news/012909al_stiefel_rmaf)). In March, singer/songwriter Michael Cox, who gave me my first break as a musician in 1972, died, aged just 60. In July, *Stereophile's* founder, J. Gordon Holt, passed away after a fight with emphysema and cancer. (See the tributes from Jeff Wong and Larry Archibald and from readers in the October 2009 issue, as well as "Letters" in this issue.) In August, Les Paul died. And September saw the passing of first Erich Kunzel, conductor of the Cincinnati Pops (see "Sam's Space" in this issue, p.25), then of loudspeaker designer Jim Thiel ([www.stereophile.com/news/jim\\_thiel](http://www.stereophile.com/news/jim_thiel)), and then of record producer Wilma Cozart Fine, who, with her husband, the late Robert Fine, was responsible for the

groundbreaking series of Mercury Living Presence classical LPs in the 1950s and 1960s (see Kalman Rubinson's tribute at [www.stereophile.com/news/wilma\\_cozart\\_fine](http://www.stereophile.com/news/wilma_cozart_fine)).

Not a good year.

The passings of John Crabbe and J. Gordon Holt, both at 79, hit me hard. I learned much about audio and publishing from them both, though they held opposed opinions on many audio matters. I remember John and Gordon arguing tooth and nail, at the 1987 London Heathrow Show, about the possible benefits of Peter Belt's "tuning" devices; both were skeptical, but whereas John dismissed these tweaks out of hand, Gordon was prepared to give them a listen. But John and Gordon were equally responsible, on opposite sides of the Atlantic, for the maturation of audio publishing. And Gordon, with his insistence that the best way to judge audio components was to do what end users did—listen to them—and his promotion of a common language with which to describe sound quality, was one of the prime movers behind the growth of what came to be called high-end audio in the 1970s and 1980s.

VTL's Bea Lam, with the help of Nordost Corporation and Gordon's son, Charles Holt, organized a celebration of Gordon's life and achievements at the 2009 RMAF. I was privileged to be able to lead off the toasts in honor of Gordon's memory, followed by Charles, Bob O'Neill (who sold advertising for *Stereophile* in the early 1980s and contributed record reviews to the magazine), tube-amp designer Roger Modjeski (Music Reference), and Gordon's fellow audio-publishing icon Harry Pearson (go to <http://blog.stereophile.com/rmaf2009> and scroll down the page for the photos).

But the passing that hit me hardest was that of Jim Thiel, at 61. Like Gordon a heavy smoker, Jim had always looked gaunt, and no one outside his colleagues at Thiel Audio Products, the company he cofounded with Kathy Gornik in 1976, suspected that he was ill with cancer. Not only was Jim Thiel a supremely talented and inventive designer of loudspeakers—his finest achievement was the Thiel CS3.7, which Wes Phillips reviewed for *Stereophile* in December 2008 (see [www.stereophile.com/floorloudspeakers/1208thi](http://www.stereophile.com/floorloudspeakers/1208thi))—he was also one of high-end audio's true gentlemen:

a gentle man. Had we not been divided by the gulf between reviewer and manufacturer, I would have been proud to have counted Jim Thiel as a friend.

A year or so ago, I received an e-mail from a reader complaining about the obituaries we publish in *Stereophile*. While this reader respected the achievements of those to whom we paid tribute, he felt that any space so "wasted" would be put to better use publishing more reports on hardware. Yes, the space in any issue of the magazine is finite. But what the reader was failing to acknowledge was that, without the contributions of those we write about, there would be no true high-end audio products to be reviewed—or, at least, considerably fewer.

When you buy a product carrying a major corporation's brand, unless there is someone who manages to resist the inevitable corporate leveling down (Kevin Voecks at Revel and Ken Ishiwata at Marantz come to mind), as worthy as such products often may be, you are buying something that has been designed less to make a sonic statement than to avoid giving offense.

But when you buy a Thiel loudspeaker or a Wilson loudspeaker or a Vandersteen loudspeaker or a DeVore loudspeaker or a Focal loudspeaker or a Quad electrostatic; or an Ayre, Krell, or Audio Research amplifier; or a Meridian or Wavelength digital processor—the examples are legion—you are, in a very real way, buying a part of Jim Thiel or David Wilson or Richard Vandersteen or John DeVore or Jacques Mahul or Peter Walker or Charlie Hansen or Dan D'Agostino<sup>3</sup> or Bill Johnson or Bob Stuart or Gordon Rankin. You are buying a product that embodies that person's uniquely personal way of looking at audio. Even though such men inevitably become the leader of a team of engineers once their companies evolve past their garage-stage birth pangs, their products continue to embody the balance of sonic attributes that each feels to be most important.

That is the high-end ethos. That is why we note the passing of the giants who walked among us. I raise my glass and thank all of them who help our systems make music.

1 We published Steve Harris's appreciation of John Crabbe in July: [www.stereophile.com/interviews/john\\_crabbe\\_firebrand](http://www.stereophile.com/interviews/john_crabbe_firebrand).

2 The RMAF continued under the leadership of Al's wife, Marjorie Baumert (see [http://blog.stereophile.com/rmaf2009/the\\_goddess\\_of\\_rmaf](http://blog.stereophile.com/rmaf2009/the_goddess_of_rmaf)).

3 Breaking news at press time was that the new majority owner of Krell Industries had terminated the company's relationship with Dan D'Agostino and his ex-wife, Rondi, who together founded the company nearly 30 years ago.



# stereophile

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*Missed an equipment report, can't remember what Stereophile's "Recording of the Month" was in June 1996, ever wondered what our speaker measurements mean?*

*The answers to these and many other questions can be found in the almost 5000 articles reprinted in the free on-line archives at [www.stereophile.com](http://www.stereophile.com)*



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Get on your Soapbox! Visit [www.stereophile.com](http://www.stereophile.com).

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Senior Contributing Editors Sam Tellig, Martin Colloms, Michael Fremer,  
John Marks, Wes Phillips  
Editor At Large Art Dudley  
Web Producer Jon Iverson

CONTRIBUTING EDITORS (AUDIO)

Jim Austin, Lonnie Brownell, Peter Breuninger, Brian Damkroger, Robert Deutsch,  
Shannon Dickson, Larry Greenhill, Keith Howard, Jon Iverson, Fred Kaplan, Ken Kessler, David Lander,  
Paul Messenger, Robert J. Reina, Kalman Rubinson, Markus Sauer, Jason Victor Serinus, Peter van Willenswaard

CONTRIBUTING EDITORS (MUSIC)

Les Berkley, Larry Birnbaum, Daniel Buckley, Thomas Conrad, Matthew Fritch, Andrew Gilbert,  
Robert Levine, Fred Mills, Dan Ouellette, Leland Rucker,  
Scott Schinder, David Sokol, John Swenson

Graphic Design Natalie Brown Baca, Pip Tannenbaum  
Cover Photo Eric Swanson

ADVERTISING SALES

Publisher Keith Pray  
(212) 915-4157 • fax (212) 915-4167 • e-mail: [Keith.Pray@sorc.com](mailto:Keith.Pray@sorc.com)  
Advertising Manager Ed DiBenedetto  
(212) 915-4153 • fax (212) 915-4164 • e-mail: [Ed.DiBenedetto@sorc.com](mailto:Ed.DiBenedetto@sorc.com)  
Advertising Manager Laura J. LoVecchio • LoVecchio Associates, Central, West Coast Mfgs  
& National Retailers  
(718) 745-5025 • fax (718) 745-5076 • e-mail: [Laura\\_Lovecchio@sbcglobal.net](mailto:Laura_Lovecchio@sbcglobal.net)  
Sales Coordinator Rosemarie Torcivia  
(212) 915-4160 • fax (212) 915-4167 • e-mail: [Rosemarie.Torcivia@sorc.com](mailto:Rosemarie.Torcivia@sorc.com)  
Classified Manager Helene Stoner  
(505) 474-4156 • fax (505) 473-1641 • e-mail: [hmstoner@msn.com](mailto:hmstoner@msn.com)  
Music Manager Ilko Nechev  
(212) 490-2079 • e-mail: [ilko@mitchelladgroup.com](mailto:ilko@mitchelladgroup.com)

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Subscriptions: International ... (386) 447-6383

Editorial ... (212) 915-4156

Editorial fax ... (212) 915-4164

John Atkinson ... [john.atkinson@sorc.com](mailto:john.atkinson@sorc.com)

Robert Baird ... [robert.baird@sorc.com](mailto:robert.baird@sorc.com)

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# LETTERS TO THE EDITOR

## Robert Baird pulled me back

Editor:

Robert's review of Willy Nelson's *American Classic* ("Recording of the Month," September, p.105) did it for me. Count me in for another year's subscription. Though I'm happy with my olde K-Horns, etc., I surely enjoy reading comments like his take on this ageless artist.

—Joe Damery  
Bedford, MA  
jdamery@mac.com

## Art Dudley's pulling forward

Editor:

Hats off to Art Dudley. In his October "Listening," on "house music" (p.37), he topped all previous "Is it live or Memo-rex?" debates and added quantifiable descriptions of the acoustic differences between high-end systems and the real thing. More important, he pointed out that anybody can accomplish the same thing, and directed us to do so! With such personal entertainment, the standard of living for the mere serf has eclipsed that of the kings of old.

This is the kind of forward thinking that will keep *Stereophile* on top. Keep up the good work, and thanks for the broadened horizon.

—Hans Brandal  
hansheb@hotmail.com

## J. Gordon Holt's passing

Editor:

I just received the October 2009 issue. It was the first I'd heard of J. Gordon Holt's passing. Being one of the baby boomers he so reviled, I can't help but wonder about the jolly individual depicted in "As We See It" (p.3). Judging from comments from Holt that had been published in *Stereophile* the last few years, I had a picture of a cranky if not embittered old man. Gordon looks positively welcoming in Jeff Wong's illustration. Then I turned to p.5, with the image of Gordon giving the finger, and all was right with the world.

—Robert Bolmgren  
jbolmgren@comcast.net

## J. Gordon Holt's finger

Editor:

What was the purpose of publishing the photo of J. Gordon Holt giving the finger [October 2009, p.5]? Or was it

symbolic of *Stereophile*'s attitude toward its readers?

Who is it who said this many years ago (I think it was Sam Tellig)? No matter how much you criticize the American taste, it's never enough.

—Val Schukin  
vschukin21@aol.com

*J. Gordon Holt was a complex person, and we felt that any tribute would be incomplete without the photograph of him giving the finger to the world—his favorite image of himself. Bea Lam of VTL organized a celebration in honor of Gordon at October's Rocky Mountain Audio Fest; you can see that Gordon's son, Charles, was wearing the button in question at the event ([http://blog.stereophile.com/rmaf2009/remembling\\_stereophileis\\_founder](http://blog.stereophile.com/rmaf2009/remembling_stereophileis_founder)). —John Atkinson*

## Bonfire of the subwoofers

Editor:

Reading through the October 2009 issue's "Recommended Components," I was able to put together a theoretical two-channel system costing about \$500,000—not including cables. In the New Gilded Age of Enron, GWB, Madoff, Dead Peasant Insurance, and Cowboys Stadium, a stereo costing a half million dollars is hideously appropriate. Let them eat cake.

One day, *Stereophile* will review a system surpassing the million-dollar milestone. On that day I will start stockpiling canned goods and ammo for my Mac 10, and scouring eBay for a serviceable guillotine blade.

—Ron Ramsey  
Eugene, OR  
Lonekoyote@aol.com

## The price is the product

Editor:

For many years I felt that the prices of the reviewed items were typographical errors: one digit too many left of the decimal point. Now I believe there are almost always two digits too many left of the decimal. Finally, Art Dudley ("Listening," June 2009) has snuck up on the name of the problem: The price is the product. Buyers want bragging rights. They want to be the first and only one on their block to have whichever framistan.

There are speakers for \$180k. Flea-power tube amps for \$100k. Many CD players over \$10k. A USB DAC for

\$3500 (\$6500 with upgrades)! Even Klipsch has fallen into the trap with speakers for \$20k. How many really expensive systems have you heard that produce only mediocre sound?

Does it not seem that some manufacturers calculate what they think their time is worth, divide that number by the low-three-digit number of items to be sold, and that is how they compute the markup to wholesale from the actual cost of the item delivered to the retail store? By carefully making their item seem incomparable (literally!), they hope to avoid competition.

And then the high-end publications in the US never actually compare items, so that one cannot learn if the writers can tell if a device with a price 10 times higher is actually noticeably better. To the degree that comparative language leaks into the last few paragraphs [of a review], it is overwhelmed by the headlines on the cover that proclaim that this month's widget revolutionizes sound reproduction and transcends all prior efforts. We are not even vouchsafed the merely annual product cycle of the auto industry.

I understand the economics of this: The first atomic bomb costs \$2 billion. After a while, each additional one costs \$100k. New technology is always expensive to develop. But making a deliberately limited number of what are essentially proof-of-concept devices, then moving on to the next "novelty," is not improving the quality of music reproduction for our neighbors. Nor do I wish to pay such a large percentage of the cost of each new way to make electricity into sound, or small signals into large, or sound into digits, or sound into shapes to be traced with diamonds.

I hope publishing audio porn (I say that in the most positive way) keeps *Stereophile* in cornflakes, but I must warn your advertisers that I am an exceeding hard sell.

—Pieter Williams  
pieterk@pacbell.net

## Real-world pricing

Editor:

Imagine my shock and delight when I saw the headline about the "bargain-priced" Sony XDR-F1HD FM/AM digital tuner on the cover of the April issue. Was *Stereophile*, the home of irra-

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tionally exuberant spending in the name of audio (need I mention the \$28,000 turntable/toner on the cover of the May issue?), reaching out to the masses? Dunno.

What I know is that this was the first time *Stereophile* actually reviewed something I owned. This little tuner has made a BIG difference in my audio system and experience. The ah-ha moment came when I locked in the digital signal of Boston's WBZ-AM, some 318 miles away, and was transported to another listening experience. Will \$8900 power amps, \$28,000 'tables, and \$40,000 speakers ever make a difference in my life? Nope. But an \$85 tuner (including shipping, mind you) has made the audio experience a lot more fun. —Sam Alcorn

Lewisburg, PA  
sralcorn@dejazzd.com

### That's the question

Editor:

Does a \$135 media player, networked with a \$144 hard drive loaded with lossless music files, sound as good as or better than a \$3000 CD transport? I, for one, would like to see you guys do a side-by-side comparison.

I've enjoyed listening to music since I was a child, and have always realized that quality audio gear does make a difference. However, I also believe you don't have to spend a fortune to get good-quality sound. I've owned some pretty decent CD players, though none of them has listed for more than \$699, and I never pay list.

Since quality audio is important to me, I've never really been too interested in compressed music files. Now, lossless music files like WAV files are another story: full CD quality and the convenience of a computer file. Problem is, they took up too much storage space. Well, they don't take up too much space anymore, because hard drives have become huge and cheap. For \$144 I got a 1TB network hard drive that basically just plugged in to my home network (Iomega 34337). I also put a D-Link DSM-520 network media player in my entertainment center (\$135 after rebate), and have connected it via Ethernet to my home network (didn't even consider connecting with WiFi). The DSM-520 is feeding two-channel digital audio through TosLink to an outboard DAC (MCM Custom Audio 50-7774, \$79 on sale).

I can hardly believe my ears—for a grand total of \$358, I'm listening to music that sounds better than it did on any CD player I've ever owned, and I don't even have to dig out the CDs. I can sit on my sofa and access thousands

of WAV files with a remote control.

—Scott Glennen

Aurora, CO

scottglennen@yahoo.com

### The Beatles: Hope for the future

Editor:

How did we get to a place where something as incredible as the new Beatles CD remasters come out just as the pundits are declaring the CD medium dead? These discs are amazing! Friends and I are discovering the Beatles all over again, and it's good. Whole conversations about an innocuous little Moog part in "Maxwell's Silver Hammer"... who ever even noticed it before? Who plays it? Wasn't that early for a Moog? And on and on. Wonderful stuff!

What's really encouraging is that non-audiophile friends are suddenly taking notice of good sound. Their ears are awake, and no wonder; I've heard these discs sound great on two car systems and my desktop computer, as well as on my Naim CD5X. Suddenly they're asking, "Gee, can *all* my music sound this good???" What an opening for the industry! (Not to mention what the Beatles are doing for Rock Band and the generational divide in that format.)

I look at the resilience of the LP's comeback and I am hopeful that lessons may have been learned. What has been done with these CD reissues has actually been the norm with many CD-reissue projects for several years now. The medium is just starting to live up to its promise. I love my vinyl, too, but if all CDs were produced this well, my turntable probably wouldn't get quite as many revolutions, and that's okay too. Format monogamy is senseless anyway.

—Mike Kimsey

California

mkimsey@gmail.com

### The Beatles: No SACDs?

Editor:

I'm disappointed that the new Beatles remasters haven't been released as hybrid SACD/CDs. Why the hell weren't they? What are Apple and EMI thinking? There are loads of Beatles fans who would go out and buy an SACD player to get the best sound they could out of the Fab Four's music. How much extra effort would it have taken to issue hybrid discs? I would be willing to pay a premium price for them.

And what? No vinyl? I guess the powers that be are trying to tell us that both SACD and vinyl are dead formats. I'll agree with that for vinyl. Vinyl's performance at 33⅓ is just not that good, and the inner bands of 33⅓ LPs sound dismal. So vinyl is dead, but come on:

At least give the public an SACD/CD. And if the powers that be really wanted to go all out, they could have put out the Beatles' music on high-resolution Blu-ray discs.

—Raymond Moran

texray1014@hotmail.com

### The Beatles: No hi-rez downloads?

Editor:

Could you not, as a major print-media representative of those of us who prize audio verisimilitude, have at least encouraged the publishers of this huge effort at making good CDs instead of poor CDs to make the 24-bit/192kHz version of these recordings available in some purchasable format as well? They did it with the 24/96 DVD-A of the Beatles' *Love*, and the result was wonderful.

If you folks don't put the pressure on source providers to let us buy the highest fidelity, then who can? Isn't that what the equipment you review is for?

—Larry Cohen

Plano, TX

standish6@airmail.net

### The Beatles are back

Editor:

I read Robert Baird's article on the Beatles remasters in the October issue (p.115) with great interest, and was considering a purchase until I got to the part that said the analog tapes were transferred to digital at 24 bits/192kHz. Then I got to thinking, why buy a CD of the remasters—why not buy the hi-rez version? But wait, there *isn't* a hi-rez digital version.

Apple Records will probably wait another 20 years and try to sell me the hi-rez version then. If that's what they're thinking, it's flawed. The people like me who grew up with Beatlemania will, if still alive, be pushing 80 in 2029, and won't have the ears to appreciate it then.

Apple, if you're concerned about unleashing hi-rez digital files to all the pirates—er, I mean, potential customers—here's some news: SACD. The DRM is watertight, the base of SACD and universal players is large—heck, even the Sony PlayStation 3 will play SACDs. There are low-cost universal Blu-ray players like the Oppo that are back-compatible with SACD. I, for one, don't mind paying for music if it's in the format I want. But CDs again, even improved ones? No thanks.

—Stephen Graha

Penetanguishene, Canada

### Meet the Beatles

Editor:

I realize that there hasn't yet been a formal review of the new Beatles CD reissues, so my comments are somewhat



presumptive. I hope that the mono box is in your review plans, because, by Allen Rouse's own admission (October p.115), it's the one intended for "audiophiles."

A few things I have noted in my early listening:

1) The mono versions are almost always more "musical," with more realistic "imaging" (not quite an oxymoron in this case) and better dynamics, even where the stereo versions may be more "detailed."

2) The "two-channelness" of most of the stereo versions gets tiresome, especially through headphones.

3) *Abbey Road*—and, to a lesser extent, "The Ballad of John and Yoko" and "Old Brown Shoe"—sound much better with a 4.5dB cut under about 90Hz.

4) There is much less difference between the 1987 CDs and their new counterparts than expected, compared to (for instance) the recent Moody Blues SACDs and their previous CD incarnations. A huge part of the difference in the Beatles catalog can be attributed to simple volume and EQ changes.

—Rob Bertrando  
Reno, NV

rbbert@sbcglobal.net

### Where's the conflict?

Editor:

I greatly enjoy *Stereophile*, and appreciate the hard work by all of your staff in providing the audiophile community with well-researched and well-written reviews of hardware and music. However, your reputation and integrity are at risk by virtue of the continued exposure of your own recordings via their not-so-subtle inclusion in your reviews.

Not a month goes by that we don't see some reference to Attention Screen's *Live at Merkin Hall* and other in-house productions being used as examples to illustrate the sound quality of components. This represents a conflict of interest that may not be obvious to you but is annoying and tiresome to your readers. The exposure of your recording efforts by your subordinates at *Stereophile* is particularly troublesome. If your recordings have merit and can compete in the market, then they will be commercial successes without your having to resort to tactics that could potentially compromise the integrity that you have worked hard over many decades to establish.

Again, I enjoy your magazine and look forward to every issue, but suggest that you revisit your standards of business conduct and avoid this glaring conflict of interest.

—Doug Bishea  
dbishea@comcast.net

*The apparent conflict stems from a hardware*

*reviewer's need to use reference recordings with which he is intimately familiar, and with which his readers are also familiar, in order that the reviewer's judgments be testable by the reader. If the reviewer is involved with making the recordings, that familiarity is guaranteed, and if his readers own the same recording, the testability of his review findings is also guaranteed. In the case of *Stereophile's* Editor's Choice, for example, which I recorded to provide such a reference, I use that CD in every review, and the provenance of every track is detailed at [www.stereophile.com/musicrecordings/853](http://www.stereophile.com/musicrecordings/853). It is thus a very useful tool. For a more detailed examination of this subject, see Wes Phillips' essay at [www.stereophile.com/asweseeit/856](http://www.stereophile.com/asweseeit/856).*

—John Atkinson

### Where's the index?

Editor:

I am unable to find the *Stereophile* Master Article Index that was on the *Stereophile* website. Did it move? Or was it eliminated? I own every *Stereophile* magazine, and this list was indispensable to me. If you can provide a copy of the info or direct me to its new location, I would greatly appreciate it.

—Paul  
gibsonfender63@gmail.com

*The master index was eliminated during a summer cleanup of our server, as it was almost never visited. Full reviews from 1997 onward, as well as many from before then, can be more easily found using the search engine on our website. We stopped updating the index in 2005, but I can send to anyone interested a text version of the index up to that date. E-mail me at [STletters@sorc.com](mailto:STletters@sorc.com).* —John Atkinson

### Where's Wally?

Editor:

Sorry to bother you with this, but some time ago I ordered from Wally Malewicz a Wallytractor for the VPI JMW-9 Memorial tonearm, a VTA gauge, and an electronic stylus-force gauge. After telling me in July that he was sending my stuff out immediately, he has not bothered to do anything. People count on *Stereophile* for good, reliable info, and Wally is turning out to be neither good nor reliable.

—Michael Steven Brooke  
E-mail address withheld

*We are publishing Mr. Brooke's letter because it is representative of complaints we have been receiving about Wally Malewicz, whose products have long been recommended in our pages. Michael Fremer has been in touch with Wally, who, it appears, has been suffering from prostate cancer and has been undergoing treatment in Europe. While we have sympathy for Wally, he is still obliged to honor orders for his components. Otherwise, we will stop recommending his products to our readers.*

—John Atkinson

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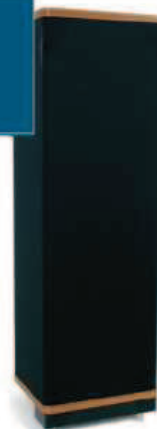
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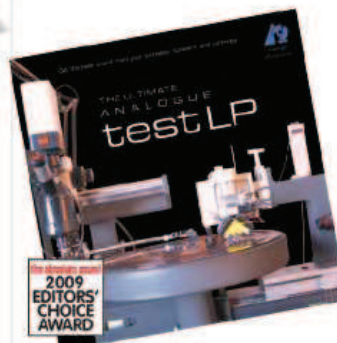
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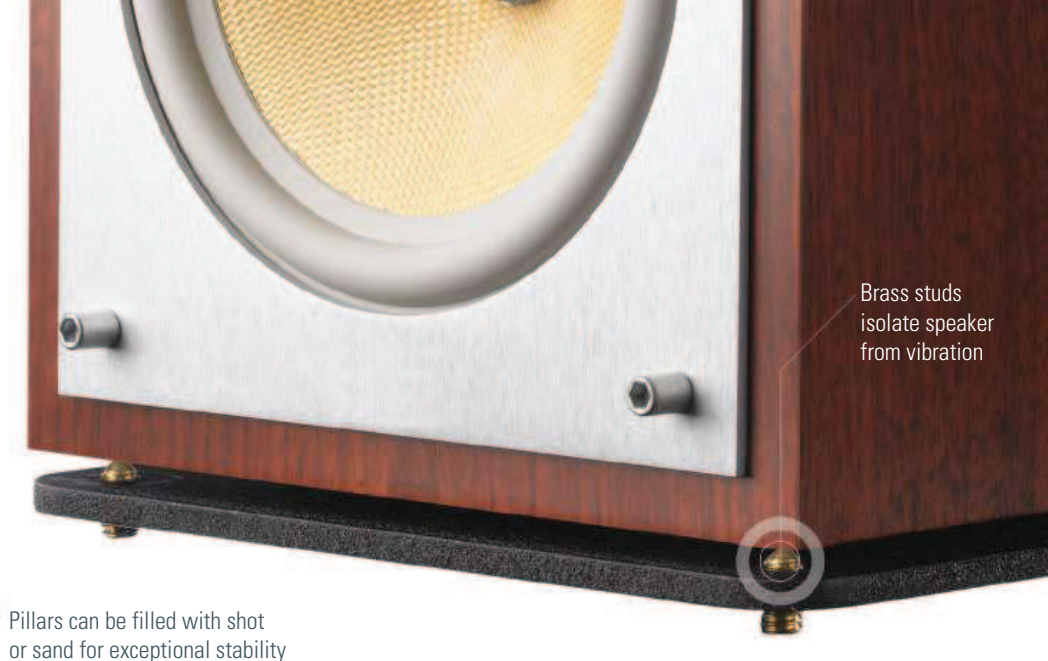
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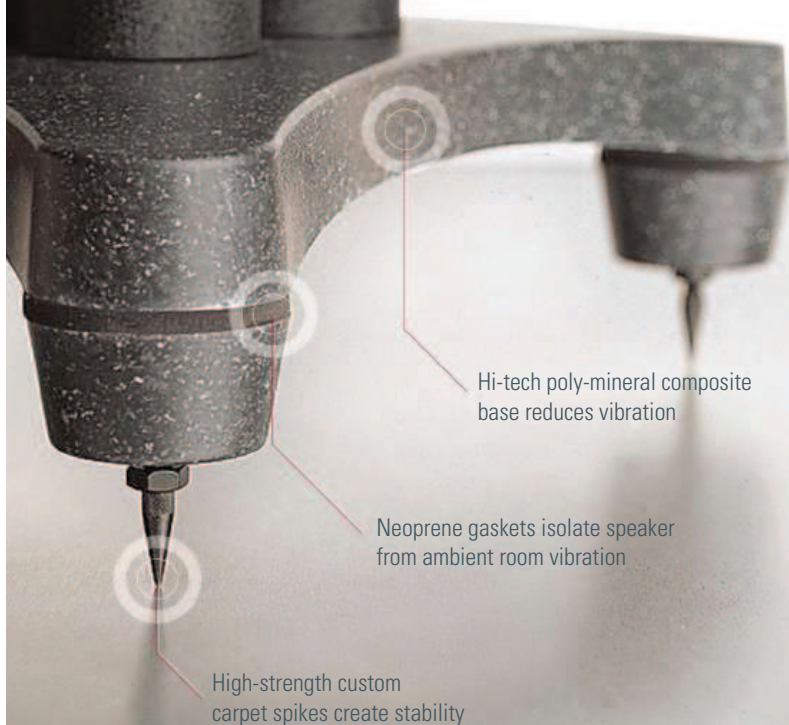


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## CALENDAR

Those promoting audio-related seminars, shows, and meetings should e-mail the when, where, and who to [stephen.mejias@sorc.com](mailto:stephen.mejias@sorc.com) at least eight weeks before the month of the event. The deadline for the February 2010 issue is November 30, 2009. We will reply with a confirmation. If you do not receive confirmation within 24 hours, please e-mail us again. If you prefer to communicate through fax, the number is (212) 915-4164.

**Attention All Audio Societies:** We now have a page on the *Stereophile* website dedicated solely to you: [www.stereophile.com/audiophilesocieties](http://www.stereophile.com/audiophilesocieties). Check it out and get involved! If you'd like to have your audio-society information posted on the site, e-mail Chris Vogel at [vgl@atlantic.net](mailto:vgl@atlantic.net) and request an info-pack.

Please note that it is inappropriate for a retailer to promote a new product line in "Calendar" unless this is associated with a seminar or similar event.

## CALIFORNIA

■ Saturday, December 5, 11am–3:30pm: The **Los Angeles and Orange County Audio Society** will hold its 16th Annual Society Gala and Awards Banquet in the Grand Ballroom of the Buena Park Holiday Inn (7000 Beach Boulevard). EveAnna Manley, president of **Manley Laboratories**, will receive the Society's 2009 Founders Award, and *Stereophile* editor John Atkinson will give a presentation on the state of the High End. In addition, Brooks Berdan of **Brooks Berdan Ltd.** will present "Audio from Our Dealer's Point of View." A raffle is planned and an "extravagant holiday buffet" will be served. Guests and new members are invited. For more info, visit [www.laocas.com](http://www.laocas.com) or call Bob Levi at (714) 281-5850.

■ Sunday, January 31, 2–5pm: The **Los Angeles and Orange County Audio Society** will hold its monthly meeting at **Definition Audio Video** (2909 182nd Street, Redondo Beach). **Marantz's** Kevin Zarow will be on hand to demonstrate the company's Reference line of electronics. A raffle is planned and lunch will be served. Guests and new members are invited,



PHOTOS: PAUL MESSENGER

Micromega is back, with the new AirStream WM-10 WiFi receiver.

## ERRATUM

### John Atkinson

In October's "Recommended Components," we mentioned that Harbeth's C7ES-3 loudspeaker was "about to be replaced by a new version." We had our wires crossed, unfortunately, as that comment was meant to apply to Harbeth's HLP3ES-2 minimonitor, which was recently replaced by the P3ESR. Our apologies to Harbeth and to owners of the C7ES-3.

seemed in danger of fading into obscurity.

Sam Tellig scooped me last month about the reborn Micromega in his column, "Sam's Space," and even got to try some of the newbies at home. I traveled to Paris with Absolute Sounds' proprietor, Ricardo Franassovici, who is fluent in French, to meet the key members of the Micromega team and hear some of their new products—first at Sound and Colors, an elegant high-

AT MICROMEGA'S HEAD IS NEW BOY DIDIER HAMID, WHO ENJOYED CONSIDERABLE **SUCCESS RACING MOTORCYCLES** BEFORE REPEATING THE TRICK IN THE WORLDS OF BUSINESS AND ELECTRONICS.

## FRANCE: PARIS

### Paul Messenger

Micromega is back. The French company that put the audiophile into CD players back in the 1980s has shaken off the troubles it experienced a few years ago and returned with new principals, a new product line, and new production facilities. Dogged by reliability problems, the company disappeared off the radar more than a decade ago. However, the new corporate structure and the facts that UK distribution is being handled by Britain's leading high-end distributor, Absolute Sounds, and that distribution in North America is in the capable hands of Audio Plus Services, should mean that the future is once again bright for a well-loved brand that

end hi-fi salon in central Paris, and later in a fine demo room in the Micromega factory, on the city's outskirts.

Micromega is now run by a triumvirate. At its head is new boy Didier Hamid, who enjoyed considerable success racing motorcycles before repeating the trick in the worlds of business and electronics. Along the way this charismatic and talented Frenchman has accumulated the wealth and the production resources needed to indulge his deep passion for the reproduction of music by purchasing and relaunching Micromega.

Micromega was founded by Daniel Schar, whose technical expertise and knowhow propelled the brand into international significance. However,



## INDUSTRY UPDATE

and parking is free. For more info, visit [www.laocas.com](http://www.laocas.com) or call Bob Levi at (714) 281-5850.

■ Sunday, February 28, 2–5pm: The **Los Angeles and Orange County Audio Society** will hold its monthly meeting at **Visual Sound** (841 E. Whittier Boulevard, La Habra). A demonstration will feature dipole speakers, including the **Magnepan** MG20.1, along with cables from **AudioQuest** and tube electronics from **Audio Research**. AudioQuest's Andrew Kissinger will be the guest speaker. A raffle is planned and lunch will be served. Guests and new members are invited, and parking is free. For more info, visit [www.laocas.com](http://www.laocas.com) or call Bob Levi at (714) 281-5850.

### FLORIDA

■ Friday, December 4, 12–5pm and Saturday, December 5, 12–4pm: **Palmetto Audio Holdings** (7770 US Route 1 S., Favoretta Business Center, Unit J, Bunnell) will host the **Space Coast Audio Society** in an event featuring Hiram Toro of **Koetsu USA**.

hindsight has shown that Schar is much better at conceiving and designing products than at running a production line or a business. He now heads up the new Micromega's R&D section and provides the creative impetus.

The third member of the team, Alain Chlous, has one of France's best track records in sales and marketing. He helped Renaud de Vergnette found the redoubtable Triangle speaker brand in the early 1980s, and stayed with that company until 2007, when it changed hands.

Not only is the core team formidable, but Hamid is not rushing things. The new products, 18 months in preparation, look exceptionally neat and well founded. We listened to examples of the standalone CD players and class-D amplifiers that Sam auditioned in November, as well as a couple of other new models, both of which deserve further discussion.

The first is a system called AirStream, a name entirely appropriate even if it has nothing to do with an American design icon usually found hitched to a Jeep Cherokee. The first component in the



Didier Hamid once raced motorcycles, now heads up Micromega.

AirStream family is the WM-10, which is essentially a WiFi receiver—WHiFi in Micromegaspeak—licensed by Apple to work expressly with iTunes. Packaged as a regular standalone hi-fi component, the WM-10 receives audio data





## INDUSTRY UPDATE

Toro will present a variety of products from **Chario**, **Blacknote**, **Goldenote**, **Montegiro**, **Vexo**, and **Koetsu**. There will be live music and refreshments, and the event is open to the public. For more info, visit [www.sanibelhifi.com](http://www.sanibelhifi.com).

### INDIANA

■ Thursday, November 19, 4–8pm:

**Audio Solutions** (6371 Guilford Avenue, Indianapolis) will host an Open House featuring **Magico** V2 loudspeakers and **Chord** SPM 650 amplifiers. Magico's Irv Gross and **Bluebird Music's** Jay Rein will be on hand to discuss and demonstrate the gear. RSVP: [audioreference@aol.com](mailto:audioreference@aol.com) or (317) 255-4434.

### MARYLAND, VIRGINIA, WASHINGTON, DC

■ Saturday, December 5, 12pm: The all new **Baltimore/Washington, DC, Metropolitan Audio Society** will hold its first meeting at **United Home Audio** (10820 Guilford Road, Annapolis Junction, MD). Membership is free. For more info, visit [www.unitedhomeaudio.com](http://www.unitedhomeaudio.com) or call Greg Baron at (866) 482-8346.

via the WiFi 802.11 protocol from any Mac or PC source, and applies to it high-quality D/A conversion before delivering it to a hi-fi system. Though some details were still to be finalized, the WM-10 was successfully and effectively demonstrated, and has the benefit of electrically isolating the computer source from the hi-fi system. Due to ship beginning in November, the WM-10 is only the beginning of the AirStream concept; plans are afoot to incorporate the feature into future CD players.

The other new surprise, though not a true Micromega component, now comes under the Micromega banner and confirms Hamid's audiophile credentials. When we arrived at the factory (sadly, after production had ceased for the day), the music in the demo room was being supplied—beautifully—by a massive turntable. The *Épure* (French for *purify*), designed by Pierre Riffaud, has a suspended subchassis, a separately housed motor, a 44-lb platter, and a total weight of 176 lbs. The *Épure* comes



Didier operates the *Épure* turntable.

with a classy, Swiss-made Da Vinci tonearm, and at €20,000 costs rather less than one might have guessed.

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## *For example...*

Here are a couple of typical reader comments:

*I found more good stuff in Issue #3 of Quarter Notes than the last five issues of BOTH (print magazines) together. Keep it up. And charge if you have to.*

Mike C., Boston, MA

*Thanks so much for the newsletter... I never thought that my system could sound as good as it does. Your book has truly been the best investment in sound I have ever made.... You helped me to realize the potential of my system. Thanks again for the great book and the newsletters!*

Brian D., St. Louis, MO

Of course, I've received hundreds of similar letters, including a large quantity from readers outside of the U.S. And, if you're interested,

there are quite a few on the Reader Comments section of the **GBS** website.

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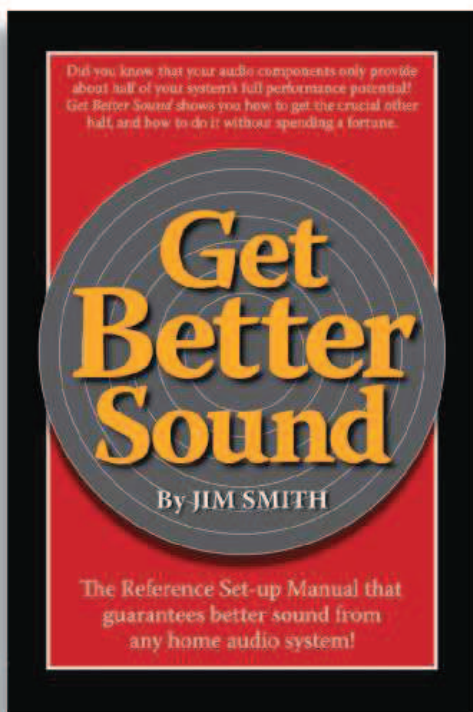
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Best regards,

*Jim Smith*

PS—The holiday season is coming up soon. If you want to receive **Get Better Sound** as a gift, I'd suggest that you start “hinting” early, as last year it was exceptionally hard to meet the demand, and **GBS** had only been out for a couple of months!

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Chord's headquarters in Maidstone, England.



The miniature Cyan integrated amplifier.

### UK: EAST FARLEIGH, KENT *Paul Messenger*

The high-end hi-fi scene has become so crowded in recent years that even brands with genuine merit, superior technical performance, and/or sound quality can all too easily find themselves drowned in a flood of anonymous “me too” styling. Such a fate will never befall Chord Electronics, which creates—in a restored Victorian pumping station beside the river Medway in the heart of the Kentish countryside—some of the most strikingly attractive and distinctive components in modern hi-fi.

Chord has recently restyled its up-market Reference series, whose components boast interiors illuminated by red LEDs, magnifying inspection windows, and elegantly shaped hardwood

sidecheeks sourced from a leading maker of gunstocks. Rather less costly than the Reference line is the new, exceptionally versatile CPM 2800 integrated amplifier, rated at 120Wpc RMS into 8 ohms or 170Wpc into 4 ohms and incorporating a host of inputs: single-ended and balanced analog, plus every kind of digital input, including wireless Bluetooth A2DP. A potentially even more interesting new integrated, the Cyan Click, takes full advantage of the increasing compactness and integration of the latest electronic components. It, too, has full complements of analog and digital inputs, including Bluetooth, all stuffed into an ultracompact case no larger than the QBD76 DAC.

While Chord's products always

look stylish, they also contain plenty of leading-edge technology. Advanced, high-frequency, switch-mode power supplies have long been an in-house speciality, while Chord turns to outside consultant Robert Watts for its unique, proprietary DAC technology. (Though Watts cofounded Deltec Precision Audio, aka DPA, some 20 years ago, he has no involvement with Adrian Walker's recent revival of that brand.) Watts's main contribution to Chord is the Watts Transient Aligned (WTA) digital filter, built using field-programmable gate arrays (FPGAs). Watts points out that our ears can detect differences of 4μs, whereas the CD standard samples only once every 20μs—which is why he uses a proprietary algorithm and literally thousands of filter taps (I didn't count 'em), along with upsampling and noiseshaping techniques, to minimize transient timing errors.

Chord's main man, John Franks, told us that the company would soon add digital amplifiers to its portfolio, and that these would use a new and different approach that wouldn't suffer the drawbacks of earlier implementations of class-D designs. It took little detective work to realize that he was probably talking about the Direct Digital Feedback Amplifier (DDFA) chipset that Robert Watts has been working on for UK semiconductor maker Diodes-Zetek. A version implemented via FPGA is already used in NAD's new M2 Direct Digital Amplifier; the Application Specific IC (ASIC) version should arrive soon.

As I left Chord headquarters and headed for my car, I looked back and wondered that such advanced and striking hi-fi equipment could emanate from such an old building in such a lovely rustic setting.



Chord's John Franks dems his reference electronics.





A Revolution  
in American Hi-Fi



# ESSENCE

*"The Zu Essence is the only \$5,000 speaker that's been able to give me goosebumps on a regular basis when listening to my favorite rock, jazz and electronic music albums. Combined with the tube amplifier of your choice, the Zu Essence speakers will transport you to an extremely enjoyable place that few speakers can. I'd say the name is very appropriate."*  
—Jeff Dorgay **TONEAudio** Issue 22

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Sam Tellig

## Sam Meets the Verity Audio Leonore loudspeaker

**W**hat do you do as an encore for your Fidelio loudspeaker?

Call your new model Leonore, of course.

In *Fidelio*, Beethoven's only opera, Leonore disguises herself as Fidelio, a male prison guard, in order to rescue her hapless husband, Florestan, a political prisoner, from being put to death. Somehow, *Florestan* doesn't click as a name for a loudspeaker—sounds too much like *floorstander*. Or, even more, like something they put in toothpaste. Leonore has strength, resonance, dignity. She's a heroine; Florestan is a wimp. I shall thus refer to Verity Audio's new Leonore loudspeaker as *she*.

Leonore sells for \$15,995/pair in piano black, \$16,995 in high-gloss wood. She replaces the Fidelio, but for \$3000 more—a price only slightly lower than that of the Parsifal Ovation I reviewed in December 2008 (which starts at \$20,995/pair in piano black). She's more sensitive, too—a claimed 93dB/W/m, as opposed to the Parsifal Ovation's 89dB. Both speakers have a nominal impedance of 8 ohms, but while the Leonore's minimum impedance is specified as 6 ohms, the Parsifal is said to drop to 4 ohms.

The Leonore is a benign load. Like me.

The twin cabinets of the Leonore are joined together at the factory, while the Parsifal's cabinets can be separated so that the woofer cabinet can face backward, toward the front wall (the usual setup), or forward, toward the listener. The isolation platforms, too, are different: aluminum for the Parsifal Ovation, but for the Leonore a composite wood material that Julien Pelchat, Verity's cofounder, says is *not* medium-density fiberboard (MDF). The two speakers are almost the same size. The Leonore is 41.5" (1065mm) high by 9.6" (247mm) wide by 17.3" (443mm) deep. She weighs 82 lbs (37.5kg).

While the Parsifal Ovation is no pig

for power, he can suck up some current in the bass, as I found when I overdrove a pair of them with my LFD Integrated Zero LE III amplifier, rated at 60Wpc into 8 ohms. NAD's C 375BEE integrated amplifier did the trick, grabbing Parsifal by the balls.

Julien Pelchat remembers speakers from the 1970s, such as the LS3/5A

sensitivity speakers. Thus you might spare yourself the expense of a preamp, which, unless it's *very* expensive, is likely to limit the system's transparency.

You can usually expect a sensitivity of 90dB or better with a speaker from Focal, Triangle, or Cabasse. These French manufacturers, all of whom make their own drive-units, tend to keep their crossovers simple, too. (When using ordinary, off-the-shelf drivers, speaker designers often correct frequency anomalies with complex crossovers that consume current and give off appreciable amounts of heat.)

*Eh, bien.* Verity Audio speakers are *almost* French. While high-end drive-units usually come from Denmark or Norway, some of Verity's are designed and manufactured in Quebec City, Canada.

Quebec City is more French than France. Stop signs there read "ARRÊT." Almost everywhere else in the world, they say "STOP"—even in France and Russia. The Russian word for *stop* is *oetanovityec*—by the time you read it, your car will have crashed. I wonder how many accidents are caused by English-speaking drivers puzzling over "ARRÊT."

"I get a kick out of the French hi-fi writers," Julien Pelchat confessed to me the other day, referring to their terminology. For instance, a speaker basket in France is a *saladier*. "I keep thinking, where's the salad?"

John Quick, of Tempo Sales & Marketing, Verity's US distributor, swapped my review pair of Parsifal Ovations for a brace of Leonores. *Now* my LFD Integrated Zero LE III delivered firmer, tighter, more extended bass—without drooping like a limp penis.

Quick positioned the Leonores very carefully, and differently from how he'd set up the Parsifals. My listening room measures about 16' by 19', with alcoves and sloped ceilings. He placed the Leonores about 4' from the front wall and 3.5' from the sidewalls, which put them about 10' apart. Quick brought my lis-



Verity Audio's Leonore—an all-new design with different drivers—replaces the Fidelio.

and the Spondor BC1, that needed about 25W to get it up but could be overdriven with more than 80W. Easy to blow tweeters—even woofers. The Leonore is designed to have a wider window—as Verity puts it, "to work with an unusually wide array of power amplifiers." At the rated 93dB/W/m, she's almost as sensitive as Verity's Lohengrin (95dB).

Sensitivity matters. You may not have to overpay for a power amp or integrated. Many of the best-sounding amplifiers, tubed and solid-state, are low-powered. Furthermore, a high-sensitivity speaker may allow you to use a passive preamp because you don't need as much gain as you do with low-



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tening chair forward about 2'—the distance from the drivers to my nose was now about 8'. The speakers were slightly toed in so that their tweeter axes crossed several feet behind my head. I felt as if I were listening through the hole in the middle—only there was no hole in the middle. This is something all Verity speakers have: the soundstaging of minimonitors with the full-range delivery of full-size Florestans—er, floorstanders.

The digital source was my Denon DCD-1650AR CD player into a Cambridge Audio DacMagic. Interconnects were whatever I could scrounge up—Klotz cable from Rega, mainly. Love those Neutrik connectors—no hum! Speaker cables were Triangle Silver Ghosts. Along with the LFD, I used the aforementioned NAD integrated. Then I switched to the lovely Quicksilver Audio Silver 70 tube monoblocks, using a passive preamp to control volume. The identity of that preamp will remain a mystery until the next issue of *Stereophile*. (By the way, I've decided that the term *passive preamplifier* is *not* nonsense. A preamp doesn't itself have to amplify; it is a *pre-amplifier*.)

I wasn't able to move the 82-lb Leonores around, and I had no slaves—*ie*, offspring—handy. I left the Veritys in place and moved myself—*ie*, my listening chair—coming in even closer than John Quick had suggested I should. I listened through the middle of the loudspeakers. Wall of sound! Pinpoint imaging. Want to know why these speakers cost \$15,995/pair? *Ecoutez*, as they say in Quebec. Listen. And look at the cabinets.

You know how you get a new pair of speakers (or any new piece of gear), then take out an LP or CD you haven't played in years? I found this in our basement: Beethoven's Symphonies 4 and 5, performed by Christopher Hogwood and the Academy of Ancient Music (CD, L'Oiseau-Lyre 417 615-2, now available only from ArkivMusic.com).

Who said that early digital was harsh and airless? These symphonies were superbly recorded—in 1986—by Simon Eadon at London's Walthamstow Assembly Hall, and showed off the Leonores' fantastic soundstaging and imaging abilities. I loved the tonal balance: smooth midrange, exquisitely extended treble. Maybe even a sweeter treble than the Parsifal Ovation's. There could be a reason for that: a new tweeter.

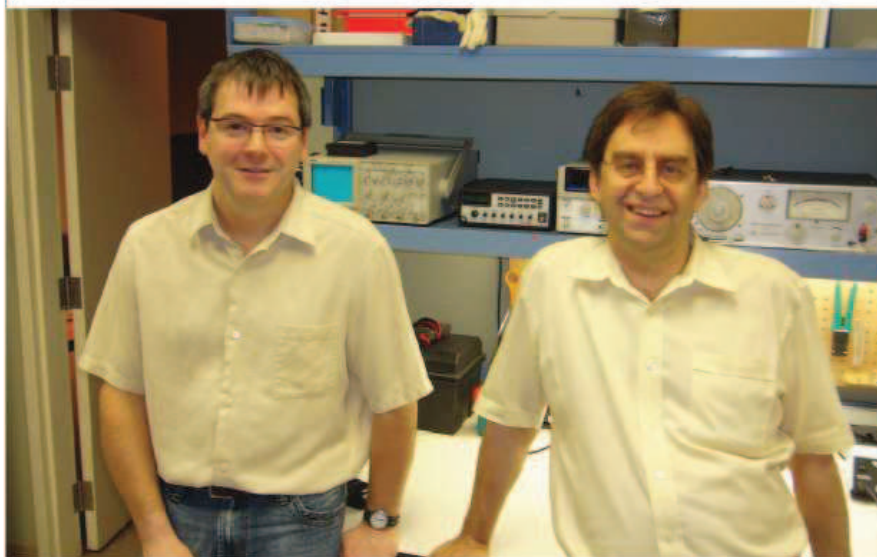


PHOTO: SAM TELLIG

Bruno Bouchard (left) and Julien Pelchat. My late friend Lars called them "the Verity boys." The company is all grown up now.

Where was I? Oh, yes, chewing the fat with Pelchat. (His partner, Verity co-founder Bruno Bouchard, was on vacation.) "We were looking to upgrade or to make a replacement for our existing Fidelio. Customers loved the Fidelio because it was easy to drive and highly compatible with tube amps. So we tried to push things further that way. The Fidelio's rated sensitivity was 89dB. How high could we go without sacrificing bass extension and smooth frequency response? We ended up with 93dB."

The woofers were especially challenging, according to Julien: "We had some custom drivers designed by various sources with a 16 ohm impedance, with the idea of running them in parallel to drop the impedance to 8 ohms. . . This was essential if we wanted the speaker to be compatible with the widest range of amplifiers."

The two 6.5" SEAS woofers in the Leonore's affixed lower cabinet are wired in parallel. Each driver is 16 ohms; in parallel, 8 ohms. The cone material is doped paper. But most of the music, as usual in a Verity speaker, comes from the midrange driver, a 5" "mineral-doped polypropylene cone" made by Audio Technology, of Norway—which is owned by Ejvind Skaaning and his son Per. The elder Skaaning founded ScanSpeak and cofounded Dynaudio.

"It's a rework of the same driver we use in the Lohengrin," Julien said. "But on the Lohengrin, we use this driver only from 400Hz up to about 6.5kHz. The Leonore's midrange driver covers the range from below 200Hz up to 4.5kHz. The 1" tweeter is from SB Acoustics," he continued. "I had a

meeting with the founders of the company in 2003 or 2004, during which we discussed a new ring-dome tweeter."

In a ring-dome tweeter, a voice-coil activates the cone from the center of its soft-fabric radiating area rather than from the edge of the tweeter. This allows for lower distortion and greater frequency extension—past the 50kHz limit of Verity's in-house test equipment.

The Leonore's 1" tweeter looks almost as if it's been damaged: dented by some visiting audiophile. Go ahead, poke your greasy finger at it—gently. It's supported from the rear. "The voice-coil former is tucked into the soft-dome tweeter just outside the inverted dimple," Julien told me. But note the absence of a ring-radiator's usual phase plug. A phase plug has problems with directivity. "The phase plug in the middle creates an off-axis shadow of the on-axis measurements. So the off-axis measurements were not as good as the on-axis measurements."

"Then SB Acoustics came out with a third generation, where you had the outer ring, but an inverted center ring in the middle. The Leonore uses the fourth generation of this tweeter. It has the same sound quality of a standard ring-radiator tweeter, without the off-axis problem associated with the phase plug."

A tweeter's dome can move more than 20,000 times per second, Julien explained. "The center of the dome tends to collapse under the number of Gs of acceleration. That's why manufacturers have come up with metal domes. But these have other problems.



## CONTACTS

**Verity Audio**, 1005 Ave. St-Jean-Baptiste, Suite 150, Quebec City, Quebec G2E 5L1, Canada. Tel: (418) 682-9940. Fax: (418) 682-8644. Web: [www.verityaudio.com](http://www.verityaudio.com).  
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They are high-energy storage materials. And they resonate. We found that the SB tweeter is the closest thing to the ribbon we manufacture in-house for our Lohengrin and Sarastro loudspeakers. It is very natural sounding.

"We use a [low-pass filter on the midrange] that starts like a first-order crossover, at around 1kHz. It's a very gentle slope. Then we have another

crossover—third-order—at around 4.5kHz." Julien stressed that he likes to keep the crossovers simple. "I have always believed simplicity works. We have always tried to follow this when designing a loudspeaker. You get the best drivers, so that you don't have to fool around with the crossovers and make them more complex. When you keep the crossovers minimal, more music comes through."

With whatever music I played—classical, jazz, show tunes, 1920s and '30s music—the Leonore let the music come through, always showing off the strengths of a good recording, never making a less-good recording sound worse. The treble definition in jazz recordings was extraordinary: crisp, clear, extended. No smearing. No shrillness. This may be the best soft-dome tweeter I've heard.

What more could you want?

In my listening room, I could have done with slightly more bass extension—but maybe it's the room. Another reason I didn't care to move the speakers is that I didn't want to destroy their stunning soundstage and precise imag-

ing. The Leonore's overall frequency response is given as 35Hz–50kHz,  $\pm 3$ dB. Yes, the speaker could go lower. Its bass definition, however, was superb: tight, taut, tuneful. Bass freaks can add a subwoofer. My late friend Lars did when he owned the original Parsifals.

I got the best results overall using the Mystery Preamp and the Quicksilver Silver 70 monoblocks. But I couldn't resist trying the Mystery Pre with my favorite flea: the 3.5Wpc Sun Audio SV2A3 single-ended amplifier. Would the Sun have enough get-up-and-go?

Not quite. The SV2A3 didn't have quite enough power to drive the Leonores' bass drivers at anything more than low listening levels. So long as it didn't clip, however, the sound was marvelous: immediate, alive, tangible. It didn't take me to the recording venue; the venue came to me. That's single-ended.

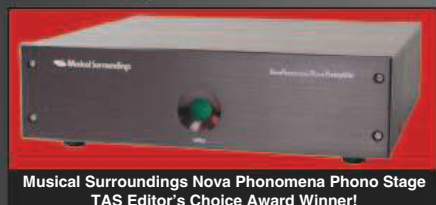
John Quick said that the SV2A3 might have worked with the Leonores in a smaller room. A *very* small room. Maybe. Meanwhile, a 10–15W single-ended-triode tube amp might have done fine. All hi-fi is compromise.

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All in all, considering price and high sensitivity, the Leonore is my favorite speaker so far from Verity Audio. I wish she were more affordable, but there's no way she could be. Alas, Leonore is worth her price: a very classy lady. I think she is a must-audition—you might want to stretch your budget. After all, you may not need heavy-duty amplification. You may not need an active preamp. Save money on digital by buying a Cambridge Audio DacMagic.

On the other hand, if you were prepared to spend *more* than \$15,995 (in basic black) on speakers, you might want to rethink that, too. Because the Verity Audio Leonore is close to being as good as it gets. Listen for yourself and decide whether it's worth spending more.

### Remembering Erich Kunzel

Erich Kunzel died on September 1.

You know him from the scores of recordings he made with the Cincinnati Pops Orchestra for Telarc International. Is there anyone reading this who *doesn't* own his recording of Tchaikovsky's *1812 Overture* (Telarc SACD-60541)?

Born to German immigrant parents

in New York City, Kunzel grew up in Greenwich, Connecticut, earned his bachelor's degree in music at Dartmouth College, and his master's at Brown University, in Providence, Rhode Island.

Erich—he was not yet Maestro Kunzel—was my music instructor at Brown in the early 1960s. He was scarcely older than the kids he taught—a kid himself, known on campus as simply “Erich,” never Mr. Kunzel. He was probably the best instructor I ever had, in terms of waking the subject (and the students), making it matter and making it fun. The charismatic podium personality of “Mr. Pops” was already set by 1960, in the classroom.

Students packed his courses, and if they hadn't actually registered for them, Erich didn't care. He treated paying and nonpaying customers alike. Lectures were typically packed to overflowing—like ants at a picnic table, Erich once joked.

Kunzel would do anything to engage students: show up in costume on Halloween, play practical jokes, you name it. One of his favorite ploys was

to pluck a student from the lecture hall and set him down at the piano.

“What's your name?” Kunzel would ask.

“Fletcher.”

“All right, Fletcher, let's play a little Brahms.”

Another encounter: “Let's hear you perform!” he shouted to a student in the back row.

“Who, me? But I'm not enrolled.”

“No excuses. You're on.”

At the time, Kunzel was personal assistant to conductor Pierre Monteux. Then in his mid-80s, Monteux needed a lot of personal assisting in his role as guest conductor of the Boston Symphony. Kunzel referred to Monteux as “the Old Man,” and invited students to hear him and others rehearse at Symphony Hall.

“But Mr. Kunzel, I have classes tomorrow morning.”

“It's Erich, not Mr. Kunzel. And cut your classes. We are going to hear the Old Man rehearse *The Rite of Spring*. As you know, he conducted the premiere, in 1913, before your parents were born.”

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"I've got a test tomorrow," chirped another student—me.

"Say you were out sick."

Thanks to Erich, I also heard Erich Leinsdorf at Symphony Hall, rehearsing Mahler's Symphony 5. I then attended two of the performances. One of the great Mahler recordings (RCA Victor 60482-2), it's now available as a custom-pressed CD from ArkivMusik.com.

Kunzel was on track to become a serious conductor. In addition to Montoux, he was the protégé of Cincinnati Symphony Orchestra conductor Max Rudolf, and in Providence had sometimes conducted the Rhode Island Philharmonic. Did Erich have it in him to be a great, serious conductor? I think he did.

In 1965, Kunzel left Brown with his master's degree and, at Rudolf's invitation, joined the Cincinnati Symphony. That same year he joined the faculty of the University of Cincinnati's College-Conservatory of Music, where he stayed until 1972. Erich did conduct some "serious" music. He was trained for it, after all. Steeped in it.

Born in Frankfurt, Germany, in 1905, Max Rudolf was an old-school conductor of the European tradition. He literally wrote the book on conducting: *The Grammar of Conducting: A Comprehensive Guide to Baton Technique and Interpretation* (New York: Schirmer, 1950; 3rd ed., 1994). It remains the most widely used text in the field. If you admired Kunzel's baton technique, this is where he got it—and from being Pierre Montoux's amanuensis.

For whatever reasons, Kunzel largely abandoned the "serious" classical repertoire for Pops. Perhaps he wanted to succeed Arthur Fiedler at the Boston Pops (he didn't). In 1977, the board of trustees of the Cincinnati Symphony set up the Cincinnati Pops Orchestra, which Kunzel conducted until this year.

Last spring, Kunzel was diagnosed with terminal cancer of the colon, liver, and pancreas. He told the *Cincinnati Enquirer*, "It wasn't supposed to happen. It wasn't on the schedule." Already ailing, he conducted the National Symphony Orchestra in the annual July 4 Pops concert on the mall in Washington, DC. A month later, on August 1, far more seriously ill, he conducted the second half of a Pops concert in Cincinnati, then waved goodbye to his audience. He died a month later near his summer home on Swan's Island,

Maine—exactly one week after Telarc released his final recording, *From the Top at the Pops* (Telarc CD-80745).

Already speaking of himself in the past tense, he told Renee Montagne, of NPR's *Morning Edition*: "I was a music entertainer, like Beethoven was, like George M. Cohan was, like Irving Berlin was. I was a music entertainer. So was Bach. So was Brahms."

Telarc succumbed as a vital recording entity when its owners, Concord Music Group, fired the label's in-house production team. In the process, they appear to have scuttled the SACD format. I wasn't the first to notice that Kunzel died and Telarc became another zombie label within months of each other.

With approximately 89 Cincinnati Pops releases (even Telarc lost count), Kunzel was Telarc's most prolific and most popular recording artist. The two were made for one another: Kunzel the "musical entertainer," and Telarc the label that so often put sound ahead of sensibility. Telarc was about sound and show; it was *not* Harmonia Mundi or Hyperion. Of course, the label still exists, now living largely off its back catalog.

And Kunzel wasn't Pierre Montoux or Max Rudolf, although I think he could have been. Therein lies my ambivalence about my favorite instructor. Students loved him. In audience terms, he was a hit, filling Cincinnati's huge Music Hall concert after concert, and selling an estimated 10 million records.

Richard S. Ginell, culture critic of the *Los Angeles Times*, had this to say: "Kunzel and Telarc kept the show going at a prolific pace into the first decade of the 21st century, but their days were numbered in an era when the goal of great sound reproduction has been trumped by the convenience of compressed music on an iPod. As far as the public and mass marketers are concerned, it is video that makes news these days, and audio spectacles simply do not have the same clout that they once did."

Many of Kunzel's recordings were more than mere orchestral spectacles. There was the very fine *Gershwin Centennial Edition: The Complete Orchestral Collection*, issued in 1998 (2CD-80445); selections from *Porgy and Bess*, also in 1998 (CD-80434); and *American Jubilee*, in 1988 (CD-80144), with music by Ives, Copland, Gould, Sousa, and others.

But among all those Telarc discs were endless, tedious traversals of film and television themes, and re-



cordings that Kunzel himself called "corny." Take *Round-Up*, from 1986 (reissued as SACD-60141): The program begins with "Sounds of the West," a montage of sound effects—the braying of cattle, the sound of a cowboy and his horse's hooves, and, finally, front and center, the horse's loud neighing. As his former student, I knew instantly that Kunzel had put Telarc up to this.

*Down on the Farm* (CD-80263) was released in 1991. It opens with "Sounds of the Farm": clucking chickens, mooing cows, crowing roosters, a snorting pig—presumably, the pig Farmer Kunzel was holding on the cover. *Farm* sold badly in the US, but the Chinese loved it—they bought tens of thousands of copies, most of them counterfeit. Kunzel signed them anyway—he didn't care, just as he hadn't cared whether or not you were registered for one of his classes at Brown.

Kunzel's career is a curious one. He was like a great writer who, instead of writing serious fiction, turns to mystery novels or spy thrillers. Telarc's run as a record label was curious, too. I suppose, in a way, they'll both be missed.

You might tell Telarc's owners, the Concord Music Group. As of September 23, there was no tribute to Kunzel on Telarc's website—not even a mention of his passing: "The Cincinnati Pops Orchestra was founded in 1977 by the Cincinnati Symphony Orchestra Board of Trustees, and Erich Kunzel was named its conductor. Maestro Kunzel continues to lead the Pops today."

According to the fools who now own Telarc, Kunzel isn't dead yet. Well, his recorded legacy lives on, even if his record label may not.

For all his public persona, Kunzel was a private man who gave few interviews. He leaves behind his wife, Brunhilde, who gives no interviews at all.





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Michael Fremer

## A Trio of Cartridges; a Trio of Phono Preamps

**M**ore than a few makers of record-cleaning fluids felt slighted when I recently mentioned Mobile Fidelity's record wash as a good choice for manually cleaning LPs.

"My one step cleaning fluid works well used that way too," said Disc Doctor's Duane Goldman—as did Osage's Jim Pendleton of their Disc Doctor Quick Wash and Audio Intelligent Premium One-Step Formula No.6 fluids.

Cleaning records by hand is preferable to not wet-cleaning them at all. It just takes longer than with a record-cleaning machine, and can be messier. A good dish drainer is useful for drying the cleaned LPs.

### Benz-Micro LP S moving-coil cartridge

I've waited a long time to hear Benz-Micro's LP S moving-coil cartridge (\$5000), which features an open-construction body of aged ebony, a brass frame, and Benz's most advanced motor. The generating system includes a 0.28mm-diameter cantilever of solid boron; a nude, mirror-polished, line-contact stylus with a radius of 5 by 120µm; and a square plate-coil system of jewel-grade ruby.

Weighing a relatively heavy 16.4gm, the medium-compliance (15µm/mN) LP S is ideal for use in tonearms of medium to high mass. Its output is a moderate 0.34mV at 3.54cm/s, which usually means fewer coil turns than are found on higher-output cartridges, which in turn should mean greater detail and faster transient response because of the lower mass. Benz also went to an improved coil winding and increased magnet strength, which they claim produces greater clarity and phase coherence.

The cartridge's claimed internal impedance of 38 ohms seems high, given the low number of coil turns. Many of today's MC cartridges combine low internal impedance, the result of fewer coil turns, with a relatively robust output voltage due to more powerful magnet systems. Ultimately, these variables can be juggled and adjusted; I'm sure

38 ohms is what the LP S's designer, Albert Lukaschek, wanted.

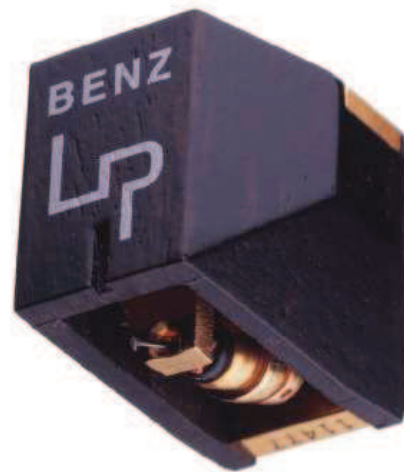
The LP S's resistive loading should be 500 ohms or more with active phono preamps. If you're using a transformer-coupled input, make sure it's not one designed for cartridges with internal impedances of 4 ohms or less than 10 ohms. The Benz's recommended tracking force is 1.8–2.2gm.

Like the Shun Mook that I reviewed in my September 2009 column, and many other wood-bodied cartridges, the final sound of the LP S has been "tuned" with Benz-Micro's choice of wood, how long the wood has been aged, and the shape of the body. In this, the LP S is the polar opposite of the Ortofon MC A90, which I reviewed last month, for which the attempt was made—more successfully than with any other cartridge I've heard—to remove the body from the equation entirely.

When you pay a premium price for a top-of-the-line cartridge, you're buying the manufacturer's best in terms of the parts and build quality, and the time lavished on the construction and tuning of each unit. According to Benz-Micro, each LP S is individually listened to, tuned, and measured to meet or exceed the model's specifications.

The LP S met or exceeded my sonic expectations as well. While the tuning makes clear the designer's intention to produce a cartridge particularly well suited for acoustic music, the LP S never sounded too polite or constrained for rock. However, if you mostly listen to classical and/or jazz, the Benz-Micro LP S will give you lush yet realistic and well-balanced orchestral timbres, with believable string tones and profoundly well-developed instrumental textures. Brass glowed, and the string sound was a brilliant balance of grit, sheen, and woody warmth.

The bottom end was supple and rich but never sluggish or lacking in control. The LP S did acoustic bass superbly, electric bass only satisfactorily—not as nimbly as some of the leaner, more tightly strung cartridges, but well enough unless that's most of what you listen to. In that case, you want a brasher, faster cartridge anyway.



Benz-Micro LP S

Properly set-up, there was none of the transient softness, or lack of drive and shimmer to percussion, that I found with the last expensive Benz-Micro cartridge I reviewed, many years ago. The LP S's top end was smooth and very well extended. I found that running the LP S "wide open" into 47k ohms produced a bright, etchy top end, but lowering the impedance to around 470 ohms resulted in an ideal balance of extension, linearity, and transient cleanness.

Like the moderately priced Benz-Micro ACE I wrote about in June 2009, the LP S offered superb tonal balance that bordered on rich without being cloying or boring. But compared to the \$700 ACE, the LP S offered more of *everything*, particularly well-saturated instrumental colors and textures, and overall spaciousness and dynamic authority.

In other words, unlike the Ortofon MC A90, which seems to pass along to the listener precisely what's in the groove, for better or worse, the LP S was more about providing a great ride regardless of road conditions. Given how many less-than-stellar recordings are out there, that's probably a good thing—as long as it doesn't squelch the greatness in great recording. The LP S didn't. The great recordings sounded *great*, never lackluster or too polite. A test pressing of Analogue Productions' 45rpm reissue of Rachmaninoff's *Symphonic Dances*, from the original Vox Turnabout tapes, sounded sensational, both harmonically and dynamically.



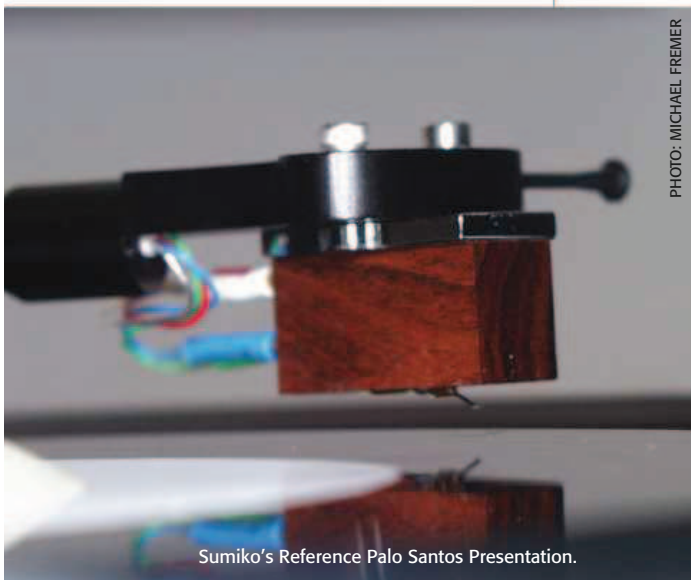


PHOTO: MICHAEL FREMER

Sumiko's Reference Palo Santos Presentation.

Switching between the Ortofon MC A90 and Benz-Micro LP S produced profoundly different yet equally credible reproductions of the music. The Ortofon delivered a closer perspective and consequently bigger, more tightly drawn images, greater individual instrumental separation, faster and sharper transients, tauter bass, and an excep-

tional transparency that some might mischaracterize as cool.

By contrast, the LP S's overall perspective was more mid-hall than fifth-row center, with images that were modestly sized, finely drawn, and naturally focused, and free of etch or grain without being too smooth. Macrodynamics were unrestrained within the context of that perspective, while microdynamics and low-level resolution were what you'd expect from any \$5000 cartridge: super-

perb resolution of the subtlest of microdynamic gestures, with low-level details emerging from the blackest of backgrounds.

Which you will prefer will depend on your musical and sonic tastes and the other components in your system. The Benz leans toward romance, the Ortofon toward stark analysis.

## Sumiko Reference Palo Santos Presentation moving-coil cartridge

Another striking-looking "open" MC cartridge with a "tuned" body of wood, Sumiko's Reference Palo Santos Presentation (\$3500; *palo santo* is Spanish for *holy wood*) has a generous, phono-preamp-friendly output of 0.5mV, a generator with an alnico magnet, a boron cantilever, synthetic rubber suspension, and an ultra-low-mass Vital PH stylus of solid diamond that measures 75 by 5µm.

On the light side at 8.3gm, the Palo Santos Presentation is of medium compliance ( $8 \times 10^{-6}$  cm/dyne) with a claimed channel separation of more than 30dB at 1kHz and an internal impedance of 12 ohms. The recommended range of load impedance is 10–1000 ohms. The optimal vertical tracking force (VTF) is 2gm, which is what I used. The cartridge produced in excess of 30dB at 1kHz, as promised, and sounded best here at 100 ohms using the AudioValve Sunilda preamplifier (see below), or at 25 ohms into that tap of the Manley Labs Steelhead's



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Dynavector 10x5



Audio Technica  
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Grado Reference  
Sonata



Dynavector XV-1S



Benz S-Wood



Clearaudio Maestro



Sumiko Blackbird



Ortofon 2M RED



Lyra Skala



autoformer MC input.

Though the Benz-Micro and Sumiko cartridges share a superficially similar build strategy, they couldn't have sounded more different. The LP S had a seriousness and refinement that the Sumiko lacked. The LP S's finely drawn physical presentation exudes European refinement.

The brasher-sounding Sumiko produced a perspective closer to the stage, both tonally and physically. Images were big and well focused but not placed as deeply in space. The Palo Santos Presentation's overall tonal balance was similar to the LP S's in the mids but leaner and faster in the midbass, and less rich overall. The Sumiko's top end was a bit less burnished and more sunlit. Transients were sharper and subjectively faster, but not at all edgy or harsh.

In other words, while the Benz-Micro would be an ideal choice for acoustic music while still being satisfactory for the electric variety, the Sumiko reversed the balance: its exuberance and openness made it ideal for electrified music, but its touch of warmth gave a nice sheen to acoustic instruments, and especially to voices. Sundazed's excel-

## CONTACTS

**Audio-Technica U.S., Inc.**, 1221 Commerce Drive, Stow, OH 44224. Tel: (330) 686-2600. Fax: (330) 688-3752. Web: [www.audio-technica.com](http://www.audio-technica.com).

**AudioValve**, Auf dem Steken 7, 32689 Kalletal, Germany. Tel: +49 (0)5264-7799. Fax: +49 (0)5264-654477. Web: [www.audiovalve.info](http://www.audiovalve.info). US distributor: Lombardi Sales, Simi Valley, CA. Tel: (805) 444-6130. Fax: (805) 522-0989. Web: [www.rayofsound.com](http://www.rayofsound.com).

**Benz-Micro Switzerland**. US distributor: Musical Surroundings, 5662 Shattuck Avenue, Oakland, CA 94609. Tel: (510) 547-5006. Fax: (510) 547-5009. Web: [www.musicalsurrroundings.com](http://www.musicalsurrroundings.com).

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**Sumiko**, 2431 Fifth Street, Berkeley, CA 94710. Tel: (510) 843-4500. Fax: (510) 843-7120. Web: [www.sumikoaudio.net](http://www.sumikoaudio.net).

lent new 180gm reissue of Simon and Garfunkel's classic *Bridge Over Troubled Water* (LP 5302) produced very different but equally fine results via these two wood-bodied cartridges. While

the vinyl itself is not of RTI or Pallas quality (there's a bit of non-fill noise at the beginning of each side), Sundazed's price of \$16.98 more than makes up for a few beginning-of-side ticks. On



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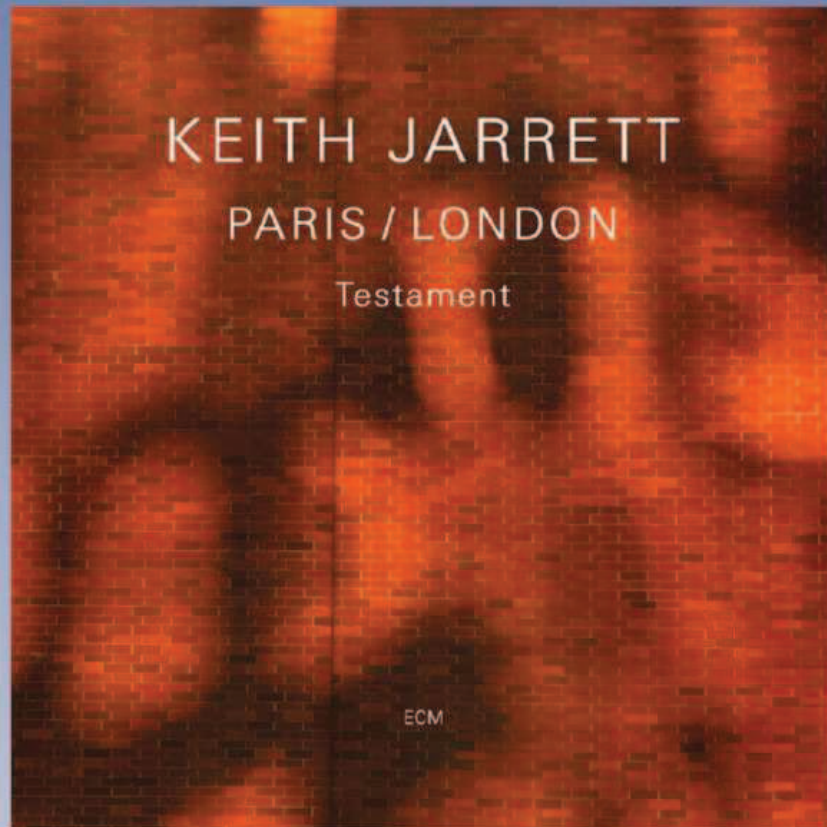
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the title track, the Benz dramatically emphasized the murky atmospherics, while the Sumiko shone more light on the late Larry Knechtel's magnificent piano arrangement and playing. The Benz didn't bury the piano, and the Sumiko didn't dry up the atmospherics. Each cartridge merely shifted the sonic emphasis.

If a \$3500 phono cartridge can ever be described as a bargain, Sumiko's Reference Palo Santos Presentation is somewhat of one. Its overall sound—smooth, sweet, but still sunny, and nicely detailed—makes it a great choice for the music lover with eclectic tastes who wants to bridge the gap between analytical and romantic sound.

### Real Bargains

Okay, so \$5000 and \$3500 cartridges are out of reach for most of us—what's good at the *true* bargain end of the price spread?

How about a sweet-sounding starter phono preamp for moving-magnet cartridges that lists for \$119 but can be had online for under \$70? It's the Audio-Technica AT-PEQ3, a little plug'n'play box with a wall-wart power supply that's quiet, sounds clean and surprisingly dynamic, and gets the job done remarkably well. True, I auditioned it using the ridiculously good Ortofon 2M Black, a cartridge equipped with a Shibata stylus and selling for \$669, but the combo goes for only \$700 and change, and I lived happily with it and the Continuum Audio Labs Caliburn turntable (with Graham Phantom tonearm) for longer than I should admit to. It's true that the upcoming double 45rpm edition of RCA's famous *The Power of the Orchestra*, produced by *Reader's Digest* and engineered by the late, great Ken Wilkinson, would sound good played with a pine needle, but had I played it for you through this modest front end (not counting the 'table and arm!), you'd never know what hit you—until you heard it played back by far more expensive cartridges and phono preamps. The orchestral sound was open and a tad bright, but with surprising heft and slam. Imaging was a bit flat and strings on the thin side, but if you needed



proof that the law of diminishing returns rules high-performance audio, this would be it.

Switch to Musical Fidelity's MM/MC V-LPS phono preamplifier (\$199) and add the instrumental layering the A-T misses, along with better image

tracked superbly at 1.5gm and competes well with the similarly priced SoundSmith SMMC1 (\$700), as well as Sumiko's high-output MC Blackbird (\$899). However, because its Shibata needle tends to be fussy about stylus rake angle (SRA), I'd use it only with a tonearm that permits adjustment of VTA and SRA, or one that leaves the arm parallel to the record surface. That might not be the optimal SRA, but it should be close enough to get excellent performance from the 2M Black.

I wish I had more space to extol the virtues of the Ortofon 2M Black and the other cartridges mentioned above. However, if you're looking to upgrade your MM or high-output MC cartridge and can spend \$700, these three are definitely worth considering.



Ortofon's 2M Black.

### AudioValve Sunilda phono preamplifier

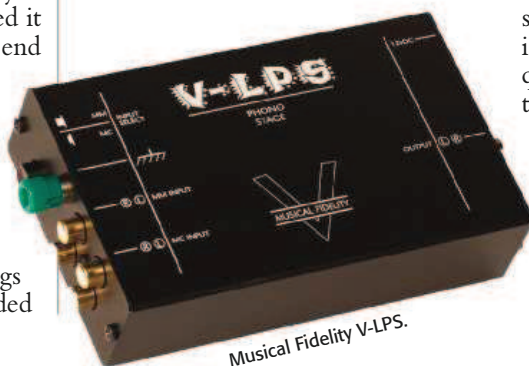
The AudioValve Sunilda (\$4995), a tubed phono preamp from Germany, offers a lot of setup convenience and flexibility, all controlled from its front panel. There are two independently configurable single-ended inputs selectable for MM or MC and adjustable for resistive (47, 100, 220, 470, 1k, and 47k ohms) and five choices of capacitive loading. The outboard transformer for the solid-state power supply connects to the main chassis via a computer-type ribbon cable and multipin connector.

The dual-mono circuit uses pairs of 6922 and 12AX7 tubes in a three-stage configuration, with passive RIAA equalization split between the first and second stages. MM gain is 41dB; MC is 63dB. Distortion is rated at 0.25% (MM, 1kHz, 0.75VAC out) and 0.3% (MC, 1kHz, 1 VAC out).

The Sunilda's claimed RIAA accuracy is  $\pm 0.25$ dB, with noise 76dB below signal in MC mode, which is fairly typical for tubed phono preamps. High-quality parts are used throughout, and the signal paths are kept short, all but eliminating any point-to-point wiring. While the rotary knobs for loading and capacitance have a rubbery feel due to the long acrylic shafts that connect them to the switches mounted on the rear board, that's a worthwhile sacrifice in the interest


specificity and dimensionality, greater dynamic slam, more supple instrumental textures, and better harmonics. Replace the wall wart with the V-PSU power supply (which can simultaneously power two other Musical Fidelity components) for an additional \$199 and it gets even better, with noticeably better bottom-end extension.

Back to the Ortofon 2M Black, which



Musical Fidelity V-LPS.



The image displays three distinct audio cable models against a solid blue background. The 'Clear Interconnect' is a single blue cable with a gold-plated RCA connector at one end. The 'Clear Speaker' is a blue cable that splits into two red and black conductors, each ending in a silver-plated fork terminal; it features a black spiral logo sleeve. The 'Clear Beyond Speaker' is a blue cable that splits into two red and black conductors, also ending in silver-plated fork terminals, and includes a black spiral logo sleeve. All cables have 'CLEAR' and 'MADE IN USA' printed on the blue outer jacket.

*Clear Interconnect*

*Clear Speaker*

*Clear Beyond Speaker*

*"Clear will be my most enduring statement."  
- George Cardas*



of front-panel convenience and short signal paths.

Use is straightforward and easy, but be sure to select Mute before changing inputs, or you'll hear a loud *pop*. Otherwise, the Sunilda was glitch-free during the review period.

**Sound:** The Audio-Valve Sunilda was quiet, even with relatively low-output MCs, and produced a sonic panorama with a rich, lush midband that definitely let me know that tubes were involved. But thanks to a well-controlled bottom end and pleasing high-frequency extension, the sound never sank into the overly tubey mire.

Though the Sunilda's bass extension was only moderately deep (your system would need to plumb the 20Hz depths for you to hear what was missing), bass control was very good—a combination preferable to more extension and less control. While the better solid-state phono preamps will deliver more extension and more muscular control, tube fans will revel in the Sunilda's palpable bass textures. Drum skins and plucked bass strings had a supple elasticity that solid-state phono preamps tend to gloss over, just as the Sunilda tended to somewhat soften the visceral punch of the electric bass. Kick drums were more about the skin rever-



Audio Valve's Sunilda phono preamp.

beration and less about the transient attack, pianos were more about sounding boards and wood than about hammer strokes, and so on.

When this balance goes overboard in one direction or the other, I hear either skeletal "runway model" sound, or the overstuffed kind that sounds the way Midwesterners at a state fair look. The best solid-state designs avoid the former, while the better tube designs avoid the latter.

And the Sunilda is a better tube design. Its pleasingly rich midrange and full-bodied harmonic palette can be described as Dockers expansive rather than unpleasingly plump. Combine its midband generosity (which includes that special 12AX7 golden glow) with clean, reasonably fast, grain-free, top-end extension, nimble yet warm mid-and lower midbass, and reasonably decent bottom-end extension, and you

have a supremely listenable and enjoyable phono preamplifier.

Could you get more muscular bottom-end extension? Yes. Greater macrodynamic slam? Yes. And probably blacker blacks, too, which usually leads to more low-level microresolution, which you can also get elsewhere in solid-state designs. But there's a particular magic to the all-tube experience, particularly in how

tubes resolve and three-dimensionalize certain instruments. I'm again playing Sundazed's new reissue of Simon and Garfunkel's *Bridge Over Troubled Water*, and the Sunilda's rendering of "So Long, Frank Lloyd Wright" is truly special. The strings are feathery, the acoustic guitar a perfect blend of string and body, the flute juicy and airy, the bongos have lots of skin, and the whole picture floats ethereally in three-dimensional space with great delicacy.

As with the Benz-Micro LP S cartridge, if you mostly listen to modern electric rock, the Sunilda might not be for you—but well-recorded acoustic music of all genres, as well as early rock and folk, sounded vivid and convincingly real, tonally, texturally, and spatially. What the Sunilda might lack in that last bit of slam it more than made up for in well-saturated harmonic colors and three-dimensionality. Just don't use it with a cartridge that's already on the warm side, or you might end up with sound that's too slow and thick to get out of its own way. I enjoyed many months of listening with the Sunilda, particularly with the more analytical Lyra Titan i and Ortofon MC A90 cartridges. If the sound I've described is your type of sound, you'll love the Sunilda—and you can't beat the convenience of two independently configurable inputs and front-panel control of loading.

The AudioValve Sunilda is one of the most enjoyably balanced tube-based phono preamps I've heard. It might not be the last word in any particular performance parameter, but taken as a whole, it's one of those components that can be installed and enjoyed for a very long time without leaving you feeling you need or want more of anything.

## IN HEAVY ROTATION

- 1) The Velvet Underground, *Singles 1966–69*, Verve/Sundazed 45rpm singles (7)
- 2) Simon and Garfunkel, *Bridge Over Troubled Water*, Columbia/Sundazed 180gm LP
- 3) Cowboy Junkies, *Whites Off Earth Now!!*, Latex/Mobile Fidelity 180gm LP
- 4) Dvůřák, *Symphony 9* (István Kertész, Vienna Philharmonic), Decca/Esoteric 200gm LP
- 5) Boz Scaggs, *Silk Degrees*, Columbia/Pure Pleasure 180gm LP
- 6) Herbie Mann, *At the Village Gate*, Atlantic/Audio Fidelity 180gm LP
- 7) The Band, *The Band*, Capitol 180gm LP, Mobile Fidelity gold SACD/CD
- 8) Miles Davis, John Lee Hooker, Taj Mahal, Roy Rogers, Jack Nitzsche, *The Hot Spot* (original soundtrack), Antilles/Analogue Productions 45rpm 180gm LPs (2)
- 9) Dexter Gordon, *Doin' Alright*, Blue Note/Music Matters 45rpm 180gm LPs (2)
- 10) Smokey Robinson and the Miracles, *Going to a Go-Go*, Tamla/Speakers Corner 180gm LP

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## Driving Me Backward

*She responds as expected to the only sound: hysterical voices!*

—Brian Eno

It certainly *ought* to be simple: Put together a music system using the finest components; acclimate yourself to its sound using only the finest recordings; replace one component in the system with something new; listen to the changes; and write about the experience in 10,000 words or more.

That's how it used to be done, when audio's alternative press was green in judgment. I remember, in particular, a few seasons' worth of surveys in which kings were crowned and duds dismissed with great grandeur and bitchiness: One phono cartridge after another—or amp or preamp or whatever—stood in for the “reference,” while talented writers noted the distinctions with apparently genuine care.

But what happened when the mass of the tonearm or the load impedance of the phono preamp or some other characteristic of the reference system didn't suit an otherwise excellent sample? We'll never know: The people who commissioned, wrote, and edited those reviews were often too arrogant to note such mistakes. Similarly, the readers of the day were so surprised and delighted that the job was being done *differently*—imagine the 12th-grader who returns to school after a short vacation, only to find that his geometry textbook has been replaced by Pauline Kael's *Anthology of Good and Bad Shapes*—that no one seemed to care.

But as that new alternative press evolved into the new mainstream press, and as it came to pass that the High End really *is* all that's left of the audio industry in the US and Europe, an increasingly savvy consumer base decided they wanted more technical accountability in what they were reading. Those same consumers also began to question the very manner in which products are reviewed. Ten years of Amanda McBroom and *Jazz at the*



The signal conductors within Teo Audio's Liquid Cable are said to be a slurry of gallium, indium, and tin.

*Pawnshop* soured many people on the notion that we should all have the same reference recordings—10 *minutes* of that shit would have done the trick for some of us—and a few hardy souls even dared challenge the reference products of the day. They asked such unpleasant questions as: How can a loudspeaker with servo-driven woofers possibly tell you anything about an amplifier's deep bass performance? And: How can you review high-compliance cartridges and low-compliance cartridges using the same tonearm and still expect meaningful results?

And the big one: Given that the performance of every hi-fi component depends, to a greater or lesser extent, on the performance of the components with which it must be used, and given that all of the latter are themselves unknown quantities at some time during their existence, then how can *any* product's appropriateness as a reference be declared with certainty? (In terms of sheer potential for effrontery, that last one was right up there with *Where did Cain get his wife?*)

Yet we muddled on.

### Liquidity

Last month's column, which was about nothing, was supposed to be about a new product called Liquid Cable. Teo Audio, the Canadian company that developed it, sent me a sample of their Liquid Cable interconnect (\$1798/1m

pair, single-ended; a speaker cable is also available for \$11,697/2m pair), and I set about reviewing it the old-fashioned way: I installed the new cable in place of the Shindo interconnect I normally use between my preamp and amplifier, and settled in to catalogue the differences that I did and did not hear.

A few dozen LPs later, it seemed to me that the Liquid Cable interconnect was nearly indistinguishable from the cable it had replaced: I doubt I could reliably tell one from the other in a blind comparison. If anything, the Liquid

Cable seemed marginally darker and a bit less open than the Shindo. But both were clearly good performers—a point driven home when I substituted yet another, much humbler interconnect pair, the use of which occasioned a lessening of explicitness and overall musical flow.

Technical differences between the two abound, of course. My Shindo cable is made with stranded silver wire and low-mass Switchcraft plugs, with a braided shield that's connected to ground at one end only, in the manner of so many other cables. On the other hand, the signal conductors within the Liquid Cable are said to be a *slurry* of gallium and indium and tin, to which the connectors are soldered by means of short, stiff copper *barbs* at the ends of each tube of slurry. A solid metal in the one cable, and a substance whose consistency calls to mind the contents of a thermometer in the other: These things really *are* as different as chalk and runny cheese!

Regardless, I wasn't surprised that the audible distinctions were small: Common sense, which used to grow wild around these parts, would lead one to believe that replacing 5% or 10% of all the cabling in a domestic audio system shouldn't be *that* noticeable.

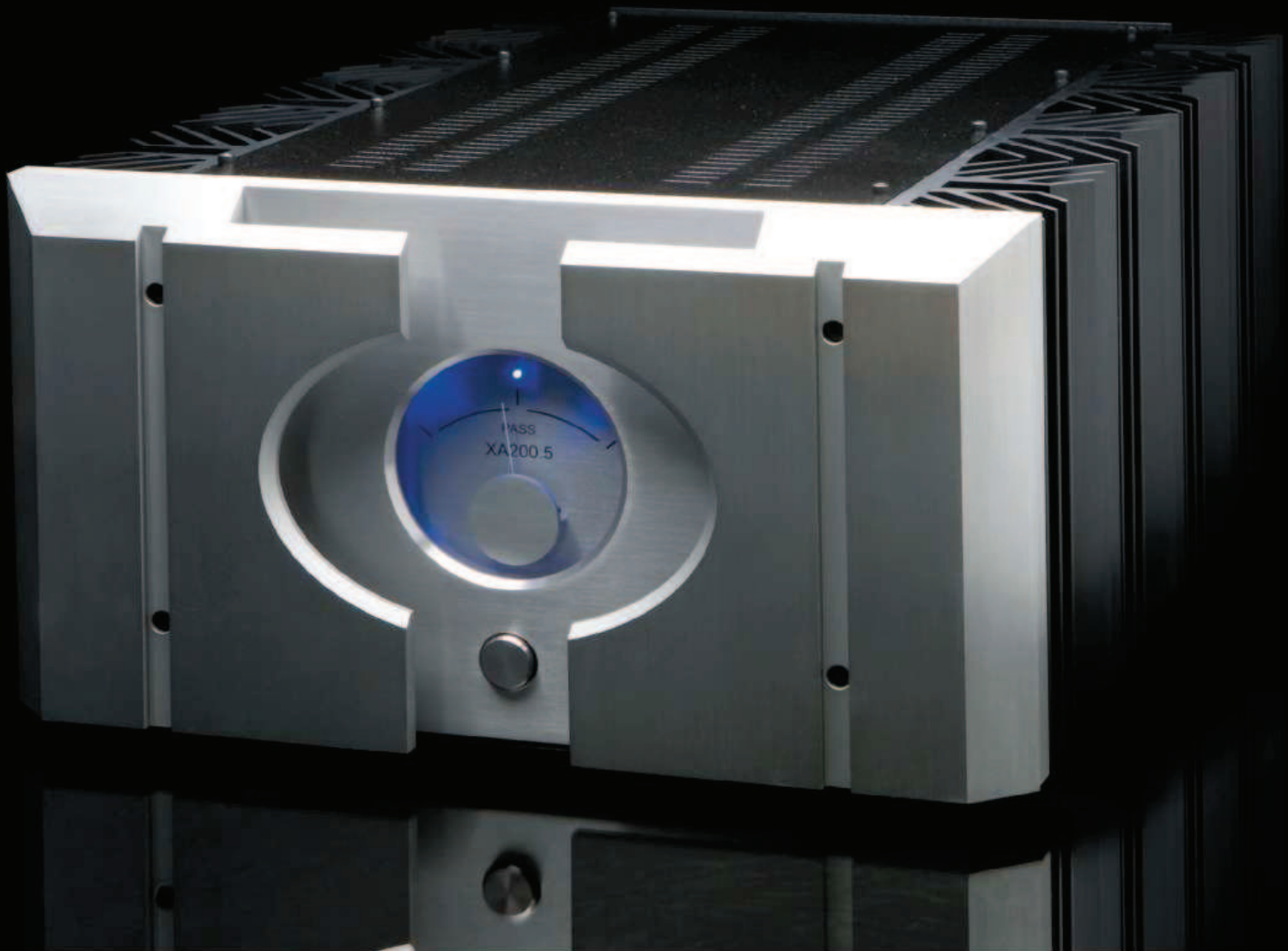
In a roundabout sort of way, that point of view is echoed by another cable maker, the New England-based Nordost Corporation. Earlier this year,



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*.....and counting*





Roy Gregory—who joined Nordost after departing *The Absolute Sound* and *Hi-Fi+*, the latter of which he founded some years ago—got in touch to say that he and Nordost founder Joe Reynolds had distilled their thinking on cables and accessories into something they call a *foundation theory*. Key to this newly articulated approach are the twin ideas that all of the cabling in a domestic system should work together as a single component within the system (Gregory likes to describe the sum of a system's wiring as its *loom*, a term I also find appealing), and that the cabling must likewise work in concert with the remainder of the system's *foundation*—ie, those products that provide the physical and electrical support for the system's primary components. A single inferior link puts the whole thing at risk; one superior link, on the other hand, can be a waste—quite possibly a very expensive one.

Commendably, Roy Gregory says that these ideas are, or at least *should* be, more or less non-brand-specific: Any domestic music system, using virtually any brand of cables and accessories, will benefit from this approach, as long as those cables and accessories manifest a certain level of quality and non-bullshittiness (my word, but I'm certain that's what he meant).

To demonstrate Nordost's foundation theory in action, Roy Gregory and Joe Reynolds visited my home in August, freighted with products from three separate categories: platforms and other accessories made by the UK

company Vertex AQ, intended to tame stray mechanical energy; electronic accessories and a power strip from Quantum Resonant Technology, of Santa Monica, California, for controlling high-frequency radiation and mains pollution; and, of course, a variety of cables from Nordost.

What Gregory and Reynolds had in mind was to essentially reinstall my hi-fi using the products described above, making sure that not only would every cable in my system be from the same designer and manufacturer, but that each should be of the same quality level as all the rest: none better, none worse. I demurred, partly in deference to the *Stereophile* policy that forbids us from borrowing review samples that we won't actually review, partly because I have limited storage space, and partly because, given the painstaking care with which I've installed and adjusted my Thorens TD 124 turntable and EMT 997 tonearm, I was worried that things might break or go out of adjustment. After an e-conversation with John Atkinson and the assurances of Mssrs. Gregory and Reynolds that my record player could skip this trip, I gave the go-ahead.

### Quantum Mechanics

Gregory and Reynolds got busy and stayed that way for the better part of 90 minutes, during which time I peppered them with an assortment of inane questions. (Q: "What do you think about cable risers?" A: "In a very high-resolution system, *everything* makes a difference." Q: "What's inside the Quantum RT boxes?" A: "Integrated circuits and other bits.") When the work was done and the cartons set to one side, I was invited to reaudition the last recording we'd listened to, before all the bustle began.

Brothers and sisters, let us pause and reflect: 25 years ago, it was possible, even commonplace, for an audio reviewer to set up his readers with some overwrought tale of an improbable tweak, then to elicit surprise with the inevitable "I was literally blown away" (Midwest US), "My jaw literally hit the floor" (East Coast US), or "I was gob-smacked" (England, Scotland, Wales, Australia, New Zealand, West Indies). Those days are gone, thank God; only a few amateurs on the Internet appear not to have received the memo.

Nevertheless, the full suite of cables and accessories around which my system was rebuilt that day had had a clearly audible effect: a change that the majority

of listeners would regard as a change for the good. We listened for a while, ate dinner, then listened some more. When I retired for the night, I left my system just as Roy and Joe had left it, with all their products and ideas in place.

The next day I listened again, and while I remained pleased with my system's performance, I noticed that it didn't sound entirely like *my system* anymore. One man's lack of substance and color is another man's abundance of air, I suppose—but in this case the one man was me and the other man was, well, pretty much everybody else. But speaking as an audio enthusiast more than as a reviewer, my idea of an improvement is simply more of what I like: substance, color, clarity, presence, scale, drama, flow, momentum, impact, humanness. The entirety of the foundation-theory *tweaks*, for want of a better word, gave me a little more of some of those things—clarity, presence, and impact, in particular—but they also pushed my system in an airier, less fleshy-and-bloody direction than I like.

Now: Even prior to this visit from Nordost, my system had hewn to some of the ideas articulated in their foundation theory, at least as far as cabling is concerned. Except for my digital music sources, all of my interconnect pairs were designed and made by Shindo Labs, which also made my amp and pre-amp; my speaker cables were designed and manufactured by Shindo's German distributor, Auditorium 23 (and approved by Ken Shindo as the best alternative to his own speaker cables); and all of my AC cords are from Shindo. Even my EMT tonearm is wired with Shindo wire—and when I rebuilt my Thorens TD 124 turntable, I hardwired in place a Shindo AC cord. I claim no prescience, great or small: This is merely the approach that seemed most sensible.

Those cables were all quite affordable by contemporary high-end audio standards. By comparison, the Nordost cables that Gregory and Reynolds left in my system were somewhat more expensive, if not quite at the top of their line: Tyr loudspeaker cable (\$4999/2m pair, terminated with low-mass bananas), Tyr shielded interconnect pairs (\$1899/1m pair, terminated with WBT locking plugs), and Vishnu AC cords (\$549/m, terminated with Wtgate gold-plated plugs). Not meaning to be facetious, it seemed that I could swap my own cables back in without risking too much of a disturbance in the Force, and with the potential for making a sideways step back to the fla-

## CONTACTS

**Nordost Corporation**, 200 Homer Avenue, Ashland, MA 01721. Tel: (800) 836-27501, (508) 881-1116. Fax: (508) 881-6444. Web: [www.nordost.com](http://www.nordost.com).

**Quantum Resonant Technology**, 1507 Seventh Street #270, Santa Monica, CA 90401. Web: [www.quantumqrt.com](http://www.quantumqrt.com).

**Teo Audio**, 2551 Highway 2 E., Kingston, Ontario K7L 4V1, Canada. Web: [www.teoaudio.com](http://www.teoaudio.com). US distributor: Brian Kurtz, 1813 Medio Calle, Austin, TX 78733. Tel: (512) 377-2834. Fax: (512) 233-5399. E-mail: [sales@teoaudio.com](mailto:sales@teoaudio.com).

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*A painter paints pictures on  
canvas. But musicians paint  
their pictures on silence.*

~Leopold Stokowski

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vor I prefer. So I did.<sup>1</sup>

With my cables back in place, the system was *unambiguously* wonderful: great sound, great music. Charlie Parker's November 1945 "Ko-Ko," from *New Sounds in Modern Music, Volume 1* (10" mono LP, Savoy MG 9000), was astounding: It was now easier than ever to imagine the implied chords during the opening trumpet and sax solos, and the strings of notes seemed less mechanical and more human. Sonically speaking, the performance was forceful, colorful, substantial, wildly propulsive, and just plain big. Make no mistake, the Nordosts from which I'd changed were just as propulsive and forceful, a bit deeper in the spatial sense, and maybe even a notch clearer. The Nordost loom was fine. Just different.

Life was good again. But my restless little rat brain wouldn't leave things alone. What would happen, I wondered, if I *really* messed things around?

I turned my attention to the accessories that now sat between my Shindo Masseto preamp and my solid-wood Box Furniture rack: a Super Kinabalu platform and a set of coupling/decoupling cones, all from Vertex AQ. The platform and cones together sell for about £600 in the UK, but as of this writing, Vertex AQ lacks an American distributor (although I'm told that may soon change). The platform is built around a beautifully honed sheet of granite, set into a base that's said to incorporate an energy-dissipating labyrinth. The set of cones comprises two blunt ones with soft contact surfaces, for decoupling, and a single pointed cone with very hard, sharp contact surfaces, for coupling. The idea, as Roy Gregory explained it, was to put the decouplers under one end of the component be-

<sup>1</sup> This account is a bit smoother than reality, in the interest of keeping the narrative as brief as possible. As I note later on, the incompatibility of various connectors meant more swapping around than is suggested here, and prevented altogether my hearing the combination of Shindo's own AC cords with the Quantum Qbase power strip—and without the Quantum Qx4s.



From top: Nordost's Tyr loudspeaker cable, Tyr interconnect, and Vishnu AC cord added clarity and impact to Art's system.

ing isolated and the coupler under the other end, thus creating a sort of pathway along which unwanted mechanical energies might be shepherded.

It occurred to me that my logical next step would be to remove all three cones and set my preamp directly atop the Super Kinabalu platform, with nothing else in between. I did—and to my ears, the sound and music were better still: more body, more lower-frequency energy, more weight. More color. I did much the same with the Shindo Haut Brion amp, and much the same happened.

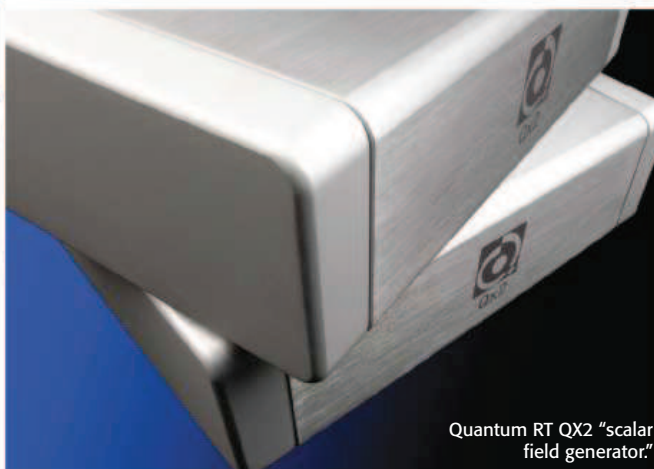
Next I removed the platforms themselves and sat the Shindos back on the wooden shelf, as they were before: my first really bad move. The music lost some of its purpose and the sound lost some of its body. Notes that should have sounded frantic were merely strident. I put the platforms back and things were great again. The notes in "Ko-Ko," not to mention the lyrics throughout Rod Stewart's *Never a Dull Moment* (LP, Mercury/DCC LPZ-2010), were easier to understand.

Then I turned my attention to the products from Quantum Resonant Technology. The simplest of these was their Qbase power distributor (\$1299 for the eight-outlet QB8 version). This is essentially an AC outlet strip with a twist: Of its eight outlet sockets, only the one at the center of the strip—labeled Primary Earth—goes straight to ground. For the remaining seven outlets, resistors are inserted between the sockets and the ground, to raise the potential, howsoever minutely. This deliberate unbalancing act is done to "enhance," if you will, the strip's behavior as a true star-ground voltage source—rather like tipping the drain board toward the kitchen sink—in an effort to reduce the noisy currents that can come from having multiple ground points of differing potentials within the system. In a sense, one might view this as the electrical version of Vertex AQ's system of couplers and decouplers.





Quantum Resonant Technology  
Qbase QB8 power distributor.



Quantum RT QX2 "scalar  
field generator."

Quantum's Qx4 model (\$2399) is a good deal more complex. Roughly the size of a cigar box, this surprisingly heavy aluminum block has a pair of AC outlets—one labeled Input, for connecting the Qx4 to an AC source, the other marked Output, for connection to a single piece of audio gear—and an on/off switch. In that very limited sense, the Qx4 is a throughput device, but it neither filters nor limits current in any way. Rather, Quantum RT describes the Qx4 (and its smaller brother, the Qx2) as a *scalar field generator*, saying that it emits an energy wave, the *beat* of which is calculated to react in specific ways with stray electromagnetic radiation, such as the fields produced by audio-component power supplies and the AC house current that drives them.

All well and good. But my understanding is that, in quantum mechanics, a scalar field is less an actual electromagnetic phenomenon than a mathematical abstraction: It's not the sort of thing one can actually *generate*, la-di-da, just like that. There is a secondary and somewhat less well-accepted definition of *scalar field* that may fit QRT's use of the term, but it comes from a very different field: alternative science, where we also find acupuncture, dowsing, and other things that appear to work despite their inexplicability. I admit being confused, at first, by the combination of a company name that connotes a link to the field of quantum mechanics and a technical product description whose ambiguity appears to point elsewhere.

In any case, the folks at Quantum RT suggest that having one or more Qx4s in any music or video system can improve its performance simply by corralling the stray electromagnetic radiation that keeps it from working at its best. To that end, Msrs. Gregory and Reynolds delivered and installed in my system a total of four Qx4s: one connected between my

wall outlet and the Qbase power strip; one connected between the power strip and my preamp; and, because the Qx4 works via radiation—electrical throughput is there mostly for convenience, to enable proximity to certain components requiring treatment—the remaining two were placed atop my two Audio Note AN-E loudspeakers, to control the stray fields that are themselves part and parcel of electromagnetic transduction. (Sorry to go all Peabody-and-Sherman there.)

To take the next step in my rearward march, I simply turned off the Qx4s that sat atop my speakers. The change was *dearly* audible, even when I was standing next to the speaker in question. With those two Qx4s switched off, my system sounded a little less impressive: flatter, less rich, less dramatic, and even a bit duller. Don't get me wrong: Music and sound were still fine without the Qx4s, but my system was more enjoyable when those two units were doing their thing. Whatever that thing is.

Then I turned off the remaining two Qx4s, which were connected nearer the heart of my system. I settled back for an hour or so of peaceful listening, and even switched them back on and back off again a few more times. Remarkably, in light of the above, I could hear no consistent differences.

Finally, I had to skip what might've been my very last act of *undoing*: Although made in California, my review sample of the Quantum Qbase power strip came to me from the UK: it had a standard IEC socket at one end, but a row of European AC sockets on top. Consequently, for the time being, I have no way of knowing what effect the Qbase *alone* might have on my system. But I'm told that a US version is on its way, and I promise to write about it in a future column—where I'll also try to provide a more complete description of the Quantum Resonant Technology

products, in addition to some remarkable laboratory test results provided by Msrs. Gregory and Reynolds.

### Fun

Right now, my system is configured as it was before the visit from Roy Gregory and Joe Reynolds, with two exceptions: I've left the Vertex AQ Super Kinabalu platforms under my preamp and amp for now, and I've left the Quantum Qx4s atop my Audio Note speakers, although I can—and often do—switch them on and off at will, for the fun of it.

And what of that pair of Liquid Audio interconnects? I tried the single interconnect pair again, literally an hour ago, and heard again what I'd heard before: almost identical to the interconnect I like best, if perhaps just a little less clear. To some that might sound like praising with faint damns: a shame, really, since I don't think anyone, reader or manufacturer, ought to expect a reviewer to "discover" a new reference cable or cartridge or speaker or whatever-you-every-couple-of-months-or-so. That would be crazy.

For now, I believe, Teo Audio doesn't make an AC-cord version of their Liquid Cable. As hinted above, they do make a speaker cable—but its designers have the honesty, and perhaps even the modesty, to say that they simply can't recommend lengths exceeding 4m. That in itself makes me like this company all the more.

In any event, a Liquid Cable loom—in the sense of a Nordost loom or a this-or-that loom—isn't on the horizon for me. But with Teo Audio's indulgence, I'm going to borrow this review sample for a little bit longer, so I can hear what else it might do. This is a cool idea from a company of integrity, and while it may not be for me to say so, I hope they'll carry on. ■



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## It's a Wrap!

**A**h me, another year gone by. The rest of my holiday-gift suggestions are at the end of this column, but I wanted to kick off with a hearty recommendation of *Aja*, a book by Don Breithaupt. You may recall Breithaupt as a co-author (with his brother, Jeff) of the survey *Precious and Few: Pop Music in the Early '70s*, which cracked me up in my October column.

In a more serious vein, Breithaupt has devoted an entire, albeit small (130pp.), book to Steely Dan's magnum opus: their 1977 album, *Aja*. Breithaupt's *Aja* is no.46 in the *33 1/3* series of monographs published by Continuum, each devoted to a single album. Other series selections run from the obvious (the Beach Boys' *Pet Sounds*, Joni Mitchell's *Court and Spark*) to the not-so-obvious (the Smiths' *Meat Is Murder*, ABBA's *Gold*). *Aja* is the first one I've read, but I'll be checking out others. Highly recommended.

One thing that distinguishes Breithaupt's work from nearly all the rest of the commentary about both Steely Dan and *Aja* is that he received active cooperation from Donald Fagen, a famously private artist. There are no blinding new revelations, but there is a depth to the musical analysis that I assume comes at least in part from Fagen's participation. The other side of that coin is the only caveat I offer about what is otherwise a general-interest—and very interesting—book.

Steely Dan's musical structures are, as far as I know, the most complex (and the most off-kilter) of any group that achieved consistent mainstream commercial success. I find Steely Dan's musical structures, especially their chord structures, far more novel and challenging than anything offered by, say, Emerson, Lake, and Palmer, or Yes. I can imagine some readers poring over Breithaupt's harmonic analyses and saying, "Wow, I never realized that before," while others might simply despair of ever making sense of something like "Cmaj<sup>7</sup> G<sup>2</sup>/B | Bbmaj<sup>7</sup> F<sup>2</sup>/A," which are the symbols for the opening chords of "Deacon Blues." Those four



chords are played once, then repeated a whole step up. The "Ah-ha" moment is when you realize that the opening gesture's motion is harmonically upward but melodically downward—as good an example as anything of Walter Becker and Donald Fagen's chronic ambiguity. No wonder it took them 18 months to record 39 minutes of music.

In fact, the musical tension between upward aspiration and downward falling of that opening passage of "Deacon Blues" is a tone-picture of the song's protagonist's state in life, which Fagen once characterized as "exalted loserdom." What a wonderful phrase. So there is a point to all the music theory—and anyway, by now you know my usual advice about borrowing from or giving to libraries.

#### ATC SCM 11 loudspeaker: \$1750/pair

The venerable British company ATC Loudspeaker Technology was founded in 1974 by Billy Woodman, and is famous within the professional community for developing the first soft-dome midrange driver, and for their well-regarded line of active (powered) studio monitors, the user list of which is a veritable *Who's Who* of mastering engineers. ATC loudspeakers are all still

made in the UK, and were a favorite of the late J. Gordon Holt.

I requested a pair of ATC's SCM 11 passive monitors because its price of \$1750/pair in real cherry veneer (or \$1850/pair in black ash) fit into my quest to find affordable systems in the \$2500–\$3750 range. I didn't realize until I removed the SCM 11 from its cloth bag that its bass loading is sealed-box; had I known that, I would have requested them even earlier. (ATC's larger designs are ported.)

ATC's lineup of consumer speakers includes one model below the SCM 11, the SCM 7, which has a 5" mid/woofer and costs \$1050/pair. The SCM 11 has Constrained Layer Damping (CLD) on its cone but doesn't share the Super Linear magnet technology found in the SCM 19, a superficially similar two-way with the same size woofer in a larger cabinet. The SCM 19 costs \$3150/pair, which puts it outside the limits of this hunt for affordable systems (though it looks very tempting). Super Linear technology is claimed to reduce third-order harmonic distortion 10–15dB between 100Hz and 3kHz, which makes me eager to hear it. Nonetheless, the SCM 11's CLD cone is claimed to reduce distortion between 300Hz and 3kHz by an unstated amount.

The SCM 11 is a stand-mounted two-way design with a 1" soft-dome tweeter with a neodymium magnet structure and a waveguide of some proprietary alloy, and a 6" mid/woofer. Although the cabinets of the review pair I received were veneered in cherrywood (with exceptional matching across the pair), the drivers are inset in a baffle board that sits proud of the cabinet face and covers all but its bottom few inches (which are veneered). The baffle is made of some sort of composite, and finished in a soft piano-black semigloss. Black fabric grilles on MDF frames attach to the speaker with plastic pins, but I didn't use them. A recess in the rear panel holds two pairs of sturdy, knurled, non-EC-compliant binding posts of brass, with brass jumpers installed for single-wiring.

ATC's SCM 11 and Aerial Acoustics'





Music for all seasons...



## "Master Glass

...it's refreshing to meet a speaker that lets the music do the talking.." Roy Gregory, HiFi +

# ARABESQUE

by







ATC's affordable and excellent SCM 11 monitors.

5B (which I wrote about in June) are variations on the same theme—sealed-box, stand-mounted two-ways costing about \$2000/pair—so it seemed reasonable to compare them.

The ATC SCM 11's cabinet measures 15" high by 8.3" wide by 9.8" deep, displaces 1220 in<sup>3</sup>, and weighs 17.6 lbs. The Aerial 5B measures 13" high by 7.9" wide by 10.8" deep, displaces 1109 in<sup>3</sup>, and weighs 22 lbs. So the ATC's cabinet is about 10% larger. Perhaps more important—and I keep making a point of this because I think it's both nonintuitive and often overlooked by audiophiles while shopping—the Aerial 5B's 7.1" mid/woofer has just about twice the surface area of the ATC SCM 11's 6" cone: 39.59 vs 19.63 in<sup>2</sup>. (Of course, this does not

translate into twice as much bass.) ATC claims a sensitivity of 85dB for the SCM 11 vs Aerial's claim of 86dB for the 5B. Stated impedance is 8 ohms for the ATC vs 4 ohms for the Aerial. ATC claims low-frequency extension for the SCM 11 of 56Hz, -6dB; Aerial, 60Hz, -2dB, and 50Hz, -8dB. I'd have to call the specifications race a tie. In use, both speakers had the well-controlled, reasonably well-extended bass you hope for from a sealed-box design.

I used a Peachtree Nova USB integrated amplifier, and a Luxman DU-50 universal player as a transport feeding the Nova's S/PDIF port via a 2m length of Kimber Kable's DV-30 cable. Speaker cables were Nordost Blue Heavens. I started with the 5Bs, playing some tracks I've recently been using in this search, then played the same tracks on the ATCs. Later, I paired the ATCs with other electronics, including the Luxman L-505u integrated amplifier, and the Carat I57 and Denon RCD-DX1 one-box CD receivers.

Playing "Embraceable You," from Jane Monheit's *Taking a Chance on Love* (CD, Sony Classical SK 92495), what immediately became apparent was the ATC's more articulate upper midrange. The treble was under control—revealing but sweet. Hand in hand with the above was a slightly wider soundstage. I quickly came to the conclusion that the ATC SCM 11 was a choice as valid as the Aerial 5B, and that, even though the differences between them were not "night and day," most listeners will prefer one speaker or the other, with room acous-

tics and associated equipment being, as always, major contributing factors.

I then listened to "I Won't Dance," Monheit's duet with Michael Bublé, which has a brassy big-band style arrangement. Here was a surprise. I'd thought that Aerial's 5B was the dynamics champ in affordable stand-mounts, but oops—the SCM 11 upped that game. The ATC's dynamics were stunning—and at normal listening levels. The one concern I can note is that the treble seemed a trifle disconnected—in this setup.

On the phasing test on *Stereophile's Test CD 2*, the SCM 11's performance was excellent, with a very pronounced difference in soundstage width between the in-phase and out-of-phase samples. Similarly, on "Green Flower Street," from Donald Fagen's *The Nightfly* (CD, Warner Bros. 23696-2), whatever phasing trick he uses about 2:14 into the track has never sounded better defined. On the veneered apron of the SCM 11's front panel, below the driver-mounting baffle, there is a black ATC logo badge whose lettering is made from a holographic diffraction-grating material. Holographic—that should have been the tipoff. The SCM 11 earned its "Monitor" label.

Over a great deal of listening with a more than usual amount of changing of source and amplification components, and several recomparisons with Aerial's 5B, I came to the conclusion that the SCM 11 had a touch of the "smile EQ" tonal character I found in PSB's Imagine B—a slightly recessed mid-treble region—although not to that extent. I found the Aerial's upper midrange more neutral and natural, and the ATC to have a slight amount of extra energy in the upper midrange and lower treble.

Going directly from the Peachtree Nova to Luxman's thrice-as-expensive L-505u integrated amplifier and four-times-as-costly DU-50 disc player, it became immediately apparent that the SCM 11 readily benefited from better partners. With Monheit's cover of "Honeysuckle Rose," the treble was more integrated with the midrange than it had been through the Nova, the soundstage was larger and more solid, and there was more fine detail in the beginnings and endings of notes. The sound became at once more authoritative and more relaxed.

With "Embraceable You" there was a better sense of the space the classical guitar was recorded in. Subtle dynamic shadings in Monheit's voice, as in her

## CONTACTS

**ATC Loudspeaker Technology Ltd.**, Gypsy Lane, Aston Down, Stroud, Gloucestershire GL6 8HR, UK. Tel: (44) (0)1285-760561. Fax: (44) (0)1285-760683. Web: [www.atc.gb.net](http://www.atc.gb.net). US distributor: Flat Earth Audio, 98 Main Street, Seymour, CT 06483. Tel: (888) 653-5454, (203) 888-3759. Fax: (203) 888-3769. Web: [www.flatearthaudio.com](http://www.flatearthaudio.com).

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performance of the wonderful song "Bill," were rendered more realistically with the Luxman duo. All of which makes me think that the Peachtree Nova's phenomenal powers of resolution are not matched by an equal measure of timbral refinement. That said, I must emphasize that I don't know of anything close to the Nova's price of \$1199 that delivers as much performance and flexibility. To take just one of the many examples I noted while listening to the ATCs with the Peachtree Nova, Jennifer Warnes's humming on Leonard Cohen's "Bird on a Wire," from her *Famous Blue Raincoat* (CD, original edition on Cypress; 20th Anniversary Edition, with 4 extra tracks, on Shout Factory) was presented with a resolution that was surprising at these prices.

The ATC SCM 11 is a fully-ready-for-prime-time loudspeaker with excellent resolution and dynamics, etc., but, even more important, the ability to create musical involvement. I intended to listen to just one track's worth of Gregorian chant from Consortium Vocale Oslo's *Exaudium Eum* (SACD, 2L 2L43SACD), and ended up listening to the whole thing. What more can I say? What I can't say is whether the SCM 11 will be the ideal speaker for you. But between it and Aerial's 5B, you have two super-high-value choices in the \$2000/pair region.

### Denon RCD-CX1 SACD/CD receiver: \$1500

To recap the intro of my August column: Denon's RCD-CX1 CD receiver (\$1500) has excellent build quality and styling, and is almost unique in its class in also playing SACDs. It even has phono inputs that are switchable from moving magnet to moving coil. However, it lags a bit on the digital and connectivity fronts. While iPod docks are available as extra-cost accessories, the RCD-CX1 has no USB input. It has an optical digital output, but no digital input. So while the RCD-CX1 might be the one-box solution for some people, others might find the Peachtree Nova better fits their needs.

Still, I think the Denon one-box gets all the big stuff and all the little stuff right. Build quality is a cut above the competition—it's built like a brick—though you might find the Peachtree



Affordable SACD-capable elegance from Denon.



Nova's styling more appealing. The Denon's casework is all metal, in a classy brushed-champagne finish. The disc tray, too, is all metal, and presents to the world only a thin edge. The volume knob has a band of faux-wood veneer around it, and is smooth in operation. The display is red, but engaging the Pure Direct mode defeats it except when you're giving it commands. The Denon's remote control is exemplary. The connectors are excellent but not world-class. There's a cooling fan, but it must be thermostatically controlled; I never heard it running.

I did exhaustive round-robin comparisons, culminating in driving a briefly borrowed pair of Quad's ESL-2805 electrostatic loudspeakers (heavenly!) with the Peachtree Nova, the Carat I57, and the Denon RCD-CX1. As test tracks for the Quad listening session, I used Alannah Myles' (does she count as a one-hit wonder?) "Black Velvet" ("BV"), from her eponymous debut album (CD, Atlantic); and John Atkinson's recording of Cantus singing Morten Lauridsen's *O Magnum Mysterium* (OMM), from their *Comfort and Joy: Volume One* (CD, Cantus CTS-1204).

**Denon RCD-CX1, "BV":** What's not to love? Solid, no edginess, lyrics very comprehensible (except that it's likely nothing will ever decode the

mumbling the track opens with). Great rhythmic drive. **OMM:** Truly wonderful. Lower voices extraordinary.

**Peachtree Nova, "BV":** A bit clearer, but the voice was slightly recessed or distant, and cooler or grayer in timbre. The Nova's resolving power was extraordinary, but the Denon was timbrally more full. **OMM:** Wonderful; remarkable detail/resolution, and the timbral contest was closer on this track.

**Carat I57, "BV":** Voice slightly farther back, but not cool like the Nova. The biggest difference between the Carat and the Denon? The Denon's treble might have been a touch warmer, and perhaps slightly less extended. **OMM:** The Carat did space and soundstaging wonderfully.

**Denon, OMM:** Slightly more clarity in the upper midrange on male vocal harmonies.

It's only by a nose, and your mileage may vary, or the feature sets or wattage might make you decide differently, but for me, it's the Denon RCD-CX1. Bravo.

### Denon SC-CX303 loudspeaker: \$1200/pair

Before I wrap up the system quest, I must give some space to Denon's companion loudspeaker, the SC-CX303 (\$1200/pair). The SC-CX303 is a ported two-way with a 1" soft-dome tweeter and a carbon-fiber-cone 5" woofer. Denon claims a sensitivity of 86dB and an impedance of 6 ohms. Instead of a formal frequency response, Denon instead gives an unreferenced figure for frequency extension that, at 35Hz–60kHz, is neither helpful nor credible.

Each SC-CX303 comes with a port plug of open-cell foam; after a certain amount of experimentation, I used these all the time.



Denon's warm and wonderful 303s.



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*Paul Seydor*

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The cabinet measures 11.6" high by 6.9" wide by 10" deep and weighs 19 lbs. Therefore, with a displacement of 800.4 in<sup>3</sup>, the SC-CX303 is significantly smaller than both the ATC SCM 11 (1220 in<sup>3</sup>) and the Aerial Acoustics 5B (1109 in<sup>3</sup>). Of course, with the SC-CX303's "woofer" being only 5" in diameter, compared to the ATC's 6" and the Aerial's 7.1", it's going to be one league down in bass capability. On the other hand, the Denon costs 30–40% less.

The SC-CX303 is a great little speaker. I respected the PSB Imagine B, which I wrote about in February, but I just loved the Denon. I'll be very interested in seeing a comparison of the speakers' measurements. My guess is that the Denon will measure a bit fuller and warmer in the midrange, perhaps even the inverse of the "smile EQ" effect. The SC-CX303 had more of an attractive richness of sound than actual deep bass.

Such things matter more to some than to others, but I think a pair of SC-CX303s look, if not quite like a million bucks, then at least more like \$2000 than \$1200. There's high-quality woodwork on all surfaces, with a wonderful raised-panel effect on the back. The SC-CX303 makes the black-painted Aerial 5B look industrial. C'mon, Aerial—bring back the veneered 5B!

I found the Denon RCD-CX1 SACD/CD receiver and SC-CX303 speakers to be an unusually synergistic combination, all the way down to the speaker cables that come free with the SC-CX303s. Using higher-zoot speaker cables such as Kimber's 8TC brought out a bit of glare in the SC-CX303s; the free cables restored a more listenable balance. Compared to more expensive speakers with the far more expensive Luxman electronics, the \$2700 Denon combination was, overall, veiled and lacking solidity, and could get a bit blatty when pushed. But compared to some other ways to spend \$2700, they were great. *Mysterious Mountains*, a demanding

SACD of the symphonic music of Alan Hovhaness with Gerard Schwarz conducting the Royal Liverpool Philharmonic (Telarc SACD-60604), should have made the SC-CX303s give up, but it didn't. The timpani in Symphony 66, *Hymn to Glacier Peak*, were impressive both in dynamics and bass extension, and the imaging and soundstaging were overall quite good. Well done.

### Wrapping It All Up

If you want one-stop shopping and \$2700 is your budget, the Denon combo is hard to beat—at least, I haven't been able to. If your budget is smaller, Arcam's Solo Mini (\$999) is great, and I prefer the Denon SC-CX303 to PSB's Imagine B (\$1000/pair), but you may not agree. That setup would cost about \$2200.

As far as speakers go, in the lower tier, I love the Denon SC-CX303. Around \$2000/pair, the Aerial 5B and ATC SCM 11 are both great.

If your budget is bigger, there are some great options. In electronics, the Denon RCD-CX1, Peachtree Nova, and Carat I57 are all truly excellent. But if you need to narrow the choices even more, as much as I love the Denon RCD-CX1 one-box, its lack of future-proofness and higher price make it defer to the Peachtree Nova, which is also the bass champ. Then, make your choice between the ATC SCM 11 and the Aerial 5B. And that's it—a completely respectable stereo for \$2950–\$3400, which leaves money on the table for cables and stands.

Best of luck.

### More Holiday Stuff

From Norway's 2L label comes *Mirror Canon* (2L49SACD), a DXD-derived multichannel SACD/CD that combines Beethoven's Op.111 piano sonata with piano works by Schönberg and Berg—and, for welcome variety, Webern's Op.7 short pieces for violin and piano. The pianist is Tor Espen Aspaas, the violinist Kolbjørn Holthe. If the recorded sound of a piano gets much bet-

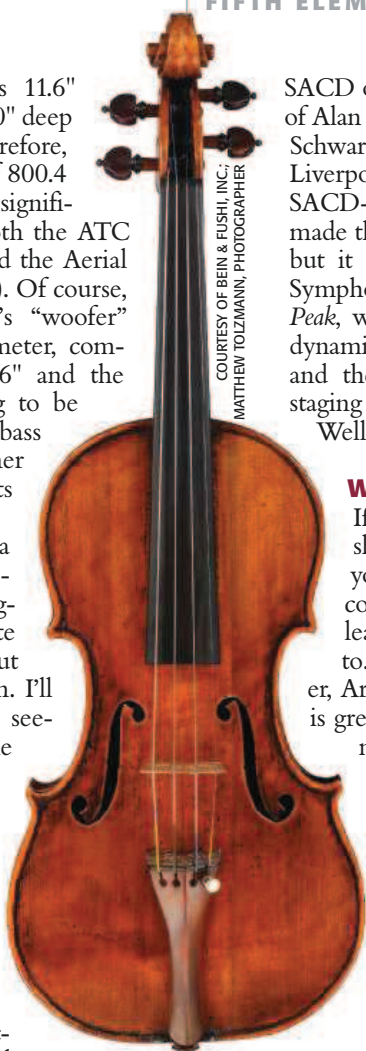
ter than this, I haven't heard it. Amazing. Wonderfully poetic playing from Aspaas (born 1971), especially in the second movement of the Beethoven, along with excellent liner notes by the pianist. Just buy it. And if you aren't yet on the ever-so-slowly-moving SACD bandwagon, hi-rez PCM downloads are available at [www.2L.no](http://www.2L.no).

I borrowed a pair of the Audio-Technica ATH-AD700 headphones Sam Tellig raved about in his June 2008 column. Their list price is \$249, but the street price is \$149 and under. Yup, a stellar bargain. The AD700s have a remarkably neutral and unfussy midrange. Their bass is on the lean side, which is better than lumpy bass. And, of course, more expensive headphones will deliver more resolution. My other concern is that either the design is such that the earpads are not actually intended to seal against your head at their tops, or the headphones were designed to fit people with larger heads than mine—I found the frame about half an inch too wide. I advise buying them with a money-back guarantee.

If your headphone budget goes way up there, Denon's AH-D7000s make a good case for their being worth \$999. Unusually, the AH-D7000s are a closed-back design, which gives them the best all-around headphone bass I've heard. The build quality is superdeluxe, with mahogany earcups, and leather earpads on cleverly designed asymmetrical cushions that give the most comfortable fit I can recall. The sound is exceptional, but not quite as startlingly real as that of the now-discontinued Ultrasone Edition 9, which I wrote about in my June 2007 column—but those cost half again as much (\$1500). (And I haven't yet heard Sennheiser's new HD800s.) That still leaves the Denon AH-D7000s as one of the top half-dozen headphones I've heard, and perhaps the most comfortable—but if your head is smaller than mine, you may have the same problem with the Denons that I had with the Audio-Technicas. If you're shopping in this price tier, don't pass them over without an audition.

Finally, if you think Santa Claus thinks you've been *very* good, you may want to ask him to drop down your chimney the Guarneri del Gesù violin of 1741 formerly owned by Henri Vieuxtemps. Fiddle expert Geoffrey Fushi thinks it's the greatest violin in existence, and it's priced accordingly: \$18 million ([www.beinfushi.com](http://www.beinfushi.com)).

Thoughts? [stletters@src.com](mailto:stletters@src.com)



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Reason #7 – Phase-coherent in reality, not 1<sup>st</sup>-order in theory.



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## Reviews

***"...the soundstage so huge I could have walked into it and wandered around for an hour or so."***

Wes Phillips, Stereophile March 2009

***"The transient response of the Anats, seemed instantaneous, but the flesh in that attack gave music both the sense of immediacy and the rich harmonic texture heard from the real thing."***

Adam Goldfine, Positive-Feedback Issue 45

A good phase-response is necessary in order to accurately portray the soundstage, preserve dynamic realism, and convey the music's emotional impact.

Traditionally, designers have used 1<sup>st</sup>-order crossover circuitry in order to optimize phase-response, as in theory it allows for zero absolute phase.

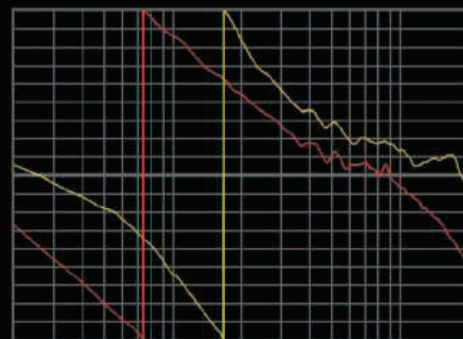
However, reality and theory are not the same. In reality, when taking into account the drivers and cabinet, no design offers zero absolute phase. Furthermore, when dealing with real (i.e. non-ideal) designs, the wide overlap of a 1<sup>st</sup>-order crossover forces drivers to operate outside their optimal band, where performance is highly compromised.

YG Acoustics takes a different approach: rather than traditional crossovers, it employs proprietary circuitry, designed using software developed entirely in-house. The resulting absolute phase matches that of the finest 1<sup>st</sup>-order designs, but with the added advantage that drivers only operate within their optimal band. Most importantly – relative phase is near-zero, i.e. all drivers radiate as one integral unit<sup>1</sup>. Only YG Acoustics offers this unique technology, which is part of what makes Anat Reference II the best on Earth. ►



## Absolute Phase

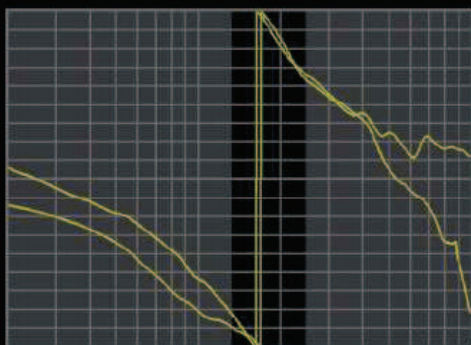
Here are absolute phase measurements of the YG Acoustics Anat Reference II, and of a leading competitor with 1<sup>st</sup>-order crossovers<sup>2</sup>. As can clearly be seen, neither speaker offers zero absolute phase. Instead, each goes through a full 360-degree cycle throughout the audio band. It is important to note that going only once through a 360-degree cycle is a remarkable accomplishment, which represents the current state-of-the-art. Not surprisingly, both speakers' imaging is highly realistic.



YG Acoustics absolute phase  
200 Hz – 20 kHz, 20 deg div.  
1<sup>st</sup>-order competitor

## Relative Phase

Moving to relative-phase (a measure of how well the drivers are integrated), YG Acoustics' proprietary circuit topology is far superior to the competitor's 1<sup>st</sup>-order crossover. The competitor's wide overlap<sup>3</sup> leads to a relative phase of  $\pm 90$  degrees between drivers, compared to YG Acoustics' state-of-the-art  $\pm 5$  degrees. Correspondingly, YG Acoustics offers far superior emotional impact: peaks preserve their dynamic "pop", but are somewhat "smeared" by the competitor.



| Overlap |



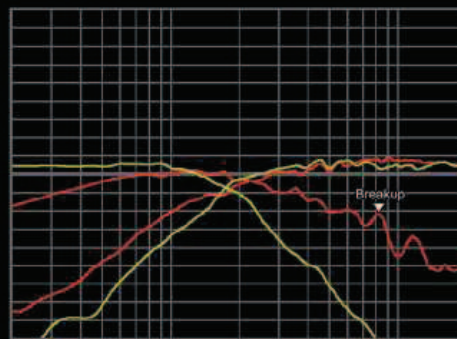
| Overlap |

YG Acoustics absolute phase  
200 Hz – 10 kHz, 20 deg div.  
1<sup>st</sup>-order competitor

## Overlap

Finally, the advantage of YG Acoustics' narrower overlap: both designs utilize midrange drivers that can operate smoothly up to 8.5 kHz, and are crossed-over to the tweeter far lower.

YG Acoustics' midrange driver is attenuated by over 50 dB at its breakup frequency, whereas the competitor's midrange is only attenuated by 15 dB. Therefore, whereas with YG Acoustics only 0.3% of the sound at 8.5 kHz is generated sub-optimally, with the competitor 18% of the sound is essentially "pure breakup". Sonically, while YG Acoustics retains its clarity throughout the audio band, the competitor sounds veiled whenever music contains this frequency range.



YG Acoustics, midrange and tweeter SPL  
200 Hz – 20 kHz, 5 dB div.  
1<sup>st</sup>-order competitor

<sup>1</sup> It is important to note that zero absolute phase does not guarantee zero relative phase. In fact, even a theoretically ideal 1st-order crossover does not offer good relative phase. Therefore, high-quality loudspeaker design is far more complex than it may initially seem.

<sup>2</sup> All measurements performed at YG Acoustics' state-of-the-art lab.

<sup>3</sup> Overlap in this document is defined as the range in which each driver type is no more than 12 dB below the total signal strength



Designed by Yoav Geva (Gonczarowski)

### YG Acoustics LLC

4941 Allison St. #10, Arvada, CO 80002, U.S.A. Tel. 801-726-3887  
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## STEREOPHILE PICKS THE INDUSTRY'S BEST PRODUCTS OF 2009

# GEAR OF THE YEAR

BY STEPHEN MEJIAS

I was sitting in the main listening room of In Living Stereo, a small Manhattan hi-fi shop nestled between Greenwich Village and the East Village, when my conversation with store owner Steve Mishoe turned to the economy's current dismal state. In the face of slow sales, Mishoe had noted an encouraging trend: Because we have less money to spend, we want to make sure that what money we do spend goes for products that not only deliver the thrill of something new, but also promise enduring *quality*. If this is true, then we have reason to celebrate. By shifting our focus from the so-called "latest and greatest" to that which will provide *lasting* enjoyment, we set ourselves up for some real happiness and fun. Editor John Atkinson had this in mind 17 years ago, when he began our "Products of the Year" ritual. He felt it important to distinguish the truly good products from all the flashy pretenders that too often win the affections of our capricious hearts.

Annually since 1992, then, *Stereophile* has named a few choice components as its "Products of the Year." We believe these are special products capable of providing musical pleasure far beyond our

formal review period. To keep the awards procedure straightforward, we have just five primary categories: Loudspeakers (including subwoofers), Amplification Components (preamplifiers, power amplifiers, etc.), Digital Source Components (transports, processors, music servers, disc players), Analog Source Components (phono cartridges, turntables, tonearms, FM tuners, etc.), and Accessories (all those little extras that keep us busy and satisfied). In a more recent tradition, each of our writers and editors also gets to declare his favorite product. Finally, the two most important categories are self-explanatory: Our overall "Product of the Year" is the best of the best; and my favorite category, Budget Product of the Year, leaves us with the most cash to spend on new records.

The voting went like this: Each of *Stereophile's* 16 hardware reviewers and editors was asked to nominate up to six components for each category. To be a contender, a product had to have been reviewed in one of the 12 issues of *Stereophile* from November 2008 through October 2009, in a full Equipment Report, a Follow-Up review, or in one of the regular columns by Art

Dudley, Michael Fremer, John Marks, Kalman Rubinson, and Sam Tellig. That way, only those components could be nominated for which a writer had put his opinion in print for public scrutiny. We then compiled a ballot form listing all components nominated by three or more writers and/or editors. This process ensured that most nominees in most categories will have been auditioned by the most reviewers. Each editor or reviewer gave three votes for his first choice in each category, two votes for his second choice, and one vote for his third choice (if any). An unambiguous picture emerged as the votes came in, and the winners became clear. John Atkinson tallied the votes—address your love letters and hate mail to him at [stleters@sorc.com](mailto:stleters@sorc.com). (See JA's comments on how the voting process works at [www.stereophile.com/asweseeit/1207awsi](http://www.stereophile.com/asweseeit/1207awsi).)

The prices listed were current as of the end of September 2009. To order back issues mentioned in this article, call (888) 237-0955, or visit [www.stereophile.com](http://www.stereophile.com) (MasterCard and Visa only). "WWW" indicates that the review is available in our free online Archives.

*And the winners are . . .*



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## 2009 PRODUCT OF THE YEAR

### LOUDSPEAKER



#### 2009 RUNNERS-UP

(in alphabetical order)

**Aerial Acoustics Model 5B**

(\$2200/pair; reviewed by John Marks, Vol.32 No.6, June 2009 WWW)

**DeVore Fidelity Gibbon Nine**

(\$6500/pair; reviewed by Jim Austin, Vol.32 No.5, May 2009 WWW)

**Dynaudio Sapphire** (\$16,500/pair;

reviewed by John Atkinson, Vol.32 No.1, January 2009 WWW)

**Hansen Prince V2** (\$39,000/pair;

reviewed by Michael Fremer, Vol.32 No.3, March 2009 WWW)

**Harbeth M40.1** (\$12,995/pair;

reviewed by John Atkinson, Vol.31 No.11, November 2008 WWW)

**PSB Imagine T** (\$2000/pair; reviewed

by Sam Tellig & Kalman Rubinson, Vol.32 Nos.4 & 6, April & June 2009 WWW)

**Thiel CS3.7** (\$12,900/pair; reviewed

by Wes Phillips, Vol.31 No.12, December 2008 WWW)

**Verity Audio Parsifal Ovation**

(\$20,995/pair; reviewed by Sam Tellig, Vol.31 No.12, December 2008)

**Verity Audio Sarastro II**

(\$39,995/pair; reviewed by Fred Kaplan, Vol.32 No.4, April 2009 WWW)

**YG Acoustics Anat Reference II**

**Professional** (\$107,000/pair; reviewed by Wes Phillips, Vol.32 No.3, March 2009 WWW)

#### Wilson Audio Specialties MAXX Series 3

(\$68,000/pair; reviewed by Michael Fremer, Vol.32 No.9, September 2009 WWW)

**T**he latest iteration of Wilson's heralded MAXX loudspeaker edged out the bold and ambitious YG Acoustics Anat Reference to take the prize in this year's most fiercely contested race. And it was *fierce*: Though the Wilson and YGA were knotted with five first-place votes apiece, the Wilson earned more votes overall, for a convincing victory. "I guess this means the YG Acoustics Anat is *not* the world's best speaker, after all," declared Sam Tellig with his evil laugh. *Heh-heh-heh*. Well, not so fast, Sam. The YGA

may still be the best loudspeaker in the world for *some* listeners, but it's clearly not the best for *all*. Other contenders with first-place nods were the Hansen Audio Prince V2 and Verity Audio Parsifal Ovation, which tied in votes cast, and our surprising third-place finisher, the DeVore Fidelity Gibbon Nine, an excellent all-around performer at an affordable price.

But this is the Wilson's show. The mighty MAXX 3 employs Wilson's Aspherical Group Delay technology, in which the tweeter and one midrange drive-unit are placed in a discrete ad-

justable cabinet, while the second midrange driver occupies another, separately adjustable cabinet. With its revised driver configuration and crossover network and its supremely dense, nonresonant enclosure, the MAXX 3 offered a mesmerizing, top-to-bottom wholeness that had Mikey Fremer fluttering with joy. John Atkinson and I, swept away by the speaker's effortless power and grace, felt the MAXX 3 produced the best sound we'd ever heard in Mikey's room. Mikey agreed, and the MAXX 3s won't be leaving his room anytime soon. He bought them.



## JOINT DIGITAL SOURCE COMPONENTS



Clockwise from top: dCS Scarlatti SACD playback system, Ayre Acoustics QB-9 USB D/A converter, Meridian 808i.2 CD player.

### Ayre Acoustics QB-9 USB D/A converter

(\$2500; reviewed by Wes Phillips, Vol.32 No.10, October 2009 WWW)

### dCS Scarlatti SACD playback system

(\$79,996; reviewed by Michael Fremer, Vol.32 No.8, August 2009 WWW)

### Meridian 808i.2 CD player

(\$16,995; reviewed by John Atkinson, Vol.32 No.4, April 2009 WWW)

Our Digital Sources category was the only race for which we could not determine a clear winner, and it seems appropriate that the award would be shared by three companies—Ayre Acoustics, dCS, and Meridian—that live on the cutting edge of design and are always interested in redefining the state of the digital art. The voting couldn't have gotten much closer than this, and we couldn't have been happier with the outcome: Though the Ayre QB-9 USB DAC received votes from the most number of writers (seven), the dCS Scarlatti SACD system and Meridian 808i.2 CD player each received four first-place votes, one second-place vote, and one third-place vote, which added up to the same total.

It's also interesting that we've selected three unique products, each the result

of a distinct vision. While the Meridian strives to squeeze the best from the familiar Compact Disc format, the Ayre is poised to reap the most from the future of high-resolution downloads, and the dCS system looks, at least for now, to be *entirely* future-proof.

The gorgeous Meridian 808i.2 uses a proprietary Resolution Enhancement algorithm and a new apodizing reconstruction filter to upsample CD data to 176.4kHz before feeding it to high-quality delta-sigma DAC chips. At levels approaching concert-hall volumes, the 808i.2 produced the correct scale and depth of classical orchestral works while avoiding any midrange congestion or treble hardness, and made John Atkinson a very happy audiophile.

The impressive Ayre Acoustics QB-9 USB DAC marries Gordon Rankin's Streamlength software for the Texas Instruments TAS1020B USB receiver chip

### 2009 RUNNERS-UP

(in alphabetical order)

#### Ayre Acoustics CX7-eMP

CD player (\$3500; reviewed by Robert Deutsch, Vol.32 No.10, October 2009 WWW)

#### Bel Canto USB Link 24/96

digital processor (\$495; reviewed by John Atkinson, Vol.32 No.5, May 2009 WWW)

#### Boulder 1021 disc player

(\$24,000; reviewed by John Atkinson, Vol.32 No.7, July 2009 WWW)

#### Cambridge DacMagic D/A

processor (\$479; reviewed by Sam Tellig & John Atkinson, Vol.32 Nos.3, 6, & 8, March, June, & August 2009 WWW)

#### Oppo BDP-83 universal player

(\$499; reviewed by Kalman Rubinson, Vol.32 No.7, July 2009 WWW)

#### Wadia Digital 170iTransport

(\$379; reviewed by John Atkinson, Vol.32 No.6, June 2009 WWW)

#### Wavelength Cosecant v3 USB

D/A processor (\$3500; reviewed by Art Dudley, Vol.32 No.6, June 2009 WWW)

to Ayre's new Minimum Phase (<sup>MP</sup>) digital reconstruction filter, while maintaining Ayre's philosophy of zero feedback and fully balanced operation. The result was a huge, physical sound from PC audio files that charged old songs with new life. Wes Phillips had his soul "psychedelicized," and JA was impressed by the way Ayre's asynchronous USB mode handled the grueling Miller/Dunn jitter test.

Finally, the ultracomplex, ultrasophisticated dCS Scarlatti is a four-box system comprising Transport, Clock, Upsampler, and a DAC employing dCS's patented Ring DAC topology and switchable reconstruction filters. This imposing system has an imposing price, but according to Mikey Fremer, it's worth every dime: "dCS has built a jewel of a system that will make you very happy for a very long time, no matter what the audio future brings."



2009 PRODUCT OF THE YEAR

## ANALOG SOURCE COMPONENT



### VPI Super Scoutmaster Reference rim-drive turntable

(\$8200; reviewed by Michael Fremer, Vol.32 No.2, February 2009)

It's surprising to note that the VPI Super Scoutmaster Reference Rim Drive turntable costs nearly \$24,000 less than this year's worthy runner-up, the tank-like SME 20/12 'table with its arm. Though our reviewers awarded each turntable three first-place votes, the VPI earned a decisive victory with more votes overall. And while the difference in price between the two 'tables is staggering, it should come as no surprise that our writers were so impressed by the newest addition to VPI's Scout line.

In the Super Scoutmaster Reference Rim Drive, VPI's Harry Weisfeld has fused together several of his favorite design elements, borrowing the Su-

per Platter and JMW-10.5i Memorial tonearm from the standard Super Scoutmaster Reference, and adding to them the Mini-TNT Stabilizer feet and dual-motor/flywheel module of VPI's top-of-the-line HR-X turntable. Most important, it sounded "fantastic," with a punchy, aggressive bottom end and a precise top-to-bottom coherence that kept Mikey listening long into the night. He called it "one of the best values of the true high-end turntables now available," and decided, "Unless you want to move into +\$25,000 territory, you could buy one and be done." Now *that's* the kind of high-quality performance we're talking about!

### 2009 RUNNERS-UP

(in alphabetical order)

#### **Benz Micro ACE phono cartridge**

(\$700; reviewed by Michael Fremer, Vol.32 No.6, June 2009)

#### **Koetsu Coralstone Platinum Mono phono cartridge**

(\$15,000; reviewed by Michael Fremer, Vol.32 No.5, May 2009)

**Miyabi monophonic phono cartridge** (\$2800; reviewed by Art Dudley, Vol.31 No.12, December 2008 WWW)

**Ortofon SPU Synergy A pickup head** (\$1850; reviewed by Art Dudley, Vol.32 No.2, February 2009 WWW)

**Ortofon SPU 90th Anniversary phono cartridge** (\$1899; reviewed by Art Dudley, Vol.32 No.4, April 2009 WWW)

**SME 20/12 turntable w/312S tonearm** (\$31,995; reviewed by Michael Fremer, Vol.32 No.5, May 2009 WWW)

**Sony XDR-F1HD FM/AM tuner** (\$99.99; reviewed by Sam Tellig, Vol.32 No.4, April 2009 WWW)



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## 2009 PRODUCT OF THE YEAR

### AMPLIFICATION COMPONENT



#### Ayre KX-R preamplifier

(\$18,500; reviewed by Wes Phillips, Vol.31 No.11, November 2008 WWW)

**W**ow. The jewel-like Ayre Acoustics KX-R preamplifier won significantly more first-place votes *and* more overall votes than any other product in our competition. In fact, with its total of 26 nods, the KX-R *doubled* the tally of our first runner-up, the magnificent Parasound Halo JC 1 monoblock. Put another way, only five of our 16 reviewers chose *not* to vote for the KX-R, and the majority of those who did ranked it as their top choice. While mention must also be made of the Peachtree Audio Nova D/A integrated amplifier, which won three first-place votes, the Ayre KX-R is certainly respected, admired, and often *loved*, by all who hear it.

Designed to match Ayre's MX-R monoblock—which in 2007 topped this very category in similarly indisputable fashion—the KX-R is a zero-feedback, fully balanced design milled from a 75-lb billet of aluminum and forming one cool hunk of audio *presence*. It uses Ayre's Variable Gain Transconductance topology to maintain a constant signal/noise ratio independent of volume setting, for improved resolution of low-level detail. Wes Phillips was convinced. He praised the KX-R for its astonishing transparency, and enjoyed how deep—how *very* deep—it took him into the soundstage. “If it's not the eighth wonder of the modern world, I say demand a recount.”

No recount needed in this poll, Wes. The Ayre is the clear winner.

#### 2009 RUNNERS-UP

(in alphabetical order)

**Benchmark DAC1 USB Pre D/A preamplifier** (\$1595; reviewed by John Atkinson, Vol.32 No.3, March 2009 WWW)

**Boulder 865 integrated amplifier** (\$12,000; reviewed by Wes Phillips, Vol.32 Nos.4 & 8, April & August 2009 WWW)

**Conrad-Johnson Classic SE preamplifier** (\$1750; reviewed by Sam Tellig, Vol.32 Nos.2 & 7, February & July 2009)

**Nagra BPS phono preamplifier** (\$2399; reviewed by Michael Fremer & Fred Kaplan, Vol.32 Nos.6, 8, & 10, June, August, & October 2009 WWW)

**Parasound Halo JC 1 monoblock power amplifier** (\$8000/pair; reviewed by Wes Phillips, Vol.32 No.9, September 2009 WWW)

**Pass Labs XA30.5 power amplifier** (\$5500; reviewed by Brian Damkroger & Erick Lichte, Vol.32 Nos.5 & 8, May & August 2009 WWW)

**Peachtree Nova D/A integrated amplifier** (\$1199; reviewed by John Marks, Vol.32 No.8, August 2009 WWW)

**Simaudio Moon I-1 integrated amplifier** (\$1700; reviewed by Robert J. Reina, Vol.31 No.12, December 2008 WWW)

**Simaudio Moon Evolution P-8 preamplifier** (\$15,000; reviewed by John Atkinson, Vol.32 No.9, September 2009 WWW)

**VTL MB450 Signature monoblock power amplifier** (\$15,000/pair; reviewed by Wes Phillips, Vol.32 No.3, March 2009 WWW)

### ACCESSORY PRODUCT

#### Sennheiser HD800 headphones

(\$1400; reviewed by Wes Phillips, Vol.32 No.7, July 2009 WWW)

**T**he race for Accessory of the Year is one of the most interesting because it involves such a diverse cast of contenders. This year, the XTZ Room Analyzer (a favorite of multichannel man Kal Robinson) and the Keith Monks Omni record-cleaning machine (a favorite of LP-loving Art Dudley) locked room modes with brush blocks in a tie for second place. But it was Sennheiser's HD800 headphones that stood apart from the pack.

The HD800 is an all-out attack on the state of the headphone art. Its 56mm ring-radiator transducer is the biggest dynamic driver currently used in any headphone, and its large earpieces are made

from a combination of absorbing composites and functional metal accents that looked and felt great on Wes Phillips's happy head. What Wes found most impressive was the HD800s' “awe-inspiringly huge” soundstage, a quality that even his beloved AKG K701 'phones, winner of our 2006 Accessory of the Year award, couldn't match.

Though the AKG K701 remains a top contender, Wes crowned a new champion: “I was stunned by the Sennheisers' ability to project scale, to reveal dynamic



#### 2009 RUNNERS-UP

(in alphabetical order)

**Channel D Pure-Vinyl LP-ripping program** (\$229; reviewed by Michael Fremer, Vol.32 No.3, March 2009)

**Keith Monks Audio Works Omni record-cleaning machine** (\$6495; reviewed by Art Dudley, Vol.32 No.5, May 2009 WWW)

**PS Audio Power Plant Premier AC regenerator** (\$2195; reviewed by Robert Deutsch, Vol.32 No.2, February 2009 WWW)

**Shure SE310 earphones** (\$300; reviewed by John Atkinson, Vol.32 No.9, September 2009 WWW)

**XTZ Room Analyzer program** (\$320; reviewed by Kalman Rubinson, Vol.31 No.11 & Vol.32 No.11, November 2008 & November 2009 WWW)

nuance, to present timbre with realism,” he said. “It may very well be the best headphone I've ever heard—for me.”



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## EDITORS' CHOICE

**John Atkinson:** Two solid-state preamplifiers, the Ayre KX-R (\$18,500, November 2008 WWW) and the Simaudio Moon Evolution P-8 (\$15,000, September 2009 WWW), both which proved that it is possible to design an active component that lets through more of the music than a straight piece of wire can!

**Jim Austin:** DeVore Fidelity Gibbon Nine loudspeaker (\$6500/pair, May 2009 WWW). Art Dudley got it precisely right when he spoke of the Gibbon Nine's "sheer humanity." This loudspeaker may be named for a non-human ape, but communicating human emotion, and the deep, human logic of great music, is what it does best.

**Brian Damkroger:** My "Hang My Name On Component" is the Pass Labs XA30.5 power amplifier (\$5500, May & August 2009 WWW). I absolutely loved listening to music through the XA30.5, album after album and night after night. Absolutely, positively, and enthusiastically recommended!

**Robert Deutsch:** Convergent Audio Technology SL-1 Renaissance preamplifier (\$9995, November 2009). If I had to use just three words to name the attributes that make the latest version of the classic CAT special, they would be transparency, resolution, and dynamics.

**Art Dudley:** Keith Monks Omni Record Cleaning Machine (\$6495, May 2009 WWW). Are you rich? Do you have lots of records? Then a good record-cleaning machine is not a luxury but a necessity. And if you're looking for the best, well, here it is.

**Michael Fremer:** Ypsilon VPS-100 phono preamplifier (\$25,000, August 2009). Class A+. I haven't got over the Ypsilon and I don't expect to for some time. If ever.

**Larry Greenhill:** Snell Illusion loudspeaker (\$50,000/pair, December 2008 WWW). The Illusion's dynamic capabilities are almost without equal. Its reproduction of orchestral music has a startling, dynamic, almost Technicolor quality that rapidly became addicting. Over the years, I've auditioned many Snell flagship systems; the Illusion is the most listenable, exciting, and satisfying Type A I've heard to date.

**Jon Iverson:** Oppo BDP-83 universal player (\$499, July 2009 WWW). Superb-sounding Blu-ray player at a very affordable price.

**Fred Kaplan:** YG Acoustic Anat Refer-

ence loudspeaker (\$107,000/pair, March 2009 WWW). I heard these only briefly in Wes Phillips' system, but they were the most natural, neutral, dynamic speakers I've ever heard. This was a bit disconcerting so at first, but then I realized they sounded odd only because all other speakers I've heard sound at least a little bit colored by comparison.

**Erick Lichte:** Benchmark DAC1 USB Pre D/A processor (\$1595, March 2009 WWW). Hook up your computer to the Benchmark's USB input, your phono preamp to the analog input, add amplifier and speakers, and live happily ever after.

**John Marks:** Luxman L505u integrated amplifier (\$3700, April 2009 WWW). Luxman's entry-level but heavyweight integrated amplifier delivers sonic authority, tactility, centeredness, continuity, easefulness, soundstage size, image specificity—you name it—in spades. It's the difference between "This is pretty good" and "This is addictive."

**Stephen Mejias:** PSB Imagine B loudspeaker (\$1000/pair, February, April, June, August, and October 2009 WWW). With bold sound and looks that belie its modest price, the Imagine B is just so easy to love. Every time I see this cute little thing, I want to hug it. Minding the drivers, of course.

**Wes Phillips:** Ayre KX-R preamplifier (\$18,500, November 2008 WWW): Expensive, but exquisitely designed and constructed—and about as close to perfection as any component I have auditioned.

**Robert J. Reina:** Linn Majik 109 loudspeaker (\$1590/pair, May 2009 WWW). This speaker has a level of high-frequency reproduction that far exceeds everything near its price. Its only shortcomings are those that you'd expect from a speaker this small: limited low bass and overall dynamics. Other than those, the Majik 109 effectively has no flaws that I can hear.

**Kalman Rubinson:** It is a toss-up between two very different products, the "do everything well" Oppo BDP-83 (\$499, July 2009 WWW) and, my essential companion, the XTZ Room Analyzer program (\$320, November 2008 & November 2009 WWW).

**Sam Tellig:** The Radius Scuba Toothbrush is the product that has given me the most fun recommending all year, but if I am pressed to nominate an audio product, it is the Sony XDR-F1HD FM/AM digital tuner (\$99.99, April 2009).



From top: Ayre KX-R preamplifier, Pass Labs XA30.5 power amplifier, Oppo BDP-83 universal player, DeVore Fidelity Gibbon Nine loudspeaker, Snell Illusion loudspeaker, Keith Monks Omni Record Cleaning Machine, Sony XDR-F1HD FM/AM digital tuner, PSB Imagine B loudspeaker, Luxman L505u integrated amplifier





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## 2009 PRODUCT OF THE YEAR

### BUDGET COMPONENT



#### Peachtree Nova D/A integrated amplifier

(\$1199; reviewed by John Marks, Vol.32 No.8, August 2009 WWW)

In my opinion, the most exciting products of our competition are found right here. Components in our Budget Product category offer outstanding performance at relatively low cost, and often benefit from technologies trickled down from more expensive designs, marketed to reach younger music lovers. While there's no doubt that products such as the Rega P3 turntable, PSB Alpha B1 loudspeaker, and Apple iPod—all previous bargain-priced champions—can provide newcomers a gateway to high-end audio, they can just as easily rekindle the enthusiasm of longtime audiophiles. Either way you look at it, these products are about the twin engines that keep high-end audio vital and fun: performance and passion.

It's no surprise, then, that votes were scattered across the board. A remarkable 10 of the 11 contenders, from Sony's XDR-F1HD AM/FM tuner (\$99.99) to Simaudio's Moon i-1 integrated amplifier (\$1700), received at least one first-place consideration. This

is as much a testament to the diversity of our writers and their priorities as it is to the strength of the products they nominated. But while the competition was flooded by offerings from well-established brands, it was newcomer Peachtree Audio's Nova D/A integrated amplifier that won our hearts with its special combination of style, performance, and versatility.

Talk about exciting. During this year's Spring Fever open house at Stereo Exchange, a leading high-end retailer in Manhattan, the scrumptious little Peachtree Nova was practically leaping into guests' laps. I was there. I saw. People *wanted* this thing. *Badly. Seriously.* Can you blame them? The nifty Nova combines an 80Wpc class-A/B power amplifier, a high-quality internal USB D/A converter, and a cool tubed line stage. It has eight inputs: five digital (one USB, two coaxial S/PDIF, two optical TosLink) and three line-level analog. If you wanted to, you could even stuff a Sonos Zone Player in its butt and listen to music all over

#### 2009 RUNNERS-UP

(in alphabetical order)

**Bel Canto USB Link 24/96**

**Benchmark DAC1 USB**

**Pre D/A processor**

**Cambridge Audio DacMagic D/A processor**

**Musical Fidelity V-DAC D/A**

**processor** (\$299; reviewed by Sam Tellig and John Atkinson, Vol.32 Nos.5 & 12, May & December 2009)

**Oppo BDP-83 universal player**

**PSB Imagine B loudspeaker**

(\$1000/pair; reviewed by John Marks & John Atkinson, Vol.32 Nos.2, 4, 6, 8, & 10, February, April, June, August, and October 2009 WWW)

**Shure SE310 earphones**

**Simaudio Moon i-1 integrated amplifier**

**Sony XDR-F1HD FM/AM tuner**

**Wadia Digital 170iTransport**

the house. With its real-wood veneer wrap, rounded corners, and Eamesesque high profile, the Nova looks awesome. *Plus*, it sounds great: punchy dynamics, pointed articulation, impactful bass, and well-defined treble. Even John Marks liked it!



2009 PRODUCT OF THE YEAR

## OVERALL PRODUCT OF THE YEAR



### Ayre Acoustics QB-9 USB D/A converter

**T**hough Wilson Audio's big MAXX 3 loudspeaker earned more first-place votes (four) than any other product in the running, the forward-thinking Ayre QB-9 led the pack with the most votes overall, to take the year's biggest prize. And Charlie Hansen and all the other hard-working, music-crazed kids at Ayre Acoustics should be doubly proud; their KX-R preamp took the bronze, trailing the Wilson by just two votes. Other products with at least one first-place recommendation were the Meridian

808i.2, YG Acoustics Anat Reference II Professional, Peachtree Nova, and the bargain-priced Cambridge Audio DacMagic D/A processor.

But it was the Ayre QB-9 that had Wes Phillips shouting hallelujah. Once Wes had gotten a taste of his favorite recordings in their native resolutions, he couldn't go back. Dude wanted more and more and more of that large, corporeal, electrifying, 24-bit rush. And it wasn't just a physical thing—it was emotional. Wes felt *closer* to his favorite performers than ever before. But if you're one of those who couldn't care

less about physical and emotional hoo-hah, the QB-9 can drop the science on you, too. Ask John Atkinson. While conventional USB DACs normally suck—*hard*—on the jitter front, the Ayre's asynchronous USB mode worked like a charm.

Well engineered, and offering outstanding performance in both the analog and digital domains, the QB-9 promises to deliver our music simply, directly, and in its purest form—more reason for celebration. Congratulations, Ayre, and thanks. ■



## REVIEW THE REVIEWS...

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Robert E. Greene - The Absolute Sound, Issue 183

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Ken Kessler - HiFi News, July 2008

"Thanks to all those inputs, the DAC1 Pre is a digital sourcelover's dream come true."

Jeff Dorgay - ToneAudio Review, 2008

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Then and now: Drivin' And Cryin' in their early hair band days, and today.

PHOTO: RUTH LEITMAN

# NO MORE TEARS

Fortune smiles on Kevn Kinney and Drivin' n' Cryin'

**I**t's the band's only television appearance. In the clip, now available on YouTube.com, David Letterman looks like he's 12. Introducing the band, he holds up a quaint artifact—a CD longbox. As the camera cuts to what seems like a dozen guitars onstage, singer Kevn Kinney does a deft twirl, and it's immediately clear that cardboard ain't the only thing gone long in this band. These Southern boys got some serious hair.

It's June 18, 1991, and the Atlanta rock band Drivin' n' Cryin' is at the top of their game. The tune they played that night, "Fly Me Courageous," has just undergone one of those bizarre political expropriations, one only slightly less weird than Ronald Reagan's unsuccessful 1984

by Robert Baird

PHOTO: MICHAEL LAVINE



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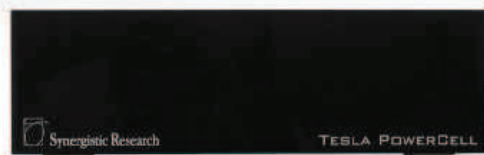
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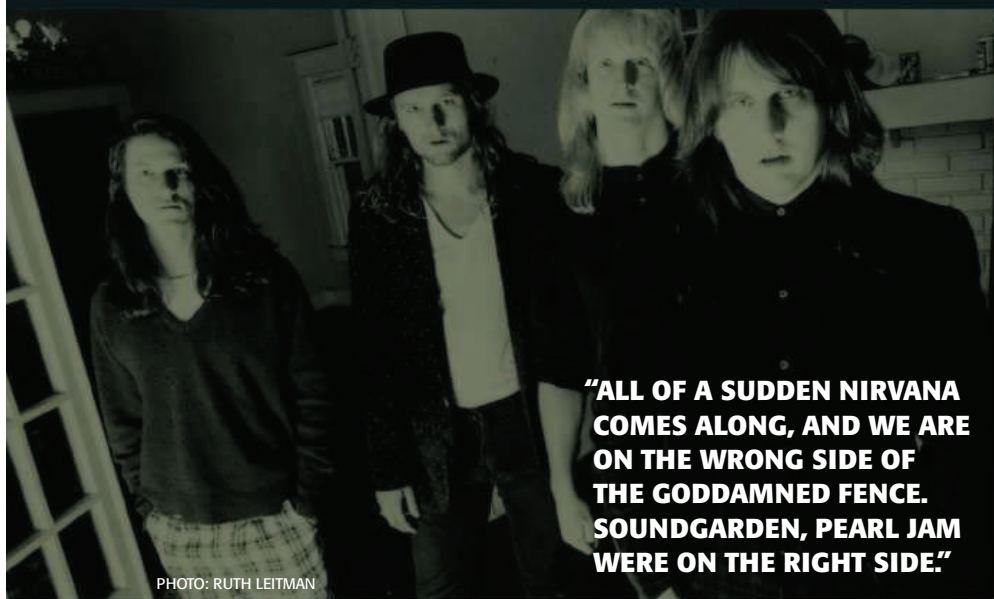


PHOTO: RUTH LEITMAN

**"ALL OF A SUDDEN NIRVANA COMES ALONG, AND WE ARE ON THE WRONG SIDE OF THE GODDAMNED FENCE. SOUNDGARDEN, PEARL JAM WERE ON THE RIGHT SIDE."**

attempt to co-opt Bruce Springsteen's "Born in the USA." During the first Gulf War, which concluded in April 1991, US Naval pilots adopted "Fly Me" as their unofficial theme song, using its big guitar riff to get pumped as they swooped in on Iraqi targets. It's one of those "What? Huh?" moments that still puzzles the song's composer, Kevn Kinney.

"The day the album [*Fly Me Courageous*] came out, we invaded. The band was on the road, going to stay at Peter Buck's [R.E.M.] house and do a secret show at the small 40 Watt club [in Athens, Georgia], and between Atlanta and Athens, they started bombing Iraq.

"We ended up playing a lot of [military] bases [during the war]. But they never really got the song and the lyrics, which were antiwar. Out of the whole country, there was one station in the Northeast that listened to the words and banned it."

Nineteen ninety one was also the year Drivin' n' Cryin', whose music was an uneasy but intriguing mix of rock and folk influences, was at the tipping point. The band had already released three eclectic folk-rock albums, one of which, 1989's *Mystery Road*, opened with a fiddle and featured Peter Buck on electric dulcimer. After the success of other southern bands, such as R.E.M. and the Black Crowes, Kinney and Drivin' n' Cryin' seemed like the next band to blow up, and the single "Fly Me Courageous" seemed like the spark. But somehow they never quite caught fire.

"What happened to us, in a music-history sense, [was that] *Fly Me Courageous* was our *Born to Run*. That was the record where [Island Records] said, 'Listen, this is your fourth record and this isn't working.' They were getting like, 'C'mon, let's do it! Just do what we say. Let's do the videos. Give us some rock, give us some anthems, get this thing going.'

"So *Fly Me* hits. It was before SoundScan, so I don't know how many records it sold, but a lot of people owned it. We were playing arenas in the South and doing huge things. Doing three sold-out nights at [Atlanta's] Fox Theatre, and Widespread Panic was opening. It was a big deal.

"All of a sudden Nirvana comes along, and we are on the wrong side of the goddamned fence. Soundgarden, Pearl Jam were on the right side."

While Drivin' n' Cryin' remain to this day a huge draw south of the Mason-Dixon Line—their Atlanta shows are sold-out, sing-along lovefests—"Fly Me Courageous" was the high point, as far as singles went. Sitting on the patio of a Brooklyn bar, Kinney, who's lived in New York since

2000, says that the band's diverse musical leanings and stubborn unwillingness to be pigeonholed played roles in how they were swamped by the Nirvana wave, which made a lot of more mainstream rock bands uncool almost overnight. More than once over the years, the "Fly Me" brush with fame has set Kinney to pondering.

"The Black Crowes had a very focused thing, and they worked with their company, and Chris [Robinson] is one of the best . . . I mean, I can't do that. That fucking guy. He looks great. He can sell it. He can just do his thing.

"Colonel Bruce [Hampton, of Atlanta's edgy, burlesque jazz jam band, The Aquarium Rescue Unit] once said to me, 'That's the best thing that ever happened to you—you never got famous.' I personally was uncomfortable

with it. When 'Fly Me Courageous' was huge, I didn't really feel like I could live up to that for that long of a time.

"Back then especially, I'm friends with Johnny Ramone and I'm constantly trying to not sell out, trying to keep it punky. And I'm a Dylanophile, so I'm trying to change . . . trying to say things, and my importance level in my own head was maybe a little bit . . . you know, I was trying to make it real serious sometimes, and maybe not be as fun as we should have been. And then we always wanted to see what was over the next mountain. It was like, 'Oh, this road is cool, but if we go over on a side street we've never been down there, let's do that.' We weren't like, 'Okay, the engine's up and running now, so let's rock and roll.'"

The band followed *Fly Me Courageous* with a final Island album, *Smoke* (1993), and then began to bounce from label to label, making *Wrapped in Sky* (1995) for Geffen, a self-titled album (1997) for Georgia blues label Ichiban (which won them an opening slot on John Entwistle's final tour with the Who), and finally, playing their potent ace card, a double live album, *The Essential Live Drivin' n' Cryin'* (1999), for Intersound. In that weird way in which what's old sometimes becomes new again, the fact that wider fame eluded the band 20 years ago has now become a positive. They've become a great "lost act" of the 1980s, a designation that sends collectors scurrying to ferret out old records and, hopefully, give a listen to a new one. Lately, their club and festival bookings have increased. Together, these are trends that the band—which is now Kinney, original DnC member Tim Nielsen (bass, vocals), Mac Carter (guitar), Joey Huffman (keyboards), and Dave Johnson (drums, vocals)—hope to exploit with the standout new record, *The Great American Bubble Factory*, their first collection of new material in a decade. Kinney smiles and takes a drag on an ever-present cigarette, anticipating the obvious question about the title.

"I've always considered us kind of a psychedelic band—like the '60s, that's our roots. *Nuggets*; we're *Nuggets* people." He's referring to the *Nuggets* series of boxed sets, released by Rhino Records, which collected obscure singles from the '60s, and which all bear a variation of the subtitle of the original 1998 box, *Original Artyfacts from the First Psychedelic Era 1965–1968*.

"[In 2000], we went to Tim's basement and put up some signs that were our mission statements, like 'Let's make a





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PHOTO: CHRIS CUFFARO

**"THE NEW RECORD HAS TO BE A LITTLE BIT EDITORIAL ... IT HAS TO HAVE SOME SORT OF RELEASE. WE'RE A LOUD, HARD BAND, AND I WANTED THAT ON THERE."**

record that is a culmination of the two most famous Drivin' n' Cryin' records, *Fly Me* and *Mystery Road*. 'Let's do rock, let's do an anthem, let's do a folk thing, let's keep it real traditional Drivin' n' Cryin.' I didn't know how it was gonna turn out." Suddenly a band that, by some accounts, should have died long before, had new life in the studio. But there were conditions.

"We had to do our formula—be the band that sounds like a record collection. Tim is a Clash fan. Mac is a Pink Floyd fan. I'm a Ramones, Dylan, Patti Smith fan. Dave is the No.1 Kinksophile in Atlanta. So I wanted to do something Kinky, and the name of the record is a Kinks kind of thing. MC5, Thin Lizzy ... we've always tried to do Zeppelin, but I don't think we've ever really pulled it off. The new element is Drive-By Truckers. I'm a huge fan, and they have these songs about growing up in Alabama, and I wanted to do a Trucker kind of thing about Georgia, so that's 'I See Georgia.'

"It has to be a little bit editorial. It has to be hopeful. It has to tug on the heartstrings a little bit. It has to have some sort of release. We're a loud, hard band, and I wanted that on there. I don't like too much production. We wanted it pretty raw. The last thing was, it had to be just the band. Yeah, I could get Derek Trucks or Warren Haynes, but I didn't want anyone filling in for anyone."

Unfortunately, DnC began work on the album on September 10, 2001. After 9/11, it took eight years for them to return and complete the shelved sessions. For older fans, *The Great American Bubble Factory* will bring back memories of the Drivin' n' Cryin' catalog. The opener, "Detroit City," is oversized, Stooges-meets-Aerosmith riff rock so retro it makes you smile. The R&B-jumpy, horn-drenched intro of the title tune, Kinney's ode to the fact that even bottles of kids' soap bubbles are now made in China, is reminiscent of the Clash. That tune's questioning chorus—"Whatever happened to the great American factory? / Whatever happened to the great American world?"—has a steady drive evocative of Kinney's eternal heroes, the Ramones. Next in the sequence is "I See Georgia"; it too opens with big, chunky power chords, and sounds

like DnC's "Honeysuckle Blue" crossed with a reverse influence from the Drive-By Truckers, a band originally inspired by DnC. Yet another fun hard-rock guitarfest, "Let Me Down" has the style of Davie Allen and the Arrows, while "The Hardest Part" is Cheap Trick-like power pop. "I Stand Tall" is a cover of a tune by another Kinney favorite, The Dictators, a NYC punk/garage band. Produced by drummer Anton Fier (Golden Palominos, Feelies, Bill Laswell), *The Great American Bubble Factory* is decently recorded, but the now-standard disclaimer "for a modern rock album" fits snugly.

Whatever the musical influences, every one of these tunes, nearly all written by Kinney, has Drivin' n' Cryin's signature anthemic, upbeat mix of big rock guitars and keyboards topped by Kinney's always strong, expressive vocals.

It was those vocals that nearly sank not only this project, but Kinney's life. Two years ago, after assuming that a newfound huskiness in his voice meant that he was "becoming a blues singer," he had a large cyst removed from his vocal cords.

"It got worse and worse until I couldn't speak at all. My wife was like, 'Are you out of your mind? Can you please go to the doctor!' The doctor was like, 'We need to take this out.' I said, 'Okay, I have a couple of shows to do next week, and so maybe next month or something?' He's like, 'You don't understand. I've never seen anything this big, and I don't know why you don't die in your sleep. We've got to take this out tomorrow. I'm not going to be responsible for your sleeping with this thing.'"

Kinney wonders now if his vocal problems might have begun years earlier, when Drivin' n' Cryin' were constantly on the road in the South and Midwest. "Everybody in the band was so loud. The drummer was the loudest drummer. The guitar player was the loudest guitar player. And the way the stages are set up, that's the hard part for the lead singer." To illustrate, he moves beer bottles around on the table. "You have the bass player and he's like BAM, BAM, BAM!, and he has monitors and side-fill monitors. Then you have this guitar player here, and he's BAM, BAM, BAM!, and he has side-fills and monitors [in front]. I'm out here in the middle, trying to get something

going—SINGING! It literally drove me crazy.

"A lot of it, too, was eating Waffle House—from the acid reflux. Eating fried foods at three in the morning, and laying down in a bunk. [switches to a prissy tone] Now I take Pepcid AC and don't eat after midnight and don't eat fried foods. How'd we get to be such old men?" [much laughter]

Old men, or big kids with haircuts, Kinney and his determined bandmates are back with their strongest record in years. While no one expects to get back on *Letterman* right away, concert promoters with cash are encouraged to call.

"If someone called me tomorrow and said, 'Do you want to do a national tour?', I'd say 'Hell yeah. Absolutely! Who are you?'"





# dCS

## Puccini

JOHN ATKINSON

### SACD/CD PLAYBACK SYSTEM

It's now 10 years since the launch of the two high-resolution audio disc formats, SACD and DVD-Audio. Yet, perhaps partly because both were hobbled in various ways to please the record industry, perhaps partly because too many supposed hi-rez releases sounded no better than CD, and perhaps partly because record retailers weren't sure how to display the formats to their best advantage, neither took off in any substantive way. DVD-A disappeared, and SACD survived only as a niche format for high-quality classical releases in both two- and multichannel forms. As we got deeper into the same decade, digital technology, despite various sparks and flashes, went into the doldrums. Mainstream digital technology was increasingly concerned with squashing the music into fewer and more portable bits, not with increased sound quality. Even the concept of "CD sound quality" began to seem an unattainable goal, as MP3 files became the dominant music carrier.

But a funny thing happened. MP3s may have sounded mediocre, but they accustomed the mainstream to regard the personal computer as another source of music. And if you can play MP3s on your PC, why not files of higher resolution? The breakthrough, I believe, came in fall 2003, when Apple released v.4.5 of its iTunes program, along with a lossless version of its AAC codec, which allowed playback of true CD-quality music without as much of the penalty of hard-drive space imposed by uncompressed files. Then there was no obstacle to playing back files of greater resolution or bandwidth than CD!

The past three years have seen an explosion in the ways of playing high-resolution files from computers. There are D/A processors that accept data via WiFi or Ethernet; there are D/A processors that connect to a computer via USB or FireWire links; and there are USB-to-S/PDIF converters that allow a computer to be used with a legacy DAC. On the other side of the fence, manufacturers such as Lynx, RME, and ASUS are making soundcards with true high-end performance, and some computers come with optical S/PDIF outputs, these usually mounting the optical driver at the inner end of a conventional 3.5mm stereo jack. And manufacturers of high-end disc players and even integrated amplifiers—take a bow, Peachtree's Nova—are increasingly incorporating digital inputs, so that the high-quality D/A and analog output sections can also be used for

**dCS PUCCINI** Drawer-loading, dual-laser SACD/CD player with digital volume and balance controls, and upsampling of CD data to DSD or PCM. Digital inputs: 2 S/PDIF on RCA jacks. Word clock In/Out (TTL) on 75-ohm BNC jacks. Digital outputs: 2 S/PDIF on RCA jacks. Analog outputs: balanced on XLR jacks, unbalanced on RCA jacks. Maximum output level: 2V or 6V, selectable. Output impedance: 3 ohms balanced, 52 ohms unbalanced. Frequency response: 10Hz–20kHz,  $\pm 0.1$  dB, Filter 1, CD and SACD playback. Channel separation:  $>80$  dB, 20Hz–20kHz. Noise:  $<-100$  dB, 20Hz–20kHz. Power consumption: 30W typical, 40W maximum. Control software: v1.12. Display software: v1.20. **DIMENSIONS** 18.1" (460mm) W by 4.4" (110mm) H by 15.8" (400mm) D. Weight: 26.6 lbs (12.1kg). **SERIAL NUMBER OF UNIT REVIEWED** DPR6098. **PRICE** \$17,999.

**dCS PUCCINI U-CLOCK** master word clock. Inputs: USB B-type for audio data; accepts data with bit depths up to 24 and sample rates up

to 96kHz. Outputs: TTL word clock on 75-ohm BNC jacks (4) at 44.1kHz or 48kHz; digital audio data via S/PDIF on RCA jacks (2). Clock accuracy: better than  $\pm 1$  ppm when shipped (guaranteed for 12 months from shipping), typically  $\pm 0.1$  ppm when shipped and stabilized. Power consumption: 3W typical, 6W maximum. **DIMENSIONS** 18.1" (460mm) W by 2.3" (58mm) H by 15.8" (400mm) D. Weight: 16.7 lbs (7.6kg). **SERIAL NUMBER OF UNIT REVIEWED** None found. **PRICE** \$4999.

**BOTH:** **FINISHES** Black, silver. **APPROXIMATE NUMBER OF DEALERS** 24. Warranty: 3 years parts & labor from date originally shipped from dCS, nontransferable. **MANUFACTURER** dCS (Data Conversion Systems), Ltd., Mull House, Great Chesterford Court, Great Chesterford, Saffron Walden CB10 1PF, England, UK. Web: [www.dcsltd.co.uk](http://www.dcsltd.co.uk). US distributor: dCS America, PO Box 544, 3057 Nutley Street, Fairfax, VA 22031. Tel: (617) 314-9296. Fax: (703) 940-2442.





dCS Puccini SACD/CD player & Puccini U-Clock master word clock

ERIC SWANSON



data from a computer, or from inexpensive WiFi streamers such as the Sonos ZP90 or Logitech Squeezebox.

British company dCS made its reputation as a pro-audio manufacturer, but entered high-end audio with a superb-sounding D/A converter, the Elgar, in 1997. This was based on a proprietary discrete DAC circuit called the Ring DAC, a 5-bit converter running at a 64x oversampling rate: 2.822MHz for 44.1kHz-based data, 3.07MHz for 48kHz-sampled data and its multiples. (Not coincidentally, 2.822MHz is the sample rate used for DSD.) The company went through some changes in recent years, and, following its acqui-

sition a few years back by David Steven, a veteran of the Scottish audio industry, dCS decided to concentrate on high-end audio. Sadly, David passed away last February (see "As We See It," p.3), but not before establishing a new range of dCS products worldwide, including the four-box Scarlatti SACD playback system that Michael Fremer raved about in our August 2009 issue. dCS is now run by David's son, also a David. When, last summer, I interrupted a brief vacation in the UK to visit the dCS headquarters in Saffron Walden, near Cambridge, I was impressed by the younger David Steven's grasp of the high-end industry and the high-end audio ethos.

## Puccini

Though expensive in absolute terms at \$17,999, the subject of this review, the Puccini, is the least expensive model in the new dCS line. A one-box SACD/CD player with both balanced and unbalanced analog outputs, it also has pairs of digital inputs and outputs, and can be used with an external master word clock, the Puccini U-Clock (\$4999), which includes a USB input.

I reviewed the first single-box SACD player to come from dCS, the P8i, in April 2006 (see [www.stereophile.com/hirezplayers/406dcs](http://www.stereophile.com/hirezplayers/406dcs)), and was well impressed by its performance. "For a clas-

## MEASUREMENTS

I examined the measured behavior of the dCS Puccini using the Audio Precision SYS2722 system (see [www.ap.com](http://www.ap.com) and "As We See It" in the January 2008 issue, [www.stereophile.com/asweseet/108aws](http://www.stereophile.com/asweseet/108aws)), as well as, for some tests, my Audio Precision System One Dual Domain. To examine the performance of the U-Clock's asynchronous USB input, I drove it with the USB 2.0 output of my MacBook running OS10.4.11, playing WAV files using Bias Peak 6.2.

The Puccini had the best error correction I have encountered, not suffering from occasional glitches in its audio output until the gaps in the data spiral of the Pierre Verany Test CD reached 3mm in length. This is even better than the top-line dCS Scarlatti player, which Michael Fremer reviewed last August. With 4m gaps in the data, the player muted its output once per revolution, but was still able to track the data spiral. The Puccini's S/PDIF input locked to audio data with sample rates of 32, 44.1, 48, 88.2, and 96kHz. The maximum output level was to specification, at 1.97V or 6.05V RMS from both the balanced and unbalanced jacks, and both outputs preserved absolute polarity—*ie*, were non-inverting—with the XLRs wired with pin 2 hot. The source impedance from the balanced jacks was an extremely low 3 ohms at all audio frequencies, rising to a still very low 52 ohms from the unbalanced jacks, as specified.

To test the Puccini's performance as an SACD player, I used the Sony test disc. The red trace in fig.1 shows the response with SACD playback with Filter 1, the factory default setting. The output starts to roll off relatively gently above 40kHz, reaching -3dB at 70kHz and -10dB at 93kHz. To my surprise, given that it is specified as rolling off a little earlier, Filter 2 had an identical response, though Filter 3 (magenta trace) and Filter 4 did progressively curtail the Puccini's ultrasonic output. These filters are also operational when the Puccini upsamples CD data to DSD. Looking at the player's output while it played a CD with a series of single-sample, full-scale positive pulses revealed that these filters are conventional finite-impulse response types, there being an equal amount of ringing before and after the pulse (not shown).

Fig.2 shows the Puccini's frequency response with PCM data fed to its S/PDIF input. Other than with 32kHz-sampled data (green trace), the output is flat in the audioband, with

then a steep rolloff above 19kHz for CD data (magenta) and above 40kHz (96kHz data). For reference, the rightmost red trace shows the response for SACD playback using Filter 1. Channel separation (not shown) was superb, at better than 100dB in both directions in the audioband.

For consistency with my tests of digital components, I examine resolution by sweeping a 1/3-octave-wide band-pass filter from 20kHz to 20Hz while the device under test decodes dithered data representing a 1kHz tone at -90dBFS. The top pair of traces below 6kHz in fig.3 show what happens with the Puccini decoding 16-bit data from CD: the trace peaks at exactly -90dBFS, suggesting minimal linearity error, while the noise floor is free from harmonic- or power-supply-related spurs. These plots actually show the spectrum of the dither used to encode the data. Switching to the S/PDIF input and increasing the word length to 24 bits gave the middle pair of traces in fig.3: the noise floor has dropped by 16dB or so, suggesting close to 19-bit resolution. The top traces above 6kHz were taken with the Puccini playing an SACD. The high level of RF noise inherent in DSD encoding leaks past the bandpass filter's "skirts," making it look as if the noise floor is rising in the top two octaves, but this is a false impression. There is a touch more LF noise with DSD data than with 24-bit PCM data, however. The bottom pair of traces in

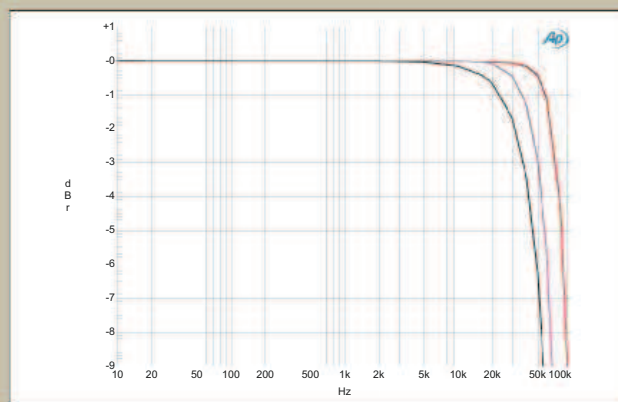


Fig.1 dCS Puccini, SACD frequency response at -3dBFS into 100k ohms with Filters 1 & 2 (red), Filter 3 (magenta), Filter 4 (gray). (1dB/vertical div.)



sical music lover assembling a collection of SACDs who still wants the best sound from his CD library, the dCS P8i used straight into the power amps is almost as good as it can get," I concluded.

But there was trouble in paradise. The Philips transport mechanism used in the P8i proved, over the long haul, to be as unreliable in the dCS player as it was in contemporaneous SACD players from Krell and Musical Fidelity. The Puccini, therefore, uses a high-quality transport mechanism from Japanese company Esoteric, the UMK5. Though an expensive part, it has so far proved bombproof in use.

Discs are loaded on an elegant, slim drawer mounted on the right of the player's gracefully carved front panel. The central blue LCD display is, thankfully, large enough to see from my listening chair, while an array of 10 push-buttons to the left of the display (these arranged in two subtly converging rows of five each) control the Puccini's functions, which include, as well as the usual transport functions, Volume and Menu. These are duplicated on the remote (a rather cheesy plastic thing, that will be replaced by the time you read this by a chunky metal remote), along with direct access to the Balance and Mute controls,

the reconstruction Filter choice for CD and SACD playback (four are provided, with increasing degrees of ultrasonic rolloff), and digital input selection, all of which can be selected only on the front panel, via the Menu tree. The Menu, however, also offers a wealth of secondary functions, such as polarity inversion, Channel ID and polarity check tones, display options, layer selection for hybrid SACDs, and setting the maximum output level to 2V or 6V RMS. There's also a Factory Reset function!

One small operational niggle: The front-panel Open/Stop button acts as a Mute when a digital input is selected. I

fig.3 shows the spectrum with the Puccini fed dithered 24-bit data representing a 1kHz tone at -120dBFS. The tone is readily resolved, with again no harmonic or supply-related spurs visible, other than the suggestion of some very-low-level spectral content at 180Hz.

Fig.4 repeats the spectral analysis of the tones in fig.3, but now using an FFT technique and a linear rather than a logarithmic frequency scale. Again, increasing the bit depth from 16 to 24 drops the noise floor by around 16dB. There is no rise in the noise above 6kHz with DSD data (gray and green traces), but a spectral line is visible at 625Hz with DSD data (green trace) that is not present with PCM data. This tone was also present with the dCS Scarlatti. When, after its publication, I discussed the Scarlatti review with dCS engineer Andy McHarg, he told me that this tone will be eliminated in a forthcoming firmware update for first the Scarlatti, then the Puccini. As it lies at -120dBFS, this idle tone will be subjectively innocuous.

Looking at the Puccini's linearity error with my usual 16-bit fade-to-noise test, all the graph showed was the effect of the recorded dither noise, so I haven't published it. With 24-bit data, the linearity error was negligible down to below -120dBFS (also not shown). With its very low levels of analog noise and linearity error, it was not surprising that the Puccini's reproduction of an undithered sinewave

at exactly -90.31dBFS, which is described by just three DC voltage levels, was essentially perfect. Increasing the word length to 24 bits or changing to SACD playback of a tone at the same level gave the same result: a superbly defined sinewave, despite the very low signal level.

The Puccini's output stage appears to be bombproof. Whether it was driving the benign 100k ohm load or the punishing 600 ohm load, the harmonic distortion in its

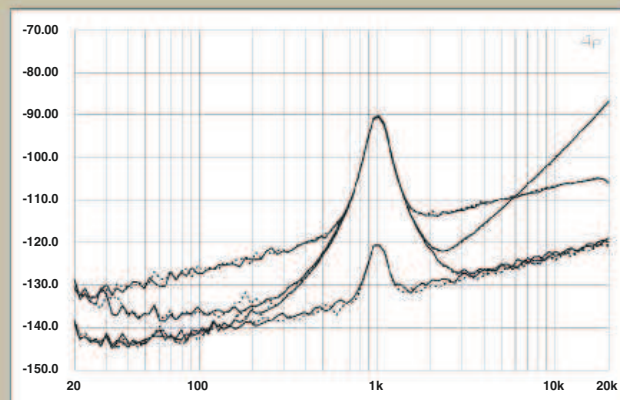


Fig.3 dCS Puccini, 1/3-octave spectrum with noise and spurs of dithered 1kHz tone at -90dBFS with 16-bit data (top), 24-bit data (middle at 2kHz), DSD data (top trace at 20kHz), dithered 1kHz tone at -120dBFS with 24-bit data (bottom at 1kHz). (Right channel dashed.)

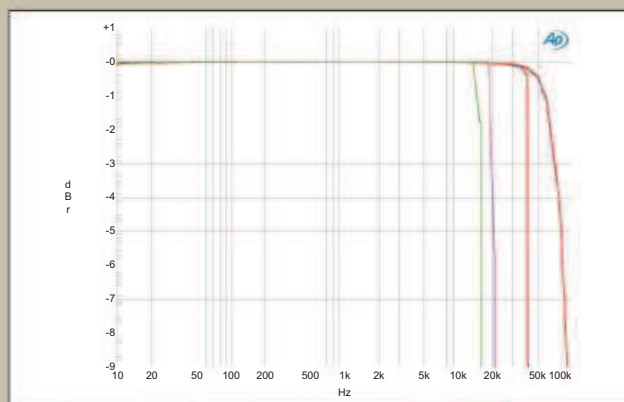


Fig.2 dCS Puccini, SACD frequency response at -3dBFS into 100k ohms (red trace above 40kHz), external data frequency response at -12dBFS into 100k ohms at 96kHz sample rate (red), 44.1kHz (magenta), 32kHz (green). (1dB/vertical div.)

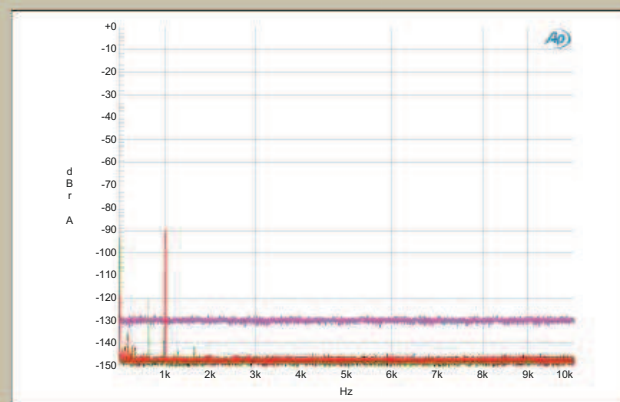


Fig.4 dCS Puccini, FFT-derived spectrum with noise and spurs of dithered 1kHz tone at -90dBFS with 16-bit external data (left channel cyan, right magenta), 24-bit data (left channel blue, right red), DSD data (left channel green, right channel gray).





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kept finding myself walking over to the player to play a disc after I'd been playing audio from my computer, only to remember that, to select disc playback before I could load the disc, I needed either to navigate the Menu tree, or go back to my chair to fetch the remote.

Like its predecessor, the Puccini uses dCS's Ring DAC, clocked either by a high-precision, voltage-controlled crystal oscillator, or by an external word-clock signal fed to the appropriate 75 ohm BNC input jack. For SACD playback, the DSD datastream is fed directly to the DAC; when a CD is played, the "Red Book" data can be played as straight PCM or

upsampled to DSD, this selectable with the Menu button. A choice of four reconstruction filters is provided for CD playback, these again selected by the Menu button. With the firmware upgrade (see later), the Puccini will upsample PCM data fed to the external inputs. The digital outputs are disabled when the Puccini plays SACDs; they are also disabled when one of the external data inputs is being used. When one of the external inputs is in use and lock has been achieved, the Puccini's display helpfully shows the bit depth and sample rate.

Internally, the Puccini is dominated by two large printed circuit boards.

The Ring DAC board, with its power-supply regulators and class-A analog output circuitry, is immediately behind the front panel. Behind it is the Control board, with the power supply, the microcontroller, the digital input/output circuitry and its associated phase-locked loop and crystal-controlled clocks, and the DSP section.

The Puccini is available in silver or black. I found it visually stunning, and considerably more elegant than the rather industrial-looking Scarlatti.

### Asynchrony

Visually, the slim U-Clock echoes the

## measurements, continued

output was very low and composed of the second and third harmonics (fig.5), which are subjectively innocuous even at levels 1000 times higher than they are in the Puccini. Similarly, intermodulation distortion was also extremely low, even into 600 ohms (fig.6).

Used as a CD player, the Puccini was excellent at rejecting word-clock jitter. With the U-Clock connected to its word-clock input and playing a CD carrying the Miller/Dunn J-Test signal, there were no sidebands identifiable in the player's analog output, and the jitter level was below the resolution of the Miller Jitter Analyzer. Using the player's internal clock did give a measured figure of 105 picoseconds peak-peak of jitter, though this is at the very limit of resolution of the Miller Analyzer. With the Puccini fed external PCM data, there was some dependence on the source. In the worst case, using my lab PC with its RME soundcard to output, via 15' of TosLink cable, data that I then converted to coaxial S/PDIF with an antique Sonic Solutions format converter, I managed to measure 450ps p-p of jitter, with most of the energy in pairs of sidebands at  $\pm 60\text{Hz}$  and  $\pm 229\text{Hz}$ . This is still low in absolute terms, however; and using higher-quality S/PDIF sources again dropped the jitter below the analyzer's own resolution limit.

With USB data from my MacBook, the effectiveness of dCS's asynchronous operation can be seen by looking at

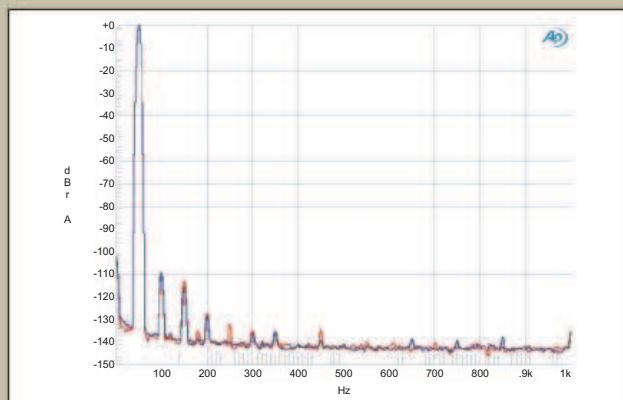


Fig.5 dCS Puccini, spectrum of 50Hz sinewave at 0dBFS into 600 ohms, 24-bit data (left channel blue, right red; linear frequency scale).

fig.7. The measured jitter level was just 79ps p-p, due to a single sideband pair at  $\pm 60\text{Hz}$  (with, again, the caveat that this figure is at or below the analyzer's limit of resolution). The dCS Puccini U-Clock joins Ayre's QB-9 and the Wave-length Cosecant in demonstrating the advantages of using the USB interface in asynchronous rather than adaptive isochronous mode.

In all aspects of performance, the dCS Puccini offers state-of-the-art measured performance.

—John Atkinson

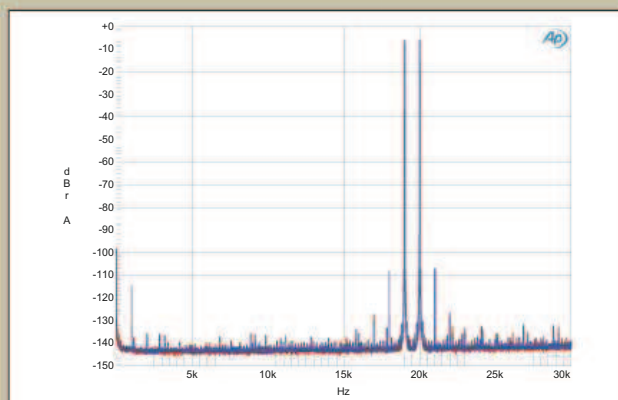


Fig.6 dCS Puccini, HF intermodulation spectrum, 19+20kHz at 0dBFS peak into 600 ohms, 24-bit data (left channel blue, right red; linear frequency scale).

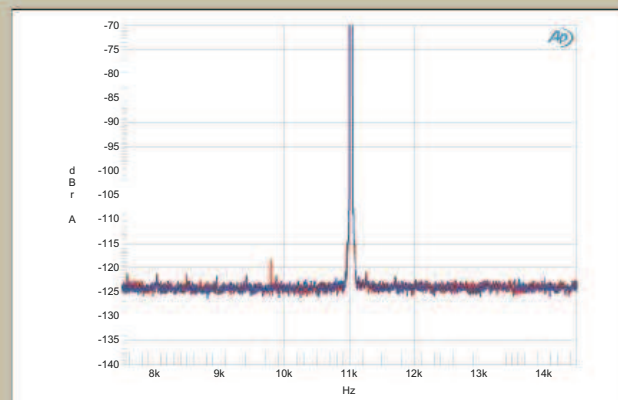


Fig.7 dCS Puccini, high-resolution jitter spectrum of analog output signal, 11.025kHz at -6dBFS, sampled at 44.1kHz with LSB toggled at 229Hz, 16-bit USB data. Center frequency of trace, 11.025kHz; frequency range,  $\pm 3.5\text{kHz}$  (left channel blue, right red).





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Puccini's asymmetrically bowed front panel. Like the earlier dCS Verona, which I reviewed in March 2005 (see [www.stereophile.com/digitalprocessors/305dcs](http://www.stereophile.com/digitalprocessors/305dcs)), it provides the Puccini, via one of four BNC jacks, with a very stable word-clock signal switchable between 44.1 and 48kHz. The master clock can be switched between dithered and undithered operation—undithered clock operation might be thought theoretically better, but, as I wrote in my Verona review, the use of a small amount of random dither avoids the “dead zone” that receivers using a phase-locked loop with a very narrow acceptance window can suffer from.<sup>1</sup> The dither is said to ensure that the receiving PLL remains locked to the U-Clock's output with the minimum of jitter. (The dither itself is filtered out by the PLL.)

The U-Clock's rear panel also offers two S/PDIF digital audio outputs that echo the audio data fed to the USB input. Like the Ayre and Wavelength DACs,<sup>2</sup> the U-Clock's USB port uses a Texas Instruments TAS1020B USB receiver chip operating in what's called “asynchronous” mode. (This is not to be confused with the asynchronous sample-rate conversion used by digital processors like the Musical Fidelity V-DAC, which I write about elsewhere in this issue, or the Benchmark DAC 1.) Almost all USB DACs operate in what's called adaptive isochronous USB mode, which means they have to adjust the frequency of their master-clock oscillator every millisecond to match the rate of the data being streamed from the host PC. This inevitably leads to increased jitter that potentially degrades ultimate sound quality. By contrast, the asynchronous mode slaves the PC to a high-precision, fixed-frequency master clock in the DAC (Ayre, Wavelength) or the U-Clock. In theory,

this eliminates jitter entirely.

When the Puccini is clocked by the U-Clock, the former's display shows a pair of meshing gear wheels that solidify when lock is achieved. To decode USB-derived data, one of the U-Clock's S/PDIF outputs must be connected to the Puccini player's digital inputs. When you hook up the U-



The Puccini uses a premium Esoteric transport.

Clock to your computer, it identifies itself as “dCS Puccini Clock” and, somewhat confusingly, *both* sample-rate LEDs on the front panel illuminate.

The U-Clock will handle USB data with sample rates from 32 to 96kHz and bit depths up to 24. However, the U-Clock acts as a master clock when the Puccini is playing SACDs or CDs; when using one of its two S/PDIF inputs, the Puccini uses its phase-locked loop to clock the data. However, when it is receiving USB-derived data from the U-Clock, that input must be word-clock-synchronized to the U-Clock. It will still play music without word-clock lock, but I heard occasional *plops* as the source sample rate gradually drifted out of sync with the Puccini's own clock.

My only quibble with the U-Clock was that its four front-panel blue LEDs are very bright.

### Sound

Before I did any serious auditioning, I updated the Puccini's firmware. (Shades of the Boulder disc player I reviewed in July, whose firmware I also had to update during the review—audio components are increasingly being transformed into application-specific computers!) The new software was provided on a CD-ROM, and the instructions on how to use the player's Menu buttons to load the new software from the disc were straightforward. Even so, I breathed a sigh of relief when the procedure had finished and the display showed me that

the new versions were operational.

Despite the wide range of operational modes possible with the Puccini, I ended up using it to upsample CDs to DSD, and played both CDs and SACDs back with Filter 1, which offers the widest ultrasonic bandwidth. After some experimentation, I used the dither on the U-Clock, as I had with the original dCS Verona. And while the Puccini is definitely a top-rank player when used alone, the silences between the notes were blacker when clocked from the U-Clock, particularly with SACDs. Interestingly, with CDs I heard a greater difference when I removed the U-Clock from the system than when I inserted it, in that soundstages flattened a little and the musical flow became less expansive.

The thing that most struck me when I began auditioning the Puccini was that I could hear more reverberation and more spacious soundstages than I was used to, even from recordings that I had engineered, mixed, and mastered myself. On “Things I Didn't Know I Loved,” Tim Takach's setting of the poem by Turkish poet Nazim Hikmet, the world-premiere recording of which appears on Cantus's 2008 release *While You Are Alive* (CD, Cantus CTS-1208), there was a slightly but significantly greater degree of space around the singers. In that respect, in fact, the CD sounded more like the hi-rez 24/88.2 master files. So I played those files back from my Mac mini via USB. Indeed, the difference between the CD's spatial representation and that of the master file was less than I remembered.

The same was true for my current recording project, pianist Robert Silverman performing Brahms' Handel Variations and Schumann's Symphonic Études (scheduled for release in late spring 2010). I had recorded Robert in the same location, the Sauder Concert Hall at Goshen College, Indiana, where I had made the 2008 Cantus album, and with a very similar miking technique. I had wanted the piano to sound relatively close, but with enough of the hall's bloom surrounding its image to flesh out the presentation. With the master files played back via the U-Clock and Puccini, the reverberation sounded a little richer, and a little more coherent, than I had anticipated. And I couldn't hear a significant difference between the USB connection and the same files fed to the Puccini's S/PDIF input.

The Puccini's midrange clarity and definition were among the best I have

1 In general, the tighter the PLL's acceptance window, the lower the jitter, but the longer the PLL will take to lock to an incoming datastream. Courtesy of Mark Gurvey of Esoteric USA, I experimented with the ultra-high-precision, rubidium-based Esoteric G-0Rb “atomic” master clock (though not with the Puccini, please note). The measured results were unpredictable—whether or not the external clock made the result better depended entirely on the design of a particular DAC's word-clock input circuit. It can't be taken as a general rule, therefore, that an external clock generator will result in lower jitter.

2 For the TAS1020B's embedded microcontroller Ayre uses the Streamlength code, developed by Wavelength's Gordon Rankin. dCS's Andy McHarg wrote his own code for the U-Clock's TI chip.



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experienced from digital. Even in half-century-old mono, Coleman Hawkins' tenor saxophone on *The Hawk Flies High* (SACD, Riverside/Mobile Fidelity Sound Lab UDSACD 2030) had a palpability and solidity that effortlessly drew me into the music. And with a 21st-century SACD—the often thrilling if always idiosyncratic performance of Bach's Brandenburg Concertos by Richard Egarr and the Academy of Ancient Music (Harmonia Mundi USA HMU 807461.62)—the U-Clocked Puccini created a broad, expansive sweep of sound, with the sounds of the low-pitched instruments accurately presented.

I kept returning to piano recordings throughout my time with the Puccini. The dCS system loved the sound of this instrument, whether it was the horribly out-of-tune upright on David Ackles' classic "Down River," from his eponymous debut album (CD, Elektra), or the well-set-up Steinway D on my 1993 recording of Robert Silverman performing Liszt's monumental Sonata in b, on *Sonata* (CD, Stereophile STPH008-2)—which iTunes, in Shuffle mode, played in succession. Coincidentally, I was archiving the 20-bit master files for *Sonata* to DVD around the same time, so I played those through the Puccini via USB. Ahh. As proud as I am of the sound of the CD, the 20-bit files still had a touch more authority, and more image palpability.

Even so, *Sonata* didn't approach Zenoph Studios' recent re-creation of Rachmaninoff performing his arrangement of Kreisler's *Liebeslied*, from *Rachmaninoff Plays Rachmaninoff* (CD, RCA Red Seal 748971). Recorded by Richard King with three DPA4006 omnis, this is perhaps the best recording of a piano I have heard. Upsampled to DSD by the Puccini and clocked by the U-Clock, there was a richness, a believability to the sound of the restored 1909 Steinway D on the Simaudio-driven Aerial 20T V2s that almost made me forget I was listening to recorded sound. Almost.

The Puccini's low frequencies had a convincing combination of pat and purr. Tony Levin's double-stopped bass-guitar riff on "Don't Give Up," from Peter Gabriel's *So* (SACD/CD, Geffen Chronicles 069 0493 626-2), hung in space at the front of the stage, superbly separated from the synths that paint the backing wash of sound and from Gabriel's plaintive baritone. And when Levin plays a single line in the song's coda, with much of its energy

in the same register as the accompanying kick drum, there was no confusion between the two instruments. Similarly, in Quincy Jones' kickass arrangement of Marvin Gaye's "What's Going On?," from Jones' *Smackwater Jack* (CD, A&M 393 037-2), the switching between the funky bass lines of Ray Brown's acoustic instrument underlying the intro and the almost identical groove in the



The Puccini's interior is dominated by two large printed circuit boards.

verses from Chuck Rainey's electric instrument was maximally clear. And when the arrangement switches back to a swinging four-in-the-bar from Ray Brown for Hubert Laws' flute solo and Freddie Hubbard's flugelhorn solo, the hardware stepped out of the way to let the music rock!

Played back via USB and the U-Clock, one of my 2009 "Records To Die For," the Dunedin Consort's performance of J.S. Bach's *St. Matthew Passion* (Linn Records 24-bit/88.2kHz Studio Master FLAC files), demonstrated everything the Puccini did right: the stately dotted *ostinato* of the opening chorale and its dark-hued baroque oboes, the fragile, exposed nature of the solo voices and the one-to-a-part chorus, the gruff quality of the double basses, the dome of ambience surrounding the minimal forces—all were presented with palpability and a righteous sense of musical flow.

### Comparisons

The two disc players residing in my system before the arrival of the dCS Puccini, the Ayre C-5xe<sup>MP</sup> and the Meridian 808i.2, are among the finest I have auditioned. How did the newcomer fare?

For these comparisons, I matched levels at 1kHz to within 0.1dB. For the first series of tests, I drove one of the Puccini's digital inputs with the digital output of the Ayre, or one of the Meridian's inputs with the Puccini's data

output. This way, there would be no synchronization artifacts that would indicate when a switch was made. However, this did handicap the slaved player: it would be clocked not internally, but by the phase-locked loop of its data receiver. I therefore also performed side-by-side comparisons with all three players playing copies of the same disc. First, comparing the dCS with the Ayre, the sounds of the players were virtually identical on SACD. If there was a difference, it wasn't one I could use to tell which machine was playing (at least in the context of my system). On CD, with the Puccini upsampling to DSD and the Ayre using its MP filter, low frequencies sounded equally full and well defined. The Ayre's soundstage was set a little farther back than the dCS's, though the Puccini presented individual images within that stage in a slightly more delineated, slightly less palpable manner. The Ayre's highs sounded slightly wispier on close-miked violins (the performance of Mozart's Piano Quartet in g on *Editor's Choice*, Stereophile STPH016-2), the Puccini very slightly airier, but at this level of performance, the differences were small.

The Meridian, with its apodizing filter, excels at CD reproduction but won't play SACDs, of course. Again with levels matched at 1kHz, the audible differences were very small. In the end, I slightly preferred the Meridian, which I felt offered a small improvement in image palpability but a slight loss in low-frequency tautness. I will discuss these comparisons in more detail in a future issue.

### Summing Up

At \$17,995, the dCS Puccini player is expensive but sounds excellent. Adding the U-Clock takes its sound quality to the max and adds the USB input, which will become increasingly relevant as audiophiles transfer their music collections to hard drives. Overall, there was something very right about the sound of the dCS Puccini system, not only when playing SACDs (which always tend to sound good) or well-recorded CDs, but also when playing PCM data sourced from my Mac mini via USB and the U-Clock.

Playing CDs, the Meridian 808i.2, with its apodizing filter, still leads the field, but as dCS uses a programmable FPGA as the base for its DSP engine, I wouldn't be surprised if they also introduce more filters for the Puccini in the future.

Highly recommended. ■



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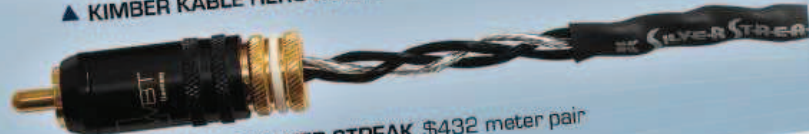
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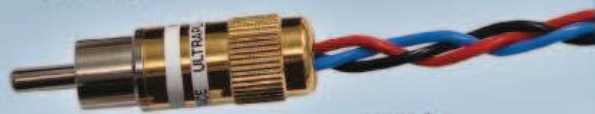
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# PrimaLuna DiaLogue Seven

ART DUDLEY

POWER AMPLIFIER

**DESCRIPTION**

Monophonic tube amplifier with push-pull output stage. Tube complement: two 12AX7, two 12AU7, four KT88. Maximum output power: 40Wpc in triode mode (16dBW into 8 ohms, 70Wpc in ultralinear mode (18.45dBW into 8 ohms), both at 2% THD. Frequency response: 10Hz–100kHz,  $\pm 3$ dB. Input impedance: 100k ohms. Output impedances: 2, 4, 8 ohms. Signal/noise:  $>84$ dB unweighted (no reference level given). Total harmonic distortion:  $<0.25\%$  at 1W, 2% at rated power.

**DIMENSIONS** 15.2" (385mm) W by 8.3" (210mm) H by 15.9" (405mm) D. Weight: 63.8 lbs (29kg).

**SERIAL NUMBERS OF UNITS**

**REVIEWED** 08073916, L & R.

**PRICE** \$5495/pair. Approximate number of dealers: 11, also sold direct.

**MANUFACTURER** Durob Audio BV, PO Box 109, 5250 AC Vlijmen, The Netherlands.

Tel: (31) 73-511-25-55.

Web: [www.primaluna.nl](http://www.primaluna.nl).

US distributor: PrimaLuna USA, 2504 Spring Terrace, Upland, CA 91784.

Tel: (909) 931-9686.

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PrimaLuna DiaLogue Seven monoblock power amplifier

**S**tep 1: Find something that works. Step 2: Use it. Step 3: Repeat as necessary, then retire.

That doesn't work everywhere—the arts are inhospitable—but for those with less lofty goals, it's nice to have a *formula*, especially a good one. The people behind the PrimaLuna line of audio electronics probably know that as well as anyone. A few years ago they combined a unique amplifier design with a similarly distinctive business model to create the ProLogue One, a product known for both value and reliability: the former by combining Chinese assembly with European (in this case, Dutch) quality, the latter for a circuit innovation that made the thing darn near foolproof.

The formula has been applied, with apparent success, to a number of subsequent products, the latest being the PrimaLuna DiaLogue Seven monophonic tubed amplifier (\$5495/pair), which offers 70Wpc in ultralinear mode or 40Wpc when run as a triode amp—and does so in a mildly remarkable way.

**Description**

As with earlier PrimaLuna amplifiers, the DiaLogue Seven's calling card is a circuit innovation called Adaptive AutoBias. The term *auto bias* normally describes a circuit in which the signal grid of a power tube is referenced to ground, and the



potential of the cathode is raised above ground through a cathode resistor,<sup>1</sup> thus prompting the tube to adjust itself under operating conditions. PrimaLuna's variation of the name refers to something different: a fixed-bias amp in which the voltage applied to the signal grid is adjusted, minutely and continuously, in response to such variables as operating temperature and input-signal amplitude. Thus the Adaptive AutoBias circuit keeps the output tubes operating within their best parameters at all times—which, according to PrimaLuna, provides significant reductions in both distortion and tube wear. The circuit is also said to allow greater-than-usual flexibility in swapping tubes, in terms of both age and tube type, while keeping

<sup>1</sup> The presence of a cathode resistor is not itself a sign of auto bias: A very-low-value resistor here makes it possible for a technician to measure and adjust his output tubes yet still run them in fixed-bias mode.

performance on an even keel. I'm told that one can even use in the DiaLogue Seven different ages or types of tubes for the two sides of a single complementary pair, for the sheer jaunty fun of it.

Another innovation distinguishes this new PrimaLuna amp from the competition—and, in this instance, from the company's humbler ProLogue series: Not only can the DiaLogue Seven be run in either triode or ultralinear mode, but the user can switch between those modes at will, with the push of a button on a remote handset (included). The late, great Peter Snell, who devised some clever ways to adjust crossover parameters from his listening seat in an effort to perfect his loudspeaker designs, is surely smiling upon this.

When I opened the DiaLogue Seven's chassis for a look inside, the key to its dual-mode design surprised me. (Had I given it just a bit more thought, I might

have figured it out when I first lifted the amp from its sturdy triple carton—and noted its 71-lb-per-channel shipping weight.) Each monophonic DiaLogue Seven contains one mains transformer and *two complete output transformers*. In triode mode, of course, the screen grids of the KT88 pentode tubes are tied to the plates, and the tubes operate as indirectly heated triodes. But in ultralinear mode, the screen grids are tied to a portion of the primary windings of the output transformer, in a distortion-canceling scheme that functions rather like feedback. Because that requires tapping the primary at a very specific ratio, the luxury of an extra output transformer on an amp such as this is a Godsend.

In other ways, the PrimaLuna DiaLogue Seven is comparatively straightforward: solid-state rectification and a robust *pi* filter for the power supply, along with parallel 12AX7 tubes and a long-tail

## MEASUREMENTS

I examined the PrimaLuna DiaLogue Seven's measured behavior using *Stereophile's* loaner sample of the top-of-the-line Audio Precision SYS2722 system (see the January 2008 "As We See It" and [www.ap.com](http://www.ap.com)); I also used my Audio Precision System One Dual Domain for some tests. With three output-transformer taps and two output operating modes (triode and ultralinear), the DiaLogue Seven offers six choices of how it can be used. I performed a complete set of measurements from each tap in triode and ultralinear modes, but have published here only a limited selection of the graphs to illustrate the points I want to make.

The PrimaLuna preserved absolute polarity (*ie*, was non-inverting) from all transformer taps in both ultralinear and triode mode. As expected, however, the gain varied according to both mode and tap. In ultralinear mode, the voltage gain into 8 ohms was 26.9, 26.3, and 24.8dB, from the 8, 4, and 2 ohm transformer taps, respectively. In triode mode, the corresponding figures were 23.5, 22.1, and 20dB. Even with the generally low gain, however, the preamplifier used with the DiaLogue Seven won't be asked to deliver more than 1.5V RMS to drive the amplifier to its maximum output.

The Dialogue Seven's input impedance was very high, at around 100k ohms in the bass and midrange, dropping to a still-high 70k ohms at the top of the audioband. High is good for a component's input impedance, as this means it won't load down the source component's output in any significant way. High is not good for a component's output impedance, however, and, as with other PrimaLuna amplifiers *Stereophile* has reviewed, the Dialogue Seven's output impedance was indeed high. In the worst case, ultralinear mode from the 8 ohm tap, the impedance was 8 ohms across the audioband. Triode mode dropped this to a still-high 4.3 ohms, and in general, changing to an output transformer tap with half the nominal impedance halved the output impedance in both

ultralinear and triode modes. In the best case, triode mode from the 2 ohm tap, the PrimaLuna's output impedance was 1.2 ohms, which is still quite high in absolute terms.

The justification for designing an amplifier to have a high output impedance is that the maximum transfer of power occurs when the output impedance is equal to the load impedance. An 8 ohm impedance feeding an 8 ohm load transfers more power to the load than would a greater or smaller impedance. However, there is a price to be paid: because loudspeaker impedances vary considerably with frequency, high output impedances result in significant modification of the amplifier's frequency response, due to the Ohm's Law interaction between the amplifier and loudspeaker impedances. This is illustrated by the gray trace in fig.1, which shows the DiaLogue Seven's frequency response from the 4 ohm tap in ultralinear mode into *Stereophile's* standard simulated loudspeaker. The response varies by up to  $\pm 2.1$  dB, which will be audible. From the 8 ohm tap (not shown), the response variation was  $\pm 3.2$  dB, which will be *very* audible. Three other things can be seen in

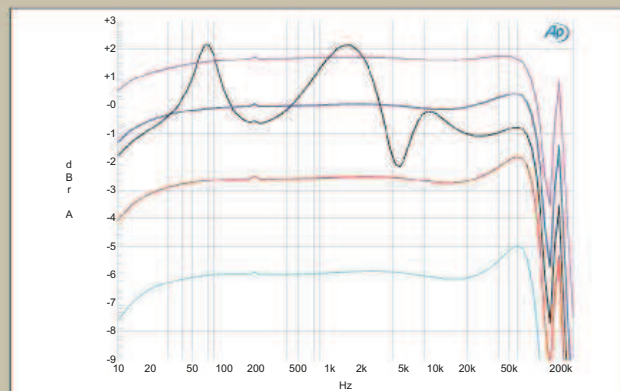


Fig.1 PrimaLuna DiaLogue Seven, ultralinear, 4 ohm tap, frequency response at 2.83V into: simulated loudspeaker load (gray), 16 ohms (magenta), 8 ohms (blue), 4 ohms (red), 2 ohms (cyan). (1dB/vertical div.)



pair of 12AU7 tubes for the input/driver section. But in one other regard the amp is far from ho-hum: the quality and care with which it's made. Apart from the above-mentioned AutoBias circuit and the logic bits for the remote control, the DiaLogue Seven is completely hand-wired, point to point—and I've never seen a better-built amp. Wires were neatly trimmed and dressed, with no strand out of place. I spent a long time trying to find a single bad solder join, and could not: Someone made this as if it mattered.

### Installation and setup

The DiaLogue Seven's input and output characteristics suggest good installation flexibility, the former by its 100k ohm impedance (and apparently generous gain), the latter by its choice of loudspeaker connections: 2-, 4-, and 8-ohm secondaries. As for that, I played the PrimaLunas through two very different loads: my

usual Audio Note AN-E SPe HE (for High Efficiency) loudspeakers, and a borrowed pair of Wilson Audio Specialties Sophia 2s, recently and expertly installed by Wilson's Peter McGrath. My original intention was to try the DiaLogue Sevens

about placement—a nice thing to say about any pair of amplifiers that together weigh more than some adults—and for the most part I kept them on my hardwood floor, without benefit of isolation tweaks. They became warm during use but not alarm-

WIRES WERE NEATLY TRIMMED AND DRESSED, WITH NO STRAND OUT OF PLACE. I SPENT A LONG TIME TRYING TO FIND A SINGLE BAD SOLDER JOIN, AND COULD NOT: **SOMEONE MADE THIS AS IF IT MATTERED.**

with my rebuilt Quad ESLs, as well: Regrettably, I wasn't able to do that within this initial review period, but PrimaLuna USA is allowing me to keep the review samples a little longer than usual, during which time I'll try the Quad option.

The DiaLogue Sevens weren't fussy

ingly so; their elegant-looking tube cages provided ample protection, amp from user and user from amp.

Notwithstanding unrectified current on all tube heaters, the Sevens never hummed—another testament to their excellent layout and construction. There

fig.1: first, the DiaLogue Seven features a wide small-signal response that doesn't begin to roll off until >60kHz; second, in ultralinear mode, there is a sharply defined resonant peak around 150kHz, though the height of this peak drops a little with decreasing load impedance; and third, a low-frequency peak starts to develop into lower impedances.

Fig.2 shows the PrimaLuna's response from the 4 ohm tap but with the amplifier now in triode mode. The variation into the simulated loudspeaker is now  $\pm 1.25$ dB, due to the lower output impedance in this mode, and there is now just a vestigial peak around 150kHz. There is also no sign of any lower-frequency peak, and the response is maintained to well above the audioband. At the other end of the spectrum, the low-frequency response starts to roll off below 40Hz, but is still down only 1.4dB at 10Hz. These are well-designed output transformers, the DiaLogue Seven's reproduction of a 1kHz squarewave in triode mode being extremely square, with flat tops and almost no ringing (fig.3). Similarly, a 10kHz squarewave in triode mode offers only small degrees of overshoot

and ringing, with very short risetimes (fig.4), whereas in ultralinear mode (fig.5), both overshoot and ringing are considerably more developed, this correlating with the ultrasonic peak in the frequency response.

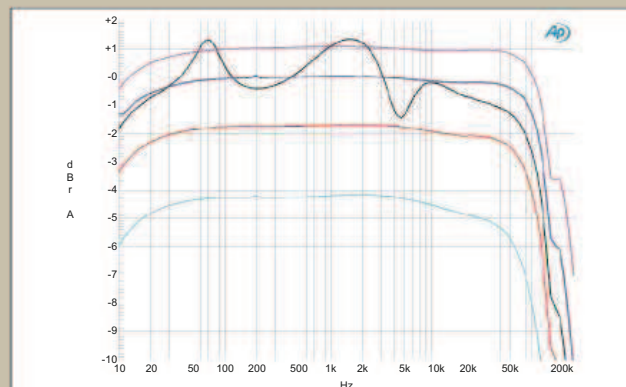


Fig.2 PrimaLuna DiaLogue Seven, triode, 4 ohm tap, frequency response at 2.83V into: simulated loudspeaker load (gray), 16 ohms (magenta), 8 ohms (blue), 4 ohms (red), 2 ohms (cyan). (1dB/vertical div.)

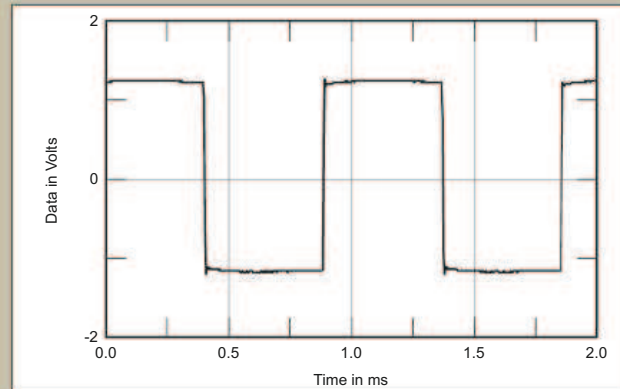


Fig.3 PrimaLuna DiaLogue Seven, triode, 2 ohm tap, small-signal 1kHz squarewave into 8 ohms.

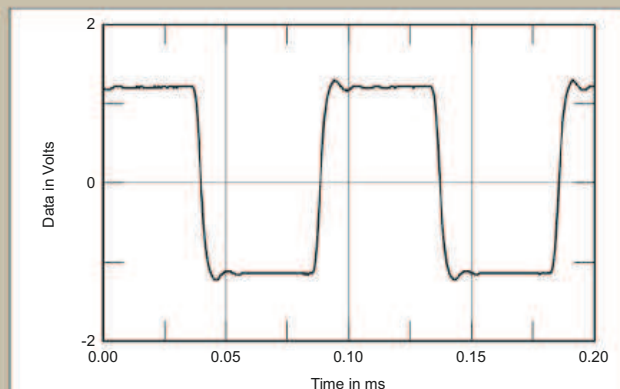


Fig.4 PrimaLuna DiaLogue Seven, triode, 8 ohm tap, small-signal 10kHz squarewave into 8 ohms.



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were no unwanted noises of any sort, in fact, except for a soft and apparently harmless *click* that I heard when using the remote control to switch between triode and ultralinear modes (which, incidentally, is the handset's only function). The only problem I experienced was when the handset became taciturn, seemingly overnight, and would no longer work from distances of greater than a foot. I attempted a battery change, but became listless myself when I saw that the battery was an oddball disc type, and not the sort that I keep around the house.

### Listening

An enthusiast of low-power amps, I didn't think I'd like the DiaLogue Seven's high-power ultralinear mode as much as its low-power triode mode.



4 output tubes and 2 output transformers for a mono amplifier.

I imagined the former would sound smaller and fussier, more mechanical, and altogether more *hi-fi* than I prefer. I was wrong. Among other things, music through the PrimaLunas in ultralinear mode sounded every bit as large and *present* as through my Shindo Haut-Bri-

on, itself a low-power amp in which pentode tubes are wired as triodes, but operated with a very small amount of global feedback.

In ultralinear mode the DiaLogue Seven was stunningly dramatic through both loudspeaker pairs. Georg Solti and Leontyne Price's recording of Verdi's *Aida* (LP, RCA Living Stereo LSC-6158) was intensely involving, from the great orchestral and choral tuttis of Act I, Scene 1 ("Guerra! Guerra! Guerra!") to those at the end of Act IV, Scene 1 ("Traditor! Traditor! Traditor!"). At the other end of the spectrum, the dynamic peaks within Jeremy Backhouse and the Vasari Singers' recording of Herbert Howells' motet *Take him, earth, for cherishing* (CD, United 88033) were consistently moving while never sounding harsh or me-

### measurements, continued

I experimented with the grounding between the DiaLogue Seven and my test equipment, but couldn't eliminate a very low level of power-supply noise. The wideband, unweighted signal/noise ratio was therefore good rather than great, at 66.6dB (ref. 2.83V into 8 ohms) from the 8 ohm tap, this improving slightly from the lower-impedance transformer taps. A-weighting the measurement improved the S/N ratio to 83dB.

Figs.6–11 show how the THD+noise percentage in the PrimaLuna's output varies with output power into loads ranging from 2 to 16 ohms. Figs.6–8 were taken in ultralinear mode from the 8, 4, and 2 ohm taps, respectively; figs.9–11 were taken in triode mode. PrimaLuna specifies the DiaLogue Seven's maximum output power at 2% THD rather than the more usual 1%, and you can see from a close inspection of these graphs that, when the load is matched to the nominal value of the transformer tap, the amplifier does meet its specified power outputs of 70W in ultralinear mode (18.45dBW into 8 ohms) and 40W in triode mode (16dBW into 8 ohms) at 2% THD. The lowest

distortion at lower levels is obtained when the load is much higher than the output tap used, and the amplifier is at its most linear from the 2 ohm tap in ultralinear mode, with around 0.07% THD+noise typical below 1W. However, triode

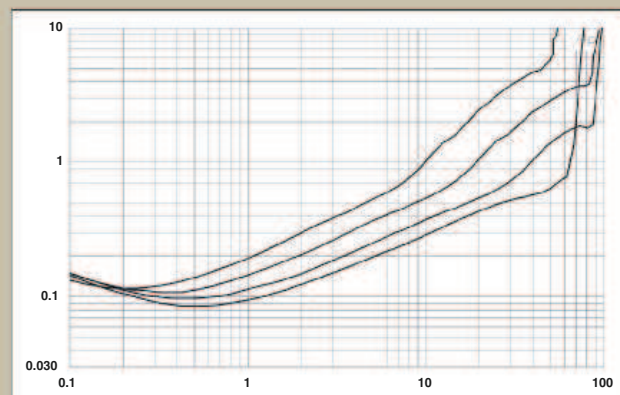


Fig.6 PrimaLuna DiaLogue Seven, ultralinear, 8 ohm tap, distortion (%) vs 1kHz continuous output power into (from bottom to top): 16, 8, 4, 2 ohms.

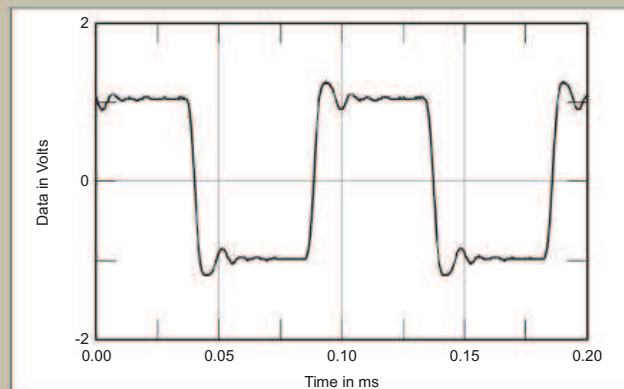


Fig.5 PrimaLuna DiaLogue Seven, ultralinear, 4 ohm tap, small-signal 10kHz squarewave into 8 ohms.

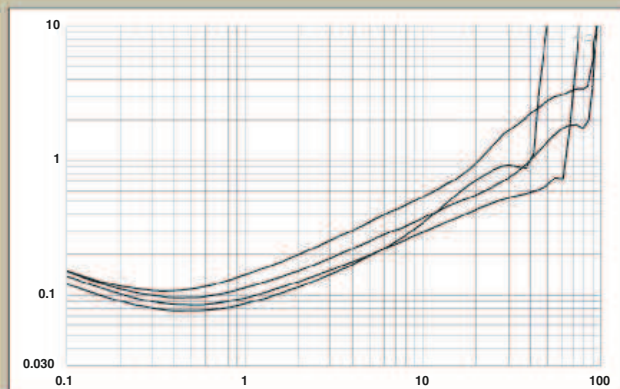


Fig.7 PrimaLuna DiaLogue Seven, ultralinear, 4 ohm tap, distortion (%) vs 1kHz continuous output power into (from bottom to top): 16, 8, 4, 2 ohms.





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chanical. Lines of notes had very good momentum and flow, and vocal colors were fine.

In triode mode the DiaLogue Seven sounded softer overall, with a little less sparkle in its upper octaves—yet with more midrange texture, which can impart a sense of natural presence and detail even in the absence of an extended treble range. Similarly, in triode mode the DiaLogue Seven offered less bass content and impact than in ultralinear, as I especially noted when listening to César Franck's *Grande pièce Symphonique*, Op.17, performed by organist Torvald Torén (LP, Lyricon LRC 2-5)—which itself didn't have the floor-rattling capabilities of either the Haut-Brion or the ultralinear but feedback-free Shindo Corton-Charlemagne monoblocks.

My preconceptions were soon confounded in another way: I thought the DiaLogue Seven's comparatively soft,

tubey triode mode would yield poorer temporal performance—musical timing, momentum, and the like—than its ultralinear mode. Again, that wasn't so. With the amps in their low-power mode, I very much enjoyed the final movement

The same held true with pop music. As expected, the DiaLogue Seven's triode mode helped tame overly crisp recordings, such as "Already Dead," from Beck's *Sea Change* (LP, Geffen B00004372-01). Low-frequency note attacks were also

## IN TRIODE MODE THE DIALOGUE SEVEN SOUNDED SOFTER OVERALL, WITH A LITTLE LESS SPARKLE IN ITS UPPER OCTAVES—YET WITH MORE MIDRANGE TEXTURE.

of Beethoven's Symphony 4 with Pierre Monteux and the London Symphony Orchestra (LP, Victrola/Classic VICS-1102)—a performance that lives or dies on the ability of one's gear to not muck up the timing. It sounded dazzling, as it should.

softened on that and other tracks from this album—but, again, I was surprised to hear little or no timing distortion on up-tempo songs that depend on kick drum and electric bass for their sense of drive.

And though this falls afiel of my usual performance notes, I can't resist

### measurements, continued

mode is considerably less linear than ultralinear, reaching 1% THD around 10W from every tap into every load.

The traces in the six preceding graphs were taken at 1kHz. Plotting the THD+N percentage against frequency

revealed that the amplifier's small-signal linearity decreased at both high and low frequencies. Fig.12, for example, was taken in ultralinear mode from the 4 ohm tap, and while the amplifier is obviously more comfortable driving

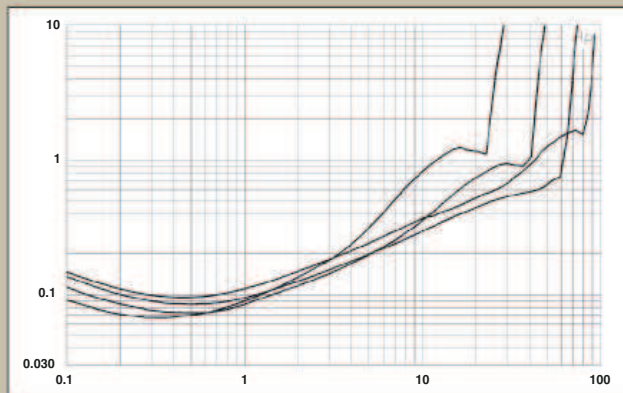


Fig.8 PrimaLuna DiaLogue Seven, ultralinear, 2 ohm tap, distortion (%) vs 1kHz continuous output power into (from bottom to top): 16, 8, 4, 2 ohms.

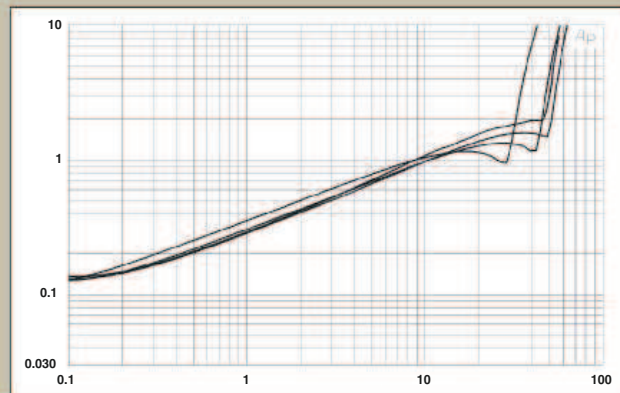


Fig.10 PrimaLuna DiaLogue Seven, triode, 4 ohm tap, distortion (%) vs 1kHz continuous output power into (from bottom to top): 16, 8, 4, 2 ohms.

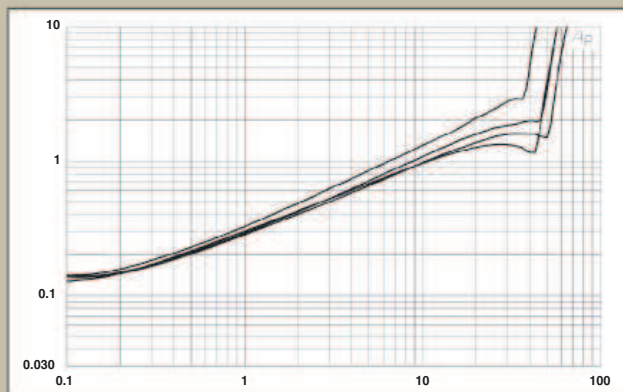


Fig.9 PrimaLuna DiaLogue Seven, triode, 8 ohm tap, distortion (%) vs 1kHz continuous output power into (from bottom to top): 16, 8, 4, 2 ohms.

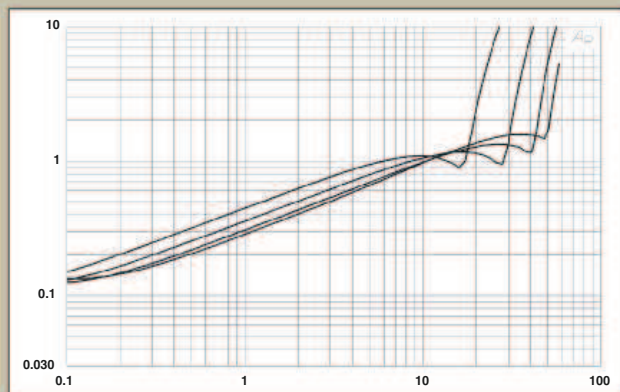


Fig.11 PrimaLuna DiaLogue Seven, triode, 2 ohm tap, distortion (%) vs 1kHz continuous output power into (from bottom to top): 16, 8, 4, 2 ohms.



mentioning the nearly unique clarity and directness—and the latter certainly is a quality I associate with low-power triode amplifiers—that the triode-mode DiaLogue Sevens brought to the *Sprechgesang* in Karl Böhm and Dietrich Fischer-Dieskau's famous recording of Berg's *Wozzeck* (LP, Deutsche Grammophon 2707 023). Many lines had me jumping in my seat, wondering why there were Germans in the house.

Which mode did I most enjoy? As much as the ultralinear mode earned my respect—and, in a number of ways, surprise—I ultimately preferred the DiaLogue Sevens' triode mode with both the Audio Note and Wilson speakers. Even on large-scale music, though the amps seemed more effortless in high-power mode, they compressed the peaks more gracefully in low-power mode, and consequently sounded slightly less

## ASSOCIATED EQUIPMENT

**ANALOG SOURCES** Thorens TD-124 Mk.II turntable; EMT 997 tonearm; Shindo SPU, Ortofon SPU 90th Anniversary, EMT OFD 25 & OFD 65 cartridges.  
**DIGITAL SOURCES** Sony SCD-777ES SACD/CD player, HRT Music Streamer+ USB DAC (with Apple iMac).

**PREAMPLIFICATION** Auditorium 23 Hommage T1 step-up transformer, Shindo Masseto preamplifier.

**POWER AMPLIFIERS** Shindo Haut-Brion & Corton-Charlemagne monoblocks.

**LOUDSPEAKERS** Audio Note AN-E/SPe HE, Wilson Audio Specialties Sophia Series 2.

**CABLES** USB: Belkin Pro. Interconnect: Audio Note AN-vx, Shindo Silver.

**Speaker:** Auditorium 23. AC: JPS Labs The Digital (SACD/CD player).

**ACCESSORIES** Box Furniture Company rack (source, amplification components); Vertex AQ Super Kinabalu platforms; Keith Monks RCM record-cleaning machine.

—Art Dudley

mechanical overall. A fine example of that was on the song “Sabbath Morning at Sea,” from Janet Baker and John Barbirolli's recording of Elgar's *Sea Pic-*

*tures* (LP, EMI ASD 655): the London Symphony Orchestra's unmistakably Wagnerian crescendo was less *sweaty* in ultralinear, but somewhat more me-

## measurements, continued

higher impedances, the distortion increases dramatically into all the loads below 100Hz. The change in behavior with different loads is less extreme in triode mode (fig.13), though the overall distortion is considerably higher than in ultralinear mode.

Fortunately, as with the Rogue tube amplifier also reviewed this month, the distortion at low levels is heavily second-harmonic in content (fig.14), though narrowband spectral analysis indicates that the third and fifth harmonics are also present, as well as the power-supply spurs mentioned earlier (fig.15). At higher powers, the third harmonic rises almost to the level of the second, with now a regular series of harmonics apparent (fig.16).

Though the DiaLogue Seven is less linear at high frequencies than in the midrange, the amplifier did quite well on the high-frequency intermodulation test. At a level just below visible waveform clipping on the oscilloscope, both the second-order difference tone at 1kHz and the higher-order tones at 18 and 21kHz lay at  $-52\text{dB}$  (0.25%) in ultralinear mode (fig.17), and  $-46\text{dB}$  (0.5%)

in triode mode (not shown). At low powers (fig.18), the difference tone dropped to  $-66\text{dB}$  (0.05%) and the higher-order products almost disappeared.

When I measure amplifiers like PrimaLuna's DiaLogue

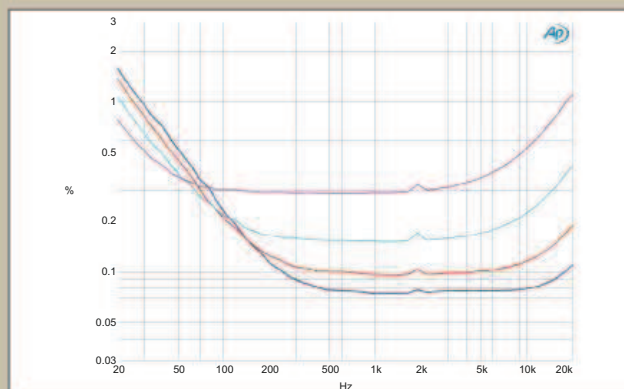


Fig.12 PrimaLuna DiaLogue Seven, ultralinear, 4 ohm tap, THD+N (%) vs frequency at 2.83V into: 16 ohms (blue), 8 ohms (red), 4 ohms (cyan), 2 ohms (magenta).

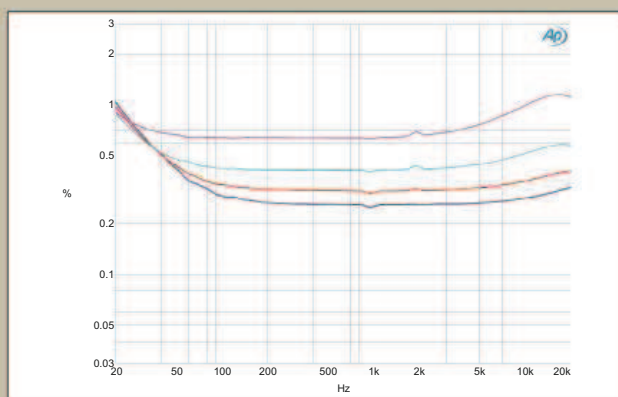


Fig.13 PrimaLuna DiaLogue Seven, triode, 4 ohm tap, THD+N (%) vs frequency at 2.83V into: 16 ohms (blue), 8 ohms (red), 4 ohms (cyan), 2 ohms (magenta).

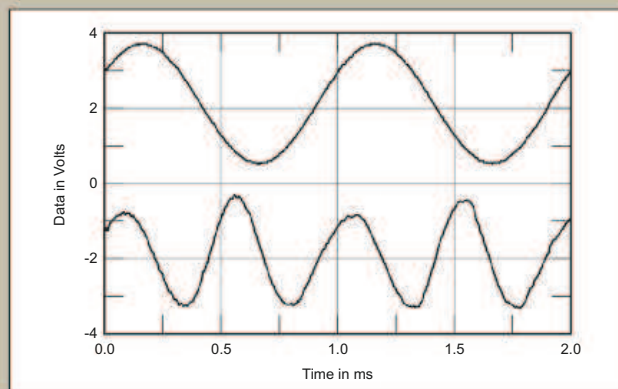


Fig.14 PrimaLuna DiaLogue Seven, ultralinear, 8 ohm tap, 1kHz waveform at 2W into 8 ohms (top), 0.154% THD+N; distortion and noise waveform with fundamental notched out (bottom, not to scale).



chanical, too; smoothness, albeit with appropriate amounts of believable string texture, was greater in triode mode.

Where did the DiaLogue Sevens fall down? Nowhere, really. They committed no errors of addition, failing only to give *even more* of those things I love, available for a price from a few other sources: the more saturated timbral colors of a Shindo Corton-Charlemagne, the greater bass grip of a Naim NAP250, the even greater psychedelic presence of solo instruments and voices of a Fi 2A3 Stereo. Yet the PrimaLunas were more than satisfying in all those regards, and consistently impressed me with their flexibility and, perhaps more important, their value.

### Conclusions

With each passing year, the products we buy seem more intimately tied to the cir-

cumstances of their creation. In a free society, it's okay to buy whatever we want. That said, it's also okay to be more selective than that, if you feel the need. For consumers as for everyone else, it's okay to *care*.

I'll bet PrimaLuna has *that* figured out, too, because it seems they've made peace with who they are: a company

right there on page 8 of the DiaLogue Seven owner's manual: "Have fun with [this amp] and never let people tell you what sounds right." I couldn't agree more.

From my experience, the DiaLogue Seven succeeds at everything PrimaLuna set out to do: It's an apparently reliable, obviously wonderful-sounding amp that

## THE PRIMALUNAS CONSISTENTLY IMPRESSED ME WITH THEIR FLEXIBILITY AND, **PERHAPS MORE IMPORTANT, THEIR VALUE.**

that could not offer such a combination of performance quality, build quality, and value without having some of their manufacturing done in China.

To some, those are dangerous ideas. To me, the most dangerous idea of all was

offers higher-than-average value—and a lovely opportunity for you to discover the playback approach that suits your ideas about recorded music while, at the same time, having *fun*. Very strongly recommended. ■

Seven, my eyebrows always rise because the things they do wrong must be balanced against the possible sonic befits of the other things they do. Certainly, the designer's decision to use very high output impedances will drastically affect

sound quality for reasons that are well understood. The DiaLogue Seven's measured performance in triode mode was notably worse than in ultralinear mode, yet Art Dudley ultimately preferred triode mode. A puzzle. —John Atkinson

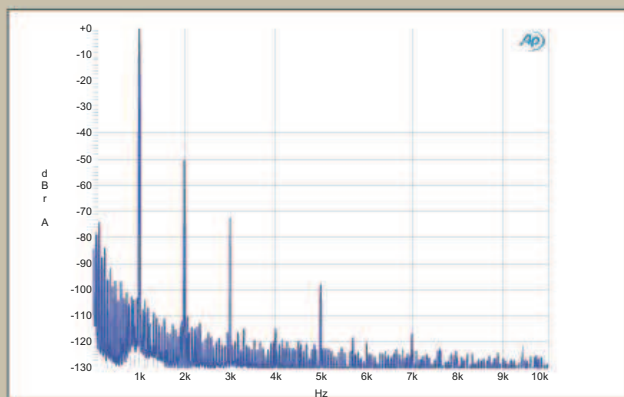


Fig.15 PrimaLuna DiaLogue Seven, triode, 4 ohm tap, spectrum of 1kHz sine wave, DC–1kHz, at 1W into 8 ohms (linear frequency scale).

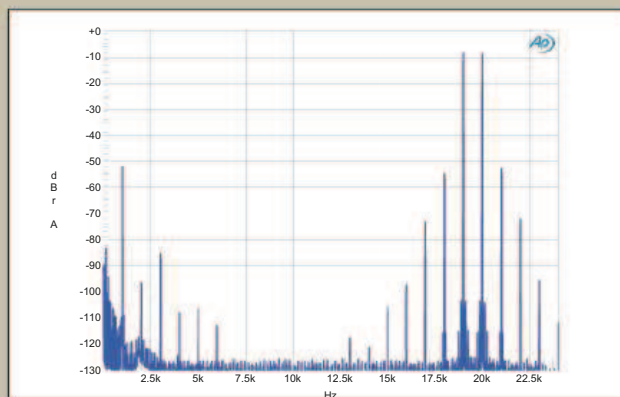


Fig.17 PrimaLuna DiaLogue Seven, ultralinear, 4 ohm tap, HF intermodulation spectrum, DC–24kHz, 19+20kHz at 26W peak into 8 ohms (linear frequency scale).

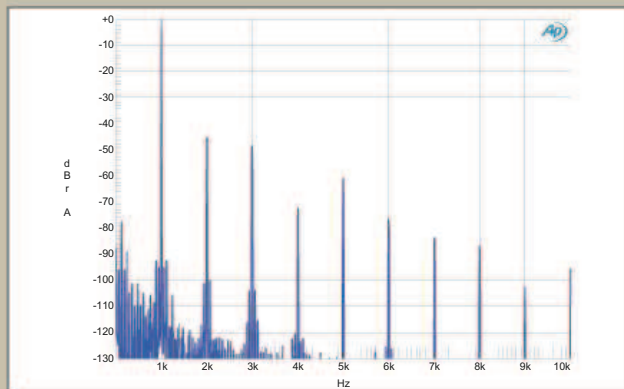


Fig.16 PrimaLuna DiaLogue Seven, ultralinear, 8 ohm tap, spectrum of 1kHz sine wave, DC–1kHz, at 30W into 8 ohms (linear frequency scale).

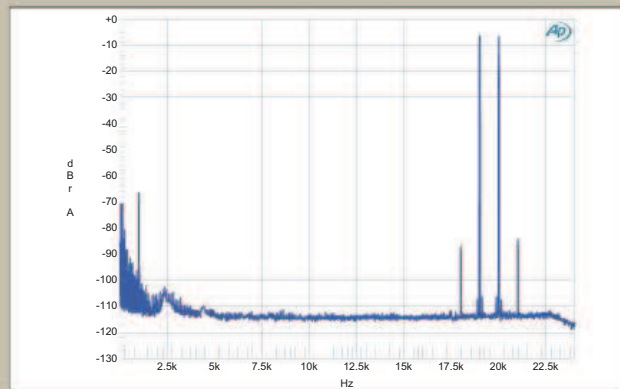


Fig.18 PrimaLuna DiaLogue Seven, ultralinear, 4 ohm tap, HF intermodulation spectrum, DC–24kHz, 19+20kHz at 1W peak into 8 ohms (linear frequency scale).





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## DB1*i*

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**DESCRIPTION** Two-way, biwirable, transmission-line loudspeaker.

Drive-units: 1.1" (27mm) Sonolex-dome tweeter, 5.5" (140mm) doped paper-cone woofer with a cast-magnesium basket. Crossover frequency: 2kHz. Frequency range: 50Hz–25kHz. Nominal impedance: 8 ohms. Sensitivity: 87dB/W/m.

**DIMENSIONS** 11.4" (290mm) H by 6.1" (155mm) W by 9.2" (234mm) D (plus grille). Weight: 9.9 lbs (4.5kg).

**FINISH** Black Ash, Cherry, Natural Oak, Walnut.

**SERIAL NUMBERS OF UNITS**

**REVIEWED** 12403, 12404.

**PRICE** \$1929/pair. Approximate number of dealers: 90.

**MANUFACTURER** PMC Ltd., 43-45 Crawley Green Road, Luton LU2 0AA, England, UK.

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Fax: (44) (0)870-4441045.

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**T**he British speaker manufacturer PMC Ltd. has built a professional client list seemingly as extensive as its almost mind-numbingly broad line of speakers. The *i* series alone includes 12 models, one of which is the DB1*i* (\$1929/pair).

PMC user-endorsers include artists like Brian May of Queen and Robbie Williams (the latter more popular in the UK than in the US), among dozens of other celebrities listed in the company's sumptuous, full-color brochures—Stevie Wonder, Peter Gabriel, Coldplay, Kraftwerk, Brian (sic) Ferry, Prince, etc.—though whether these artists actually own PMC speakers or have had their albums mastered at studios that use them isn't specified. The list of those studios is more impressive: BBC, Emil Berliner, Capitol, Chesky, DreamWorks, JVC Japan, Warner Music, and so on. A two-page spread in one PMC brochure features an endorsement by Fluid Mastering partners Nick Watson and Tim Debney, both formerly of Townhouse, a name familiar to vinyl enthusiasts who spend their spare time perusing the dead wax surrounding the labels of LPs: in the photo, perched atop their mixing desk, is a pair of DB1*i*s being used as nearfield monitors.

But the pro-audio connection makes sense: the initials PMC stand for Professional Monitor Company. Founded in 1990 by former BBC engineer Peter Thomas and his business partner, Adrian Loader, PMC is better known among



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— Michael Fremer, Stereophile July 2009 Vol.32 No.7

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audiophiles in the UK—where it has far better retail distribution—than among their American counterparts. Thomas, who in his brochure photo looks like a cross between Meatloaf and Ozzy Osbourne, is not at all shy about pronouncing himself “arguably the world’s smartest loudspeaker designer . . . and a truly obsessive audiophile.” Shades of the “genius of Matthew Polk”!

### The DB1i

Like virtually every other PMC speaker, the compact DB1i uses a variation of transmission-line loading of the woofer’s backwave to reinforce the speaker’s low-

frequency output rather than the more commonly used ported or sealed-box approach. PMC calls it Advanced Transmission Line (ATL), Bose calls it Acoustimass, and my parents’ old Stromberg-Carlson console called it Acoustic Labyrinth. All of the speakers designed by the late, great Irving “Bud” Fried used transmission lines as well.

The particulars may differ, but basically, in a transmission-line speaker, the driver is at one end of a long tunnel damped with acoustically absorbent material designed to retain the backwave’s upper-bass and higher frequencies, while the lowest frequencies emerge in phase from

the vent at the other end of the tunnel, which in the case of the DB1i and other PMC speakers is at the baffle’s top rear. The claimed advantages of such a system over a ported or sealed-box design of the same size include better driver control over a wider frequency band, thanks to consistent air-pressure loading, and thus lower distortion, higher SPLs, greater bass extension, and consistent frequency response regardless of listening level.

Though the DB1i is only 11.4" high by 6.1" wide by 9.2" deep, the transmission line’s effective length is 5.5 feet. The driver at one end of that line is a proprietary unit with a 5.5" doped paper cone and a cast

## MEASUREMENTS

The quasi-anechoic measurements were all performed using DRA Labs’ MLSSA system and a calibrated DPA 4006 microphone. The PMC DB1i’s voltage sensitivity is specified as 87.0dB/2.83V/m; my estimate of this was 86.5dB(B)/2.83V/m, which is within experimental error of the specification. The PMC’s impedance remains above 7 ohms for almost the entire audioband, dropping to a minimum of 6.3 ohms at 250Hz (fig.1). Though the electrical phase angle is occasionally high, this is always when the impedance is also high,

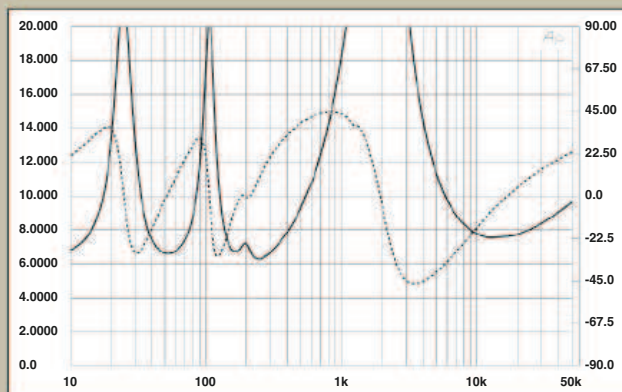


Fig.1 PMC DB1i, electrical impedance (solid) and phase (dashed). (5 ohms/vertical div.)

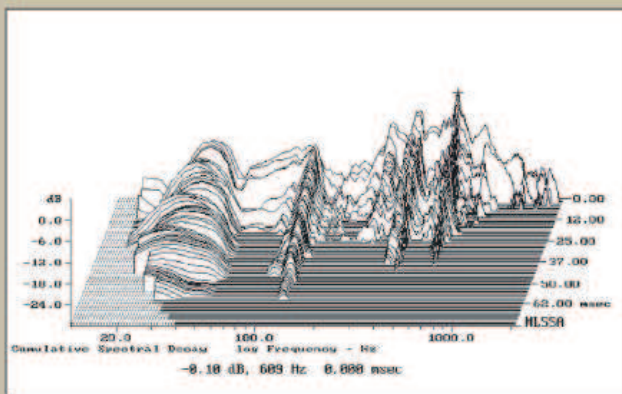


Fig.2 PMC DB1i, cumulative spectral-decay plot calculated from output of accelerometer fastened to center of side panel (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).

thus minimizing any drive difficulty. This speaker will work well with the kind of low-powered amplifiers MF used for his auditioning.

The impedance traces are free from the small wrinkles and discontinuities that would suggest the presence of cabinet-panel resonances, but there is an unusual peak at 195Hz. When I looked at the cabinet panels’ vibrational behavior with a plastic-tape accelerometer, there was nothing untoward happening at 195Hz, but a low-level mode at 120Hz was apparent on the sidewall, as were some higher-level modes in the midrange (fig.2). Given the small radiating area of the PMC’s panels and the high frequency of more prominent modes, it is unlikely that these will have any effect on the speaker’s sound quality.

Though the DB1i is specified as being a transmission line, the twin low-frequency peaks in its impedance-magnitude trace, and the saddle between them centered between 50 and 60Hz, are no different from what would be found in a reflex design. The response of the woofer, measured in the nearfield (fig.3, blue trace), does indeed feature the sort of minimum-motion notch at the frequency of the impedance saddle that is typical of a reflex design. In a true transmission line, the vent output is in-phase with that of the line-terminated woofer; by contrast, the output of the PMC DB1i’s vent is in opposite polarity to that of the woofer, again typical of reflex behavior. However, this

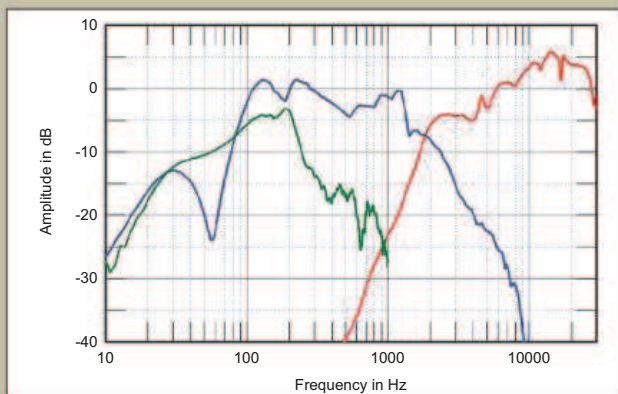


Fig.3 PMC DB1i, acoustic crossover on tweeter axis at 50", corrected for microphone response, with nearfield responses of woofer (blue) and port (green) plotted below 350Hz and 1kHz, respectively.



magnesium alloy basket, crossed over at 2kHz to a 1", ferrofluid-cooled, soft-dome tweeter made by SEAS. The moderately well-braced and damped cabinet weighs just under 10 lbs. The DB1i's claimed frequency response is 50Hz–25kHz, its sensitivity a moderate 87dB/W/m.

### Setup

Forgive my skepticism as I jacked up my +400-lb Wilson Audio Specialties MAXX 3 speakers, replaced their spikes with casters, rolled them out of the way, substituted the little stand-mounted PMC DB1i's, and muttered, "This is *not* going to be a fun few weeks."

No point in driving the PMCs with my 1000Wpc Musical Fidelity Titan, I figured. Nor did it make sense to use the Music Reference RM-200 tube amp, driven by the darTZeel NHB-18NS preamp (\$29,000), though I did

an old Musical Fidelity A1 Collector's Edition integrated that runs hot, and whose 40Wpc sounded exceptionally sweet through the PMCs.

A Meridian Sooloos Music Server was the main source, with Musical Fidelity's

## I PRESSED INTO SERVICE A TOTALLY REBUILT SCOTT LK-72—A TUBED INTEGRATED AMPLIFIER, CA 1960.

listen that way for a while. Instead, I pressed into service a totally rebuilt Scott LK-72—a tubed integrated amplifier, *ca* 1960, that outputs about 35Wpc—and

budget V-DAC D/A converter (\$299), which has gotten rave reviews worldwide, and which John Atkinson told me measured *almost as well as* the dCS Scarlatti

### measurements, continued

vent doesn't behave exactly like a reflex port; there is not really a peak at the woofer's minimum-motion notch, and in fact its output, measured in the nearfield (fig.3, green trace), peaks between 80 and 220Hz. There is also a notch in the woofer's output at the same frequency as the vent's maximum output. The vent's upper-frequency rolloff is smooth and free from resonant spikes, however. Higher in frequency in fig.3, the woofer has a sharply defined step in its output at 1.2kHz, before crossing over to the tweeter (red trace) just below the specified 2kHz.

Fig.4 shows how these individual outputs sum in the far-field. The little PMC peaks up sharply in the region where the vent output is highest, though there is a notch apparent at 200Hz, this presumably due to the vent and woofer being in opposite acoustic polarity at this frequency. The vent doesn't reinforce the DB1i's low-frequency output to any significant extent, the response rolling off steeply below 100Hz. However, this is a quasi-anechoic measurement—I note that Michael Fremer did find the speaker to offer better bass extension in-room (see below). Other than that response step at the top of the midrange, which I would have expected to add a touch of nasal coloration, the PMC's response is fairly smooth and even from 250Hz to 5kHz. The output is boosted in the top two octaves; though MF did feel there to be some degree of high-frequency exaggeration, he felt it lay below this range.

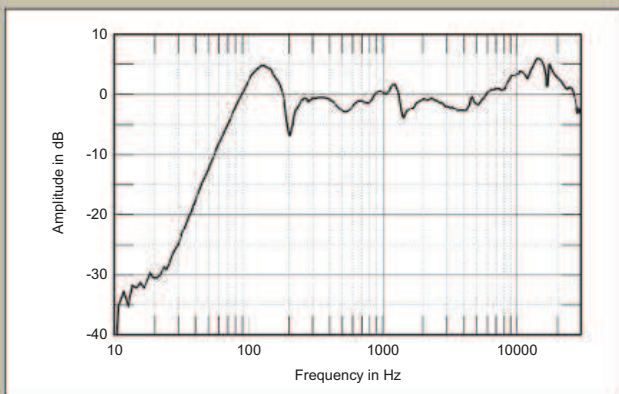


Fig.4 PMC DB1i, anechoic response on tweeter axis at 50", averaged across 30° horizontal window and corrected for microphone response, with complex sum of nearfield responses plotted below 300Hz.

The DB1i's plot of lateral dispersion (fig.5) reveals a wide and even radiation pattern, with only a slight touch of off-axis flare in the bottom octave of the tweeter's passband. The output above 10kHz falls off rapidly to the speaker's sides, which might ameliorate the exaggerated on-axis response in the same region. In the vertical plane (fig.6), a suckout develops in the crossover region more than 15° above and below the tweeter, meaning that the PMC is fairly uncritical regarding exact listening axis.

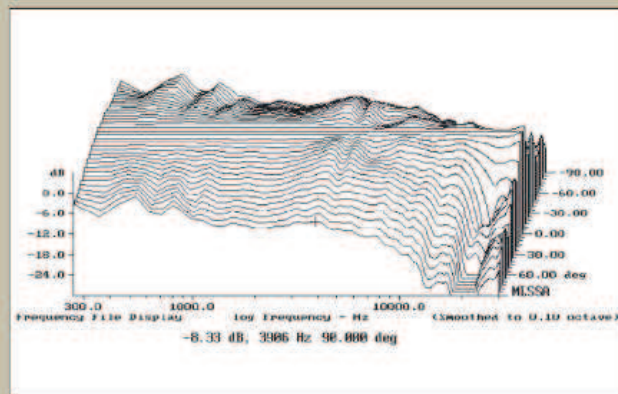


Fig.5 PMC DB1i, lateral response family at 50", normalized to response on tweeter axis, from back to front: differences in response 90–5° off axis, reference response, differences in response 5–90° off axis.

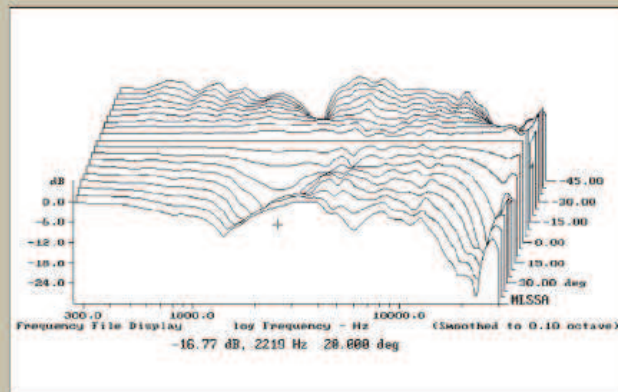


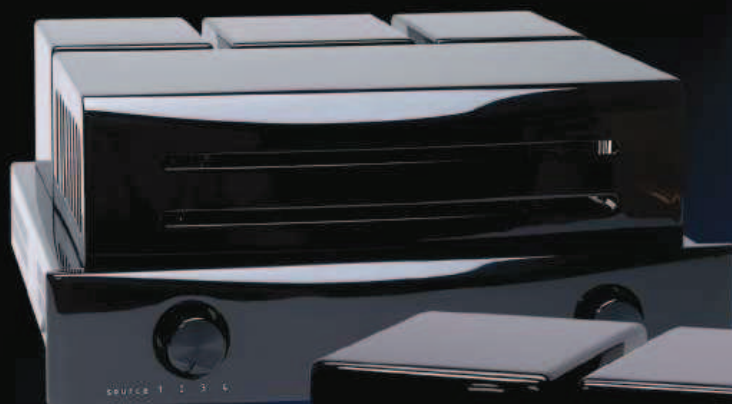
Fig.6 PMC DB1i, vertical response family at 50", normalized to response on tweeter axis, from back to front: differences in response 45–5° above axis, reference response, differences in response 5–45° below axis.



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DAC (though you can be sure it doesn't sound quite as good). I also unboxed an old Ariston Icon turntable and tonearm fitted with a Shure M97xe cartridge and ran it into both integrated amps' phono inputs. The PMC speakers' double sets of binding posts permit biwiring, but I left the gold-plated links in place and ran a single set of speaker wires.

In all of these choices, my point was to use modestly priced sources and electronics with a pair of small, moderately priced speakers, and that extended to using a pair of generic, lightweight, MDF-and-metal speaker stands instead of more massive and expensive ones.

The DB1i's sounded best about 9' apart, 8.5' from my listening position,

and somewhat closer to the front and side walls than I'd had the Wilson MAXX 3s. I figured a little boundary reinforcement couldn't hurt the diminutive PMCs. They sounded best toed-in so that their tweeter axes converged behind my head.

### A period of adjustment

There was one, of course, in going from the Wilson MAXX 3s—6'-tall behemoths capable of 20Hz performance, almost floor-to-ceiling soundstage height, and especially realistic dynamics—to the little PMCs, but it was shorter than you or I might have imagined. I spent the better part of the 1980s enjoying a pair of Spica TC-50s, which

had pretty much nothing to give below 70Hz. But with imaging and soundstaging like *that*, who cared? Not I—and at that point, most of the music I listened to was hard rock and punk.

It didn't take me long to realize that, much like those Spicas, the little PMCs could produce an exceptionally large, deep, coherent soundstage that seemed in no way associated with the boxes themselves. Whatever was missing on the bottom, there was *plenty* to look at above.

With the Sooloos Music Server in its Swim mode (analogous to the iPod's Shuffle mode), there was no telling what was coming next as the computer mixed'n'matched the improbable and the ridiculous: Duke Ellington's "Perdido,"

## measurements, continued

Fig.7 shows my usual spatially averaged response for the PMC DB1i's in MF's room. Michael placed the speakers near the corners of his room, which will reinforce the mid-bass; as he reports, the speakers extended down to about 50Hz, with a steep rolloff below that. The upper midrange is a little higher in level than the lower midrange. Even with the increasingly absorptive effect of the room furnishings in the top two octaves and the more directional nature of the speaker above 10kHz, the PMC's in-room response reveals an overabundance of upper-frequency energy. (I noticed this in my own auditioning of the PMCs in MF's room, in addition to a slightly congested quality in the upper bass; the latter correlates with Michael's description of the speaker's sonic idiosyncrasies in this region.)

In the time domain, the DB1i's step response on the tweeter axis (fig.8) confirms that the two drive-units are connected in the same positive acoustic polarity. The slight discontinuity as the tweeter hands off to the woofer suggests that the optimal listening axis will be just below the tweeter axis. Some gentle undulations are visible in the decay of the woofer's step, and the cumulative spectral-decay plot (fig.9) reveals some delayed energy associated with the response step in the upper midrange. I suspect that this is what was bothering MF when he wrote that the only high-frequency coloration

he consistently noticed "was what sounded like a narrow presence-region boost that added a delicate glisten, not fatigue-inducing brightness." Otherwise, this waterfall plot is quite clean.

Obviously, some excellent engineering has gone into the PMC DB1i. However, as with other transmission-line designs we have reviewed, it remains unclear to me what sonic benefit is gained by the increase in system complexity.

—John Atkinson

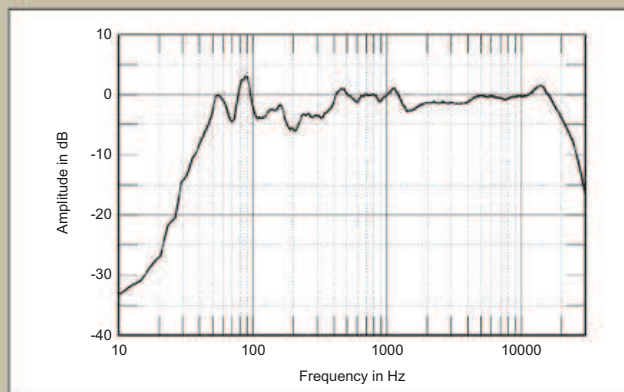


Fig.7 PMC DB1i, spatially averaged, 1/6-octave response in MF's listening room.

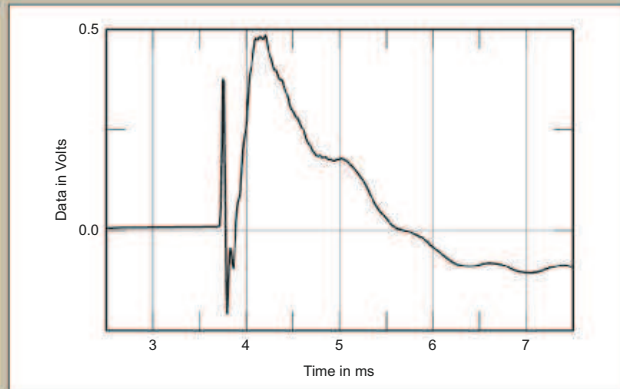


Fig.8 PMC DB1i, step response on tweeter axis at 50" (5ms time window, 30kHz bandwidth).

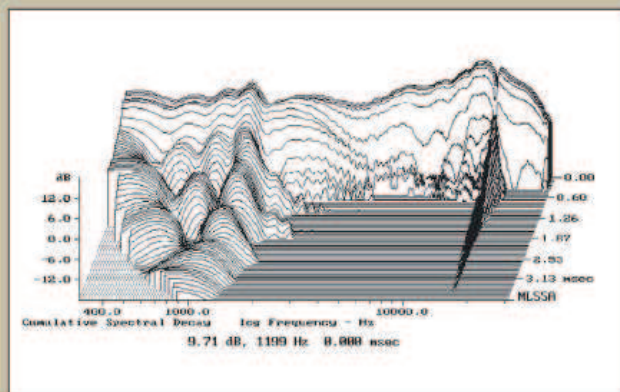


Fig.9 PMC DB1i, cumulative spectral-decay plot on tweeter axis at 50" (0.15ms risetime).



from the 1940s, segued to U2's "Pride" to Johnny Taylor's "Little Bluebird" to Duffy's "Warwick Avenue" to Guns N' Roses' "Yesterdays" to Nick Drake's "Cello Song" to Howlin' Wolf's "Built for Comfort" to Górecki's Symphony 3 to Bob Dylan's "Highway 61."

Each of these familiar tunes, rather than being scaled down and diminished, I instead heard as reimagined in a credible edition that was seemingly complete. The Spica TC-50 may not have produced much below 70Hz, but the PMC DB1i clearly went rather deeper, digging out enough tuneful, reasonably well-damped bass to create a pleasing rhythmic foundation. I'm not talking about visceral bass but *satisfying* bass, with body and definition, aided in great part by the designer's smart choice to *not* boost the upper midbass and lower midrange. Instead, the transition from the speaker's lowest frequencies to the midrange was reliably clean and smooth, with just a hint of bloom that brought the lower midrange ever so slightly forward. The heart of the midrange was subjectively smooth and coherent, as was the mid/woofer's hand-over to the tweeter at 2kHz.

The tweeter's performance was mostly exemplary, with excellent dispersion and smooth off-axis response signified by total absences of grit, grain, and mechanical aftertaste. Highs were clean, fast, and delicately expressed. Sibilants were naturally rendered—neither too soft nor overetched. Over time, the only consistently noticeable high-frequency coloration I heard was what sounded like a narrow presence-region boost that added a delicate glisten, not fatigue-inducing brightness.

Tonally, the DB1i delivered a subjectively smooth, relatively uncolored midband bracketed by subtle yet attention-holding presence on top and satisfying weight on bottom, and rolling off in the mid-50Hz region. This produced the illusion of a musically complete picture instead of the ascetic pleasure of, say, the legendary and justifiably popular ProAc Tablette of the 1980s, which sounded more tipped-up on top and less full on bottom.

### Uncongested, well-balanced sound

But that period of adjustment, during which someone used to a big, dramatic sound had to get used to less bass, less soundstage height, less dynamics, and constricted SPLs—in short, less of everything—didn't last long.

If you're into audio because you love music, and not because you crave bling or because you're a gearhead, the music produced by the little PMC DB1i will surely captivate you and draw you in. Along with a response that was subjectively smooth for such a small two-way, the DB1i was among the least congested small speaker I've heard, if not *the* least congested—although, I admit, I haven't spent as much time listening to minimonitors as has Bob Reina.

But the DB1i didn't sound like a minimonitor. Because it scaled down so smoothly and evenly the size of sound a big speaker can manage, I quickly forgot its smaller sonic proportions and was drawn into the pictures it created.

that, when excited, produced a sudden cardboard sound. Fortunately, it didn't happen often.

Played too loud, the DB1i began to sound strained and uncomfortable, but within a wide volume range from very low to moderately loud—louder than you might think possible from such a small box—it produced a spacious, three-dimensional picture with a transparency and depth that had me sitting and listening contentedly for hours at a time. Only the soundstage height was somewhat limited.

While the overall sound seemed, to me, scaled down, I couldn't help thinking of all the young listeners docking their iPods into puny little plastic boxes

THE DB1i DIDN'T SOUND LIKE A MINIMONITOR. BECAUSE **IT SCALED DOWN SO SMOOTHLY AND EVENLY THE SIZE OF SOUND A BIG SPEAKER CAN MANAGE**, I QUICKLY FORGOT ITS SMALLER SONIC PROPORTIONS AND WAS DRAWN INTO THE PICTURES IT CREATED.

Only two consistently noticeable colorations diminished the illusion. One was the signature sound of transmission-line bass, at least as produced by a compact box speaker. This sort of bass has a character quite different from that produced by a small ported speaker: a tighter, better-controlled initial impulse, which is a plus, followed by a longer-than-expected sustain that took a bit of getting used to, but was actually less obtrusive than port chuffing. The other was a mechanical *popping* in the region of kick drums and toms

with 5" of stereo separation between two tiny speakers, when they could be experiencing big-screen sound like this—if only they knew what it was and how to get it.

When the Sooloos swam me into the Doors' version of Brecht-Weill's "Alabama Song (Whisky Bar)," from the Steve Hoffman-mastered edition of *The Doors* (gold CD, Elektra/DCC Compact Classics EKS-74007)—a song I've been listening to for more than 40 years—the DB1i produced an attractive rendering: Jim Morrison's deep growl was uncongested,

### ASSOCIATED EQUIPMENT

**ANALOG SOURCE** Ariston Icon turntable & tonearm, Shure M97xe cartridge.

**DIGITAL SOURCE** Meridian Sooloos Music Server, Musical Fidelity V-DAC D/A converter with V-PSU power supply.

**PREAMPLIFIER** darTZeel NHB-18NS.

**POWER AMPLIFIER** Music Reference RM-200.

**INTEGRATED AMPLIFIERS** Scott LK-72, Musical Fidelity A1 Collector's Series.

**LOUDSPEAKERS** Wilson Audio Specialties MAXX 3.

**CABLES** Interconnect: Discovery Cable Essence. Speaker: Discovery Cable Essential.

**ACCESSORIES** NHT speaker stands, Symposium Rollerblocks & platforms, Shakti Stones, Finite Element Resonators; Audiodharma Cable Cooker, Furutech DeMag & deStat LP treatments; Oyaide AC wall box & receptacles; ASC Tube Traps, RPG BAD & Abffusor panels; VPI HW-17F, Loricraft PRC4 Deluxe record-cleaning machines.

—Michael Fremer



## PMC DB1i

well focused, and bathed in coherent reverb. In the refrain of "Oh, don't ask why," each voice was clearly delineated. Ray Manzarek's oom-pah keyboard had weight on bottom and sparkle on top; John Densmore's snare drum doubling the higher organ part snapped sharply and cleanly; and the watery, psych-harpsichord accent produced the desired eerie tingle. All of the song's elements, cushioned in reverb, hung nicely in three-dimensional space.

"What more could one want?" this owner of giant speakers asked in 2009—the same question he'd asked himself in 1986, when he returned home to his tiny Spica TC-50s after finally hearing Infinity's fabled, four-panel IRS monoliths at Harry Pearson's place in Sea Cliff, Long Island, having read about them for years.

Of course, after hearing the enormity of sound provided by such huge systems, one *could* want—and get—a *lot* more than either the Spica or PMC can produce. But the illusion of com-



The foam-filled vent is the end of the DB1's 5.5' transmission line.

pleteness provided by either of these well-designed small speakers should be enough to satisfy any music lover.

### Conclusion

"This is *not* going to be a fun few weeks," eh? Well, the time I spent with the PMC DB1i was a *lot* of fun. Hearing familiar

reference recordings recast as perfectly proportioned bonsai editions provided constant musical pleasure. Taken on their own terms, they never left me wanting more.

Only when I rolled the big Wilson MAXX 3s back into place was the difference revealed in a relief not that much more stark than attending a live concert after a long time spent listening to recordings. That's when you hear just how far from the real is *any* reproduction of music, even when you've convinced yourself that your big, expensive rig is almost there.

The PMC DB1i is a cannily designed, musically satisfying minimonitor. Whether or not it's a good value at \$1929/pair compared to similarly priced or less expensive competition is probably best answered by budget-speaker maven Bob Reina, who will be contributing a Follow-Up.

Meanwhile, amid all the hoopla surrounding the Beatles remasters as I write these words, I can conclude with complete confidence that, with these British-built speakers, a splendid time is guaranteed for most. ■

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John Atkinson & Fred Kaplan



ATC SCM 11 loudspeaker

## ATC SCM 11 loudspeaker

In this issue's "The Fifth Element" column, John Marks enthuses over the sound of the ATC SCM 11, a sealed-box, two-way, stand-mounted speaker from the UK that costs a competitive \$1750/pair.<sup>1</sup> "The ATC SCM 11 is a fully-ready-for-prime-time loudspeaker with excellent resolution and dynamics, etc., but, even more important, the ability to create musical involvement," he summed up. Given John's enthusiasm and the fact that it has been nearly 10 years since I last had an ATC design in my test lab, I thought it worthwhile to examine the speaker's measured performance.

The SCM 11's voltage sensitivity is specified as a fairly low 85.0dB/2.83V/m; this seemed a touch optimistic, as the ATC didn't seem to play any louder than the sample of the BBC LS3/5a that I routinely include when I'm set up to measure a bunch of loudspeakers. I estimated the ATC's sensitivity as being a low 82dB(B)/2.83V/m—this speaker should work best with higher-power amplifiers, though I note that JM had no drive difficulties with the Arcam Mini or Carat I57 receivers he used, and was impressed by the speaker's dynamic capabilities when he drove it with the Peachtree Nova. This

was probably owing to the fact that the SCM 11's impedance remains above 8 ohms for most of the audioband, with a dip to 6 ohms between 100 and 300Hz, and to 4.8 ohms in the mid-treble (fig.1). Though there is a rather demanding combination of 5.5 ohms magnitude and  $-42^\circ$  electrical phase angle at 3.3kHz, this shouldn't overtax well-designed amplifiers.

There is a slight discontinuity between 500 and 600Hz in the impedance-magnitude trace, and an investigation of the enclosure panels' vibrational behavior with an accelerometer did uncover two fairly strong resonant modes on the sidewall in this region (fig.2). It's possible that these modes are high enough in frequency to have no subjective consequences—JM certainly didn't remark on any midrange congestion that might have been laid at the door of this behavior.

The SCM 11 is somewhat unusual in having for its woofer a sealed-box alignment. As I've written before, all things being equal, a sealed-box design will give a more extended low-frequency performance in-room than a reflex (ported) design, due to the former's slower rolloff below resonance: 12dB/octave rather than 24dB/octave. The peak of 52 ohms at 42Hz in the impedance plot suggests that this is the tuning frequency for the SCM 11's woofer, which will be the frequency at which the response lies 6dB down from the midband reference. Fig.3, which shows the individual responses of the woofer (blue trace) and tweeter (red), confirms that the speaker's bass output is  $-6$ dB at

42Hz, the frequency of the open E string of the four-string double bass and bass guitar. A slight bump visible in the upper bass will be due to the near-field measurement technique, but the woofer alignment appears to be a touch on the overdamped side, favoring control over richness.

Moving higher in frequency, the

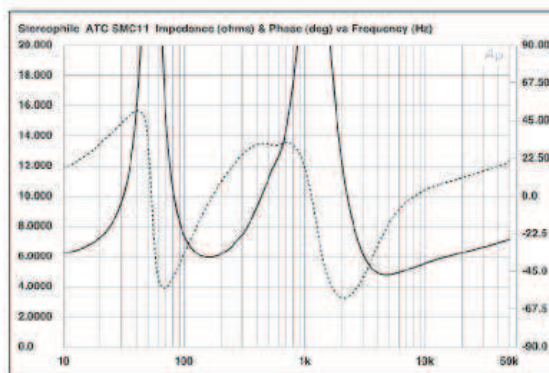


Fig.1 ATC SCM 11, electrical impedance (solid) and phase (dashed). (5 ohms/vertical div.)

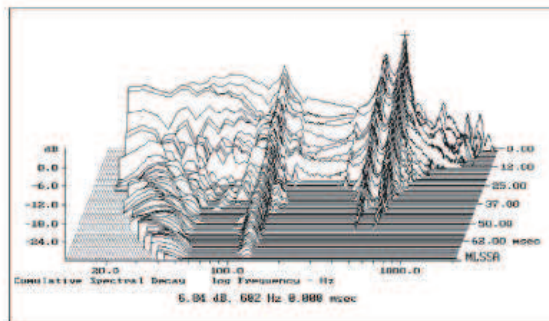


Fig.2 ATC SCM 11, cumulative spectral-decay plot calculated from output of accelerometer fastened to center of side panel (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).

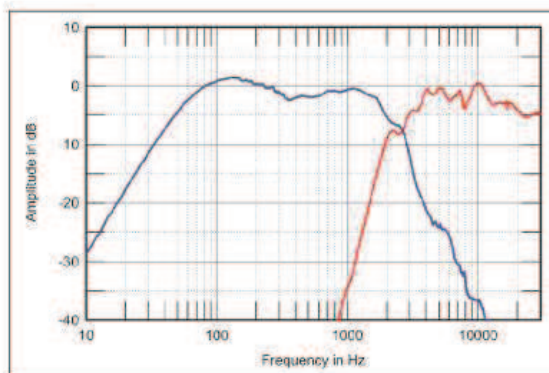


Fig.3 ATC SCM 11, acoustic crossover on tweeter axis at 50", corrected for microphone response, with nearfield responses of woofer (blue) and port (green) plotted below 350Hz and 1kHz, respectively.

<sup>1</sup> The review samples were serial numbers 1385 and 1386. ATC Loudspeaker Technology Ltd., Gypsy Lane, Aston Down, Stroud, Gloucestershire GL6 8HR, UK. Tel: (44) (0)1285-760561. Fax: (44) (0)1285-760683. Web: [www.atc.gb.net](http://www.atc.gb.net). US distributor: Flat Earth Audio, 98 Main Street, Seymour, CT 06483. Tel: (888) 653-5454, (203) 888-3759. Fax: (203) 888-3769. Web: [www.flatearthaudio.com](http://www.flatearthaudio.com).



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woofer is well behaved in its passband before crossing over to the tweeter close to the specified 2.8kHz. The tweeter is also well behaved, though its top octave is plateaued down by 3dB compared with the region between 4 and 11kHz. The acoustic crossover slopes are asymmetrical, with a 24dB/octave roll-in for the tweeter but closer to a second-order, 12dB/octave rollout for the woofer.

Fig.4 shows the SCM 11's response in the farfield with its grille off, averaged across a 30° horizontal window centered on the tweeter axis. It is superbly flat and even, though a slight lack of energy in the crossover region is evident. I wondered if this was the reason John Marks felt the speaker had a "smile" tonal character—*ie*, a slightly recessed mid-treble region—but the ATC's plot of lateral dispersion (fig.5) indicates that, in-room, the on-axis lack will be balanced by a degree of off-axis flare in the same region. However, there is a hint of increased directivity at the top of the woofer's passband that might have given rise to the "smile"

characterization. The contour lines in this graph are otherwise even and well balanced, correlating with the excellent stereo imaging noted by JM. As usual with a 1" soft-dome tweeter used in a fairly wide baffle, the radiation pattern becomes more directional above 8kHz or so. Along with the shelved-down top octave, the ATC will sound a little mellow, even lacking in air, in rooms of medium to large size, or in small rooms with too many absorptive furnishings.

In the vertical plane (fig.6), a deep suckout develops in the crossover re-

gion immediately above the tweeter axis. The SCM 11 needs to be used with a stand tall enough to place the listener's ears on or just below the tweeter axis if its balance is not to sound hollow. This pattern might also contribute to JM's "smile" in-room balance.

The ATC's step response on the tweeter axis (fig.7) is absolutely conventional, with the tweeter's output leading the woofer's by 300 $\mu$ s or so and with both drivers connected in positive acoustic polarity. The SCM 11's cumulative spectral-decay plot (fig.8) is generally clean, but with some low-level hash evident in the mid-treble.

The ATC SCM 11 is a well-engineered little speaker. I am not surprised John Marks liked it as much as he did, though I would point out that its measured behavior suggests it will work better when listened to fairly close.

—John Atkinson

### Revel Ultima Studio2 loudspeaker

Toward the end of a highly favorable review in the March 2008 *Stereophile*, Kalman Ru-

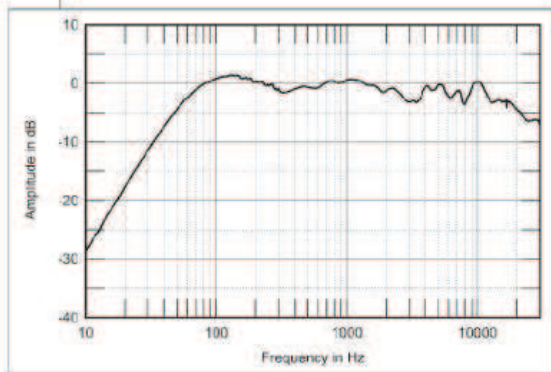


Fig.4 ATC SCM 11, anechoic response on tweeter axis at 50°, averaged across 30° horizontal window and corrected for microphone response, with complex sum of nearfield responses plotted below 300Hz.

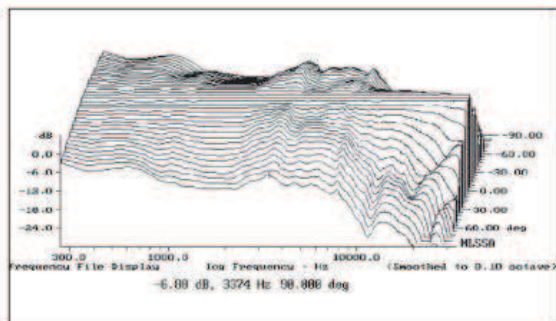


Fig.5 ATC SCM 11, lateral response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 90-5° off axis, reference response, differences in response 5-90° off axis.

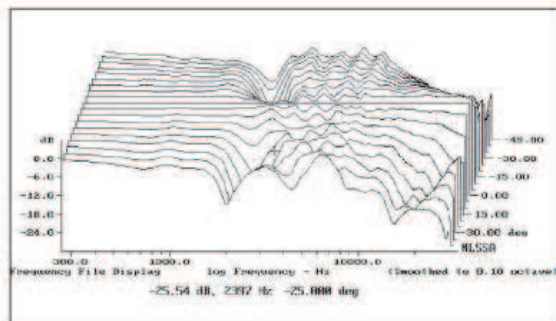


Fig.6 ATC SCM 11, vertical response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 45-5° above axis, reference response, differences in response 5-45° below axis.

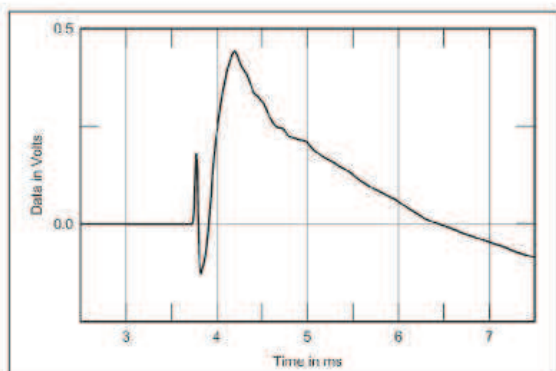


Fig.7 ATC SCM 11, step response on tweeter axis at 50° (5ms time window, 30kHz bandwidth).

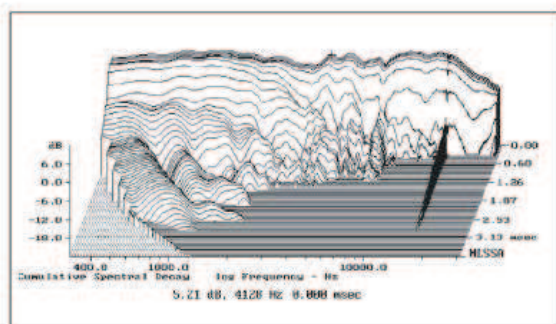


Fig.8 ATC SCM 11, cumulative spectral-decay plot on tweeter axis at 50° (0.15ms risetime).



binson wrote, "What's not to like—indeed, love—about the Revel Ultima Studio2?" (See [www.stereophile.com/floorloudspeakers/308revel](http://www.stereophile.com/floorloudspeakers/308revel).) Having listened to these speakers for a few months now, I'd say my colleague underrated them.

As far as Kal goes, I agree with his assessment of the Ultima Studio2 (\$15,999/pair):<sup>2</sup> top marks on highs, lows, midrange, dynamics (macro and micro), depth, and imaging. But what impressed me as much as any of those, if not more, was a quality KR didn't mention: the way the Ultima Studio2 unraveled musical details—not just the notes and rhythms of a passage, but also the overtones and texture of an instrument or an ensemble.

My reference recording most revealing of such matters is of Górecki's Symphony 3, with David Zinman con-

ducting the London Sinfonietta (CD, Elektra Nonesuch 79282-2). The disc brutally exposes the deficiencies of most speakers. But the Revel Ultima Studio2 revealed still more wonders of this disc.

The first movement begins with the double basses bowing the theme near the bottom of their range. Many speakers present this as a rumbling growl. With the Studio2s I could hear not only every note cleanly and crisply, but also the distinct sound of resined bows on strings, against vibrating wood.

About three minutes into the movement, various sections of the orchestra begin playing different melodies, in rondo or counterpoint. The Studio2s let me follow all these lines more clearly than any speakers ever have. With many speakers, the bass tones under all these crisscrossing lines get muddy, but not with these. At about 8:00, the orchestra begins to swell; at this point, with every other speaker I've had, the

double basses turn to mush; there's too much going on, something gives way, and in such circumstances it's the bass that tends to give way most easily. Yet even here, the Studio2s preserved the bass lines and their textures. Similarly, when the piano plays very softly behind Dawn Upshaw's voice, I could hear the sound of the fingers tapping the keyboard. I don't think this is the result of excessively close miking; this record-



Revel Ultima Studio2 loudspeaker

<sup>2</sup> Revel, 1718 W. Mishawaka Road, Elkhart, IN 46517. Tel: (516)594-0300. Web: [www.revelspeakers.com](http://www.revelspeakers.com).

## REVEL MEASUREMENTS

**G**iven that Fred Kaplan felt that Kalman Rubinson "underrated" Revel's Ultima Studio2 loudspeaker in his original review and how much I had enjoyed my time with the larger Ultima Salon2 (see [www.stereophile.com/floorloudspeakers/608revel](http://www.stereophile.com/floorloudspeakers/608revel)), I thought it worthwhile to examine how the speaker performed in Fred's room.

The red trace in fig.1 shows the spatially averaged response of the Studio2s in FK's room. I derive this graph by averaging 20 measurements taken for each speaker in a rectangular grid measuring 36" by 18" and centered on the position of the listener's ears in his listening chair. I used an Earthworks omni microphone and a Metric Halo ULN-2 FireWire audio interface, in conjunction with SMUGSoftware's Fuzzmeasure 2.0 running on my Apple laptop. The resultant graph shows the effect of both a loudspeaker's on-axis response and its power response. I have found that it quite accurately reflects a speaker's perceived tonal balance.

The broad peaks in the low and midbass are the residual effects of room resonant modes that have not been eliminated by the spatial averaging. However, from 100Hz to 6kHz the measured balance is astonishingly flat, meeting narrow  $\pm 1.5$ dB limits above 300Hz. The curve gently slopes down above 6kHz, which will be due to the increased absorptivity of the room's furnishings in this region and the increasing directivity of the tweeter in its top octave. The Studio2's behavior is effectively textbook in this region. Like its larger sibling, the Ultima Salon2, the Studio2 offers a neutral in-room balance, and is even better in this respect in FK's room than the Salon2 had been in both Larry Greenhill's and my rooms (see [www.stereophile.com/floorloudspeakers/608revel/index6.html](http://www.stereophile.com/floorloudspeakers/608revel/index6.html)).

The blue trace in fig.1 shows the spatially averaged

response of the Verity Sarastro II speaker (\$39,995/pair), which FK reviewed in April 2009 (see [www.stereophile.com/floorloudspeakers/verity\\_audio\\_sarastro\\_ii\\_loudspeaker](http://www.stereophile.com/floorloudspeakers/verity_audio_sarastro_ii_loudspeaker)). The measurements of the two speakers were performed identically, and you can see both that the Verity's low-frequency output is still dominated by room modes, and that its ribbon tweeter puts a bit too much high-treble energy into the room. However, the less-expensive Revel clearly goes lower in frequency and offers better integration between its drive-units, not suffering from the depressed regions in the Verity's lower midrange and mid-treble. I am not surprised that FK was so impressed by the Ultima Studio2's sound. The abilities of Revel's design team, coupled with the access they have to Harman's loudspeaker research center in Northridge, California, allow them to consistently come up with winners. —John Atkinson

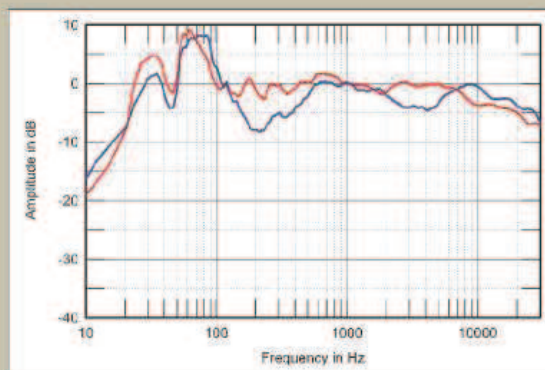


Fig.1 Revel Ultima Studio2, spatially averaged, 1/6-octave response (red) and of Verity Sarastro II (blue), both in FK's listening room.





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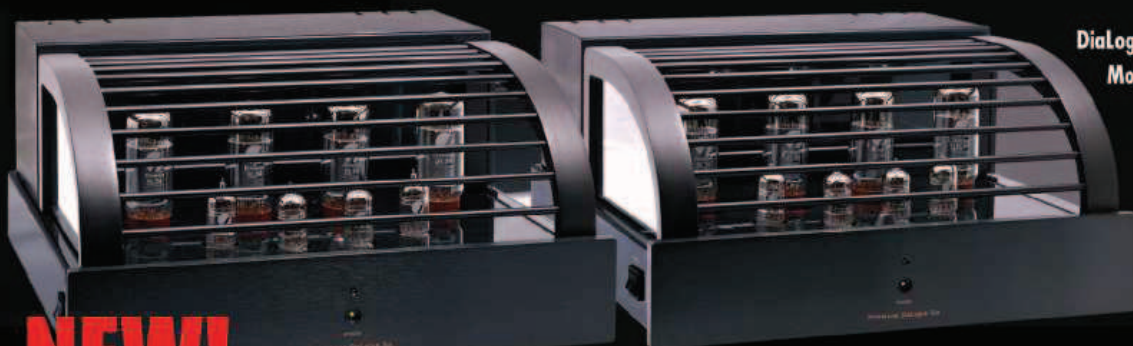
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ing was made with classically “natural” methods involving very few microphones.

The same traits shone through when I put on the San Francisco Symphony Orchestra’s recording of Mahler’s Symphony 9, conducted by Michael Tilson Thomas (SACD/CD, SFSO 821936-0007-2): the tremulous bowing of the violins, the brassy blaring of the horns in the distance, the swaying of the double basses. And when the music swelled in a crescendo, the Studio2s kept it all together: no breakup, no harshness, no mud.

But don’t get the idea that the Ultima Studio2 was merely “analytical.” At about 6:00 into the Górecki movement, when the high strings start bowing, they sounded as silky as they ever have. When I listened to Lorraine Hunt Lieberson singing “Ich habe genug,” from her recording of J.S. Bach’s Cantatas BWV 82 and 199 with Craig Smith conducting the Orchestra of Emmanuel Music (CD, Nonesuch 79692-2), my heart went pitter-patter, as usual. On Maria Schneider’s *Sky Blue* (CD, ArtistShare AS0065), when her jazz orchestra begins to blow the opening passage of the first track, I couldn’t help but sway along. The Studio2 was about as neutral a speaker as any I’ve heard in my system; if there’s emotion on the disc and it hasn’t been wiped out by the intervening components and cables, the Revel will pick it up and pass it along.

KR said that setting up the Ultima Studio2s wasn’t all that delicate a task, but it was in my room. True, they weren’t as persnickety as some speakers I’ve dealt with; I managed to find

their sweet spots after just a few iterations, not a few dozen. But I found that changing the toe-in angle by 10° or even 5° made a big difference: If I toed them in too much, the midbass boomed a bit; if I toed them in too little, the upper midrange sounded thin, sometimes unpleasantly. In my room, the Revels sounded best when their tweeters were pointing to a spot just an inch or so outside my ears.

This setup narrowed the soundstage, though only a little. On “Jonah,” from Paul Simon’s *1964–1993* (3 CDs, Warner Bros. 45394-2), the hand drum was still well to the left of the left speaker; ditto for John Coltrane’s tenor sax on side 1 of Miles Davis’s *Kind of Blue* (LP, Columbia CS 8163). In either case, the Studio2s conveyed a palpable, layered depth—and if the recording was made in a concert hall, or a big studio such as the converted Greek Orthodox church that Columbia used in the 1950s and ’60s, they also gave a convincing sense of the venue’s dimensions and ambience.

Flaws and shortcomings? Well, a speaker of roughly similar design, but with more and larger woofers, would probably sound a bit warmer and heftier; I assume, though I’ve never heard it, that this is what one gets with Revel’s own Ultima Salon2 (\$20,999/pair). But, again, it would be way off the mark to call the Studio2 cold or bass-shy. When I put on Don Pullen’s *Sacred Common Ground* (CD, Blue Note CDP 8 32800 2) to check how the Studio2 would handle pianist Pullen’s slight darts and accents (very deftly, by the way), I was completely taken aback to hear how much more clear, woody, and thumpy Santi DeBriano’s exquisite bass lines sounded; it was as if I’d never heard this part of the record before, though in fact I’ve listened to it dozens of times over the years. I should also note that, as clean and extended as the Studio2’s highs sounded, thanks to its stiff, light beryllium tweeter, they don’t quite match the stratospheric purity of a very good ribbon tweeter such as that in Verity Audio’s Sarastro II (\$40,000/pair).

Kal wasn’t too thrilled with the Studio2’s appearance, finding that its high-gloss piano-black finish looked too plastic. The units I reviewed were finished in mahogany, and



Musical Fidelity V-DAC D/A processor

looked both very attractive and genuine. (They also happened to go very nicely with the mahogany trim of my living room.)

All in all, I found the Revel Ultima Studio2 an involving, enticing, deeply pleasurable loudspeaker—among the best I’ve ever heard in my room.

—Fred Kaplan

### Musical Fidelity V-DAC USB D/A processor

It was back in May 2009 that Sam Tellig wrote about Musical Fidelity’s V-DAC D/A processor (\$299), along with other products in the English company’s bargain-basement-priced, blister-packed “V” series. “Frugality can be fun,” cackled the inestimable Mr. T when he auditioned the V-DAC in his system, driven by Marantz CD63 Special Edition and Denon DCD-1650AR CD players used as transports. He said that the V-DAC sounded “extraordinarily quiet, as if I were hearing an absence of digital processing . . . the V-DAC’s midrange was silky smooth, its treble sweetly extended.” He concluded that “if you lust after a silken, sweet (but not oversweet) sound, you’ll marvel at the Musical Fidelity V-DAC.”

Intrigued by how Musical Fidelity achieves such excellent sound quality at the V-DAC’s bargain price, I asked for a sample to be sent for measurement. Jon Iverson will be adding a second opinion on the V-DAC’s sound quality in a future issue.

The V-DAC offers bare-bones construction. The power supply is a separate wall wart. A plain, black-painted box of extruded aluminum carries a single printed-circuit board, with the input jacks (TosLink, coaxial, USB) at one end and a single pair of RCA output jacks at the other. Other than three

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**INTEGRATED AMPLIFIER** Krell FBI. **CABLES** Nordost CAST cables, Nirvana interconnects and loud-speaker cables.

**ACCESSORIES** Bybee Technologies Signature Power Purifier, Black Diamond Mk.4 Racing Cones, Maple-shade pucks, VPI HW-19 record-cleaning machine.

—Fred Kaplan



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surface-mount LSI chips, the circuitry is based on traditional through-hole components, and local voltage regulation appears to be performed with the usual  $\pm 5V$  chips. The USB input feeds the ubiquitous Burr-Brown PCM2706 receiver chip, which is limited to 16-bit data and sample rates of up to 48kHz. The USB receiver operates in "adaptive" mode, where control of the data flow is subcontracted to the PC; it feeds the recovered audio data to a Burr-Brown SRC4392 sample-rate-converter chip, which also handles data up to 24-bit resolution and sample rates up to 96kHz from the TosLink and coaxial S/PDIF ports. Using this chip to upsample incoming data to 192kHz reduces the effect of datastream jitter.

The upsampled data are decoded to analog using yet another Burr-Brown chip, a DSD1792, which also does the necessary digital filtering. A high-speed quad-op-amp chip, a Motorola MCC33079, does the current-to-voltage conversion. This is followed by the output stage, based on a JRC 5532 dual-op-amp chip. While the 553x family of op-amps is now long in the tooth, Musical Fidelity uses them for the output stage of many of its products, due to their ability to drive low-impedance loads with very low distortion.

I examined the measured behavior of the Musical Fidelity V-DAC<sup>3</sup> using the Audio Precision SYS2722 system (see [www.ap.com](http://www.ap.com) and "As We See It" in the January 2008 issue, [www.stereophile.com/asweseet/108awsi](http://www.stereophile.com/asweseet/108awsi)), as well as, for some tests, my Audio Precision System One Dual Domain and the Miller Audio Research Jitter Analyzer. Test data were sent to the V-DAC via TosLink from the AP systems or from the USB 2.0 output of my Intel MacBook running OS10.4.11 and playing back WAV files using Bias Peak 6.2. Unlike iTunes, Peak takes con-

trol of the OSX CoreAudio engine to ensure that audio at the correct sample rate is sent out through the computer's USB and FireWire ports. To avoid problems of noise contamination, I ran the MacBook on battery power for the testing, and used a premium USB cable from Belkin.

The V-DAC's maximum output was 2.08V and it preserved absolute polarity; *i.e.*, was non-inverting. The output

impedance was a low 42 ohms at high and mid frequencies, rising slightly but inconsequentially to 78 ohms in the low bass. The S/PDIF inputs successfully locked to data with sample rates up to 96kHz. The USB input identified itself to the host computer as "USB Audio DAC" and was limited to sample rates at or below 48kHz. The audioband frequency response was the same at all sample rates, with a gentle droop evident above 10kHz (fig.1). Increasing the sample rate increased the frequency at which the ultrasonic brickwall filter cut in: with 44.1kHz data (fig.1, cyan and magenta traces), the response was  $-0.25\text{dB}$  at 19kHz; with 96kHz data (blue and red traces), the roll off continued to reach  $-1.1\text{dB}$  at 40kHz. Channel separation (not shown) was a superb 110dB in both directions in the midrange, decreasing to a still-excellent 100dB at 20kHz (due to capacitive coupling between the channels) and to 100dB in the bass (presumably due to increasing power-supply impedance).

For consistency with my two decades' worth of previously published tests of digital components, I first examine resolution by sweeping a  $\frac{1}{3}$ -wide bandpass filter from 20kHz to 20Hz while the device under test decodes dithered data representing a 1kHz tone at  $-90\text{dBFS}$ . The top pair of traces in fig.2 show the result for the V-DAC decoding 16-bit data—the trace peaks at exactly  $-90\text{dBFS}$ , suggesting minimal linearity error, while the noise floor is free from harmonic- or power-supply-related spurious. In fact, all the traces show the spectrum of the dither used to encode the data, the V-DAC's own noise being much lower in level. Increasing the word length to 24 bits (using the S/PDIF input) gives the middle pair of traces in fig.2. The noise floor has dropped by 20dB, suggesting that the V-DAC has better than 19-bit resolution, which is competitive with D/A processors costing many times its price.

Dropping the signal level to  $-120\text{dBFS}$  gives the bottom pair of traces in fig.2; the tone is easily resolved, though a couple of dB of negative error are evi-

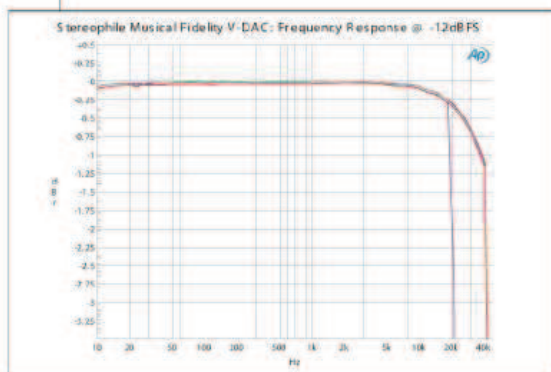


Fig.1 Musical Fidelity V-DAC, frequency response at  $-12\text{dBFS}$  into 100k ohms with 44.1kHz data (left channel cyan, right magenta) and data at 96kHz (left channel blue, right red;  $0.25\text{dB/vertical div.}$ )

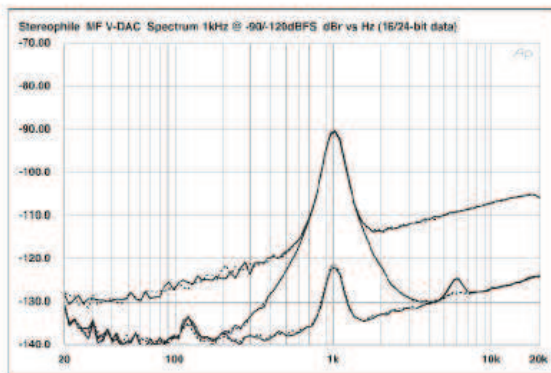


Fig.2 Musical Fidelity V-DAC,  $\frac{1}{3}$ -octave spectrum with noise and spurious of dithered 1kHz tone at  $-90\text{dBFS}$  with 16-bit data (top), 24-bit data (middle at 2kHz), and of dithered 1kHz tone at  $-120\text{dBFS}$  with 24-bit data (bottom at 1kHz). (Right channel dashed.)

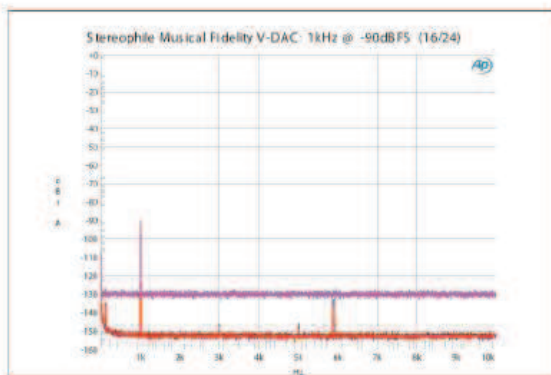


Fig.3 Musical Fidelity V-DAC, FFT-derived spectrum with noise and spurious of dithered 1kHz tone at  $-90\text{dBFS}$  with 16-bit CD data (left channel cyan, right magenta) and 24-bit data (left channel blue, right red).

3 Musical Fidelity Ltd., 24/26 Fulton Road, Wembley, Middlesex HA9 0TF, England, UK. Tel: (44) (0)20-8900-2866. Fax: (44) (0)20-8900-2983. Web: [www.musicalfidelity.com](http://www.musicalfidelity.com). Musical Fidelity lost its US distributor just before this issue went to press, but the V-DAC is still available from online retailers such as Amazon, Music Direct, and Audio Advisor.





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dent. With all the 24-bit traces, a very small amount of power-supply hum at 120Hz is unmasked—at -135dB, this won't bother anyone—and a small spectral bump can be seen between 5 and 7kHz. Repeating the analysis using an FFT technique (fig.3), the bump is resolved to two spectral lines just below 6kHz, probably the result of a very slight DC offset being introduced into the data during its mathematical manipulation ahead of the D/A stage.

Again, however, the V-DAC's very low noise floor is evident in this graph.

The plot of the Musical Fidelity's linearity error against absolute level with 16-bit data revealed only the effect of the recorded dither noise, so I haven't shown it. Fig.4 shows the waveform of an undithered 16-bit/1kHz tone at exactly -90.31dBFS: the three discrete DC voltage levels described by the data are clearly resolved, with excellent waveform symmetry. Increasing

the data's depth to 24 bits gives rise to a well-defined sinewave (fig.5).

Only when it came to harmonic distortion did the V-DAC stumble, and then in only a very minor way. Fig.6 shows the spectrum of the DAC's output while it decoded a full-scale 1kHz tone into 600 ohms. (The result into the more benign 100k ohms was basically identical, so I haven't shown it.) A regular series of harmonic spuriae can be seen, as well as the idle tones just

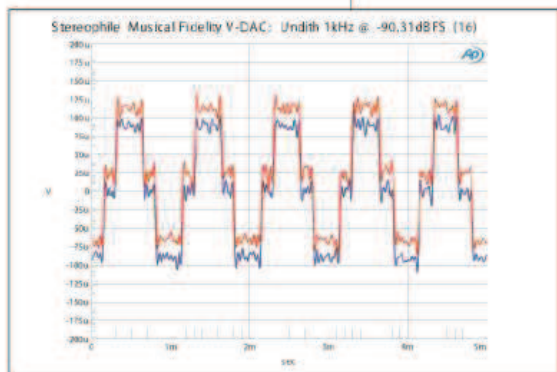


Fig.4 Musical Fidelity V-DAC, waveform of undithered 1kHz sinewave at -90.31dBFS, CD data (left channel blue, right red).

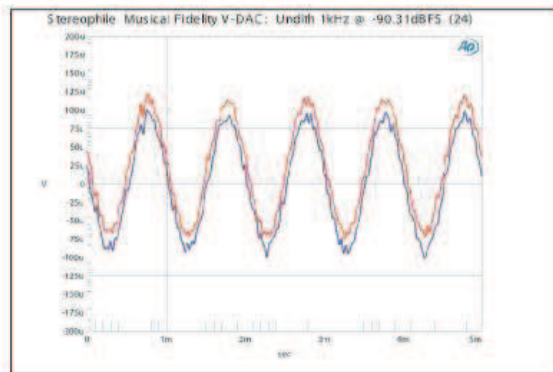


Fig.5 Musical Fidelity V-DAC, waveform of undithered 1kHz sinewave at -90.31dBFS, 24-bit data (left channel blue, right red).

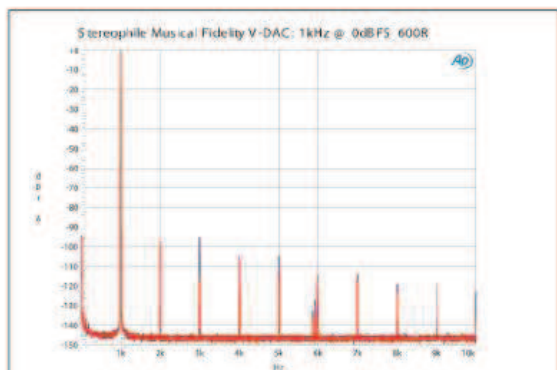


Fig.6 Musical Fidelity V-DAC, spectrum of 1kHz sinewave at 0dBFS into 600 ohms, 24-bit data (left channel blue, right red; linear frequency scale).

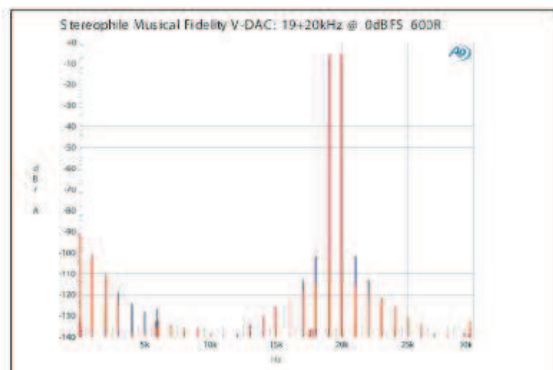


Fig.7 Musical Fidelity V-DAC, 19+20kHz at 0dBFS peak into 600 ohms, 24-bit data (left channel blue, right red; linear frequency scale).

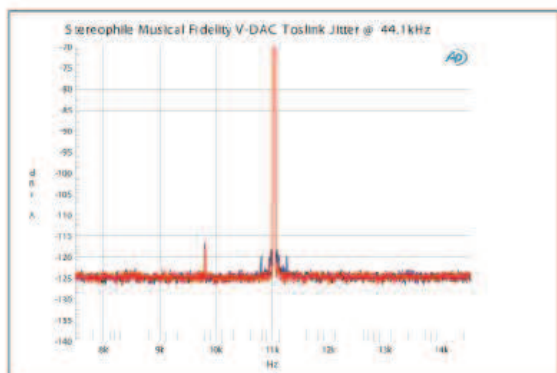


Fig.8 Musical Fidelity V-DAC, high-resolution jitter spectrum of analog output signal, 11.025kHz at -6dBFS, sampled at 44.1kHz with LSB toggled at 229Hz, 16-bit data via TosLink from AP SYS2722. Center frequency of trace, 11.025kHz; frequency range, ±3.5kHz (left channel blue, right red).

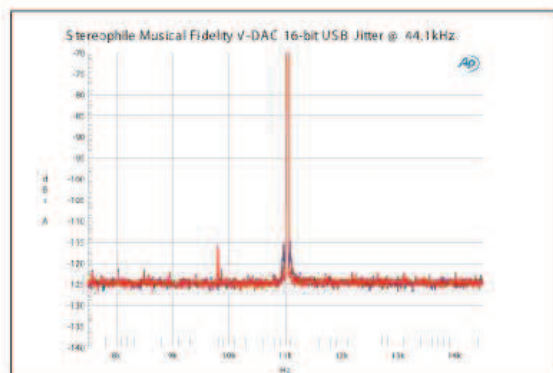


Fig.9 Musical Fidelity V-DAC, high-resolution jitter spectrum of analog output signal, 11.025kHz at -6dBFS, sampled at 44.1kHz with LSB toggled at 229Hz, 16-bit data via USB from MacBook. Center frequency of trace, 11.025kHz; frequency range, ±3.5kHz (left channel blue, right red).



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below 6kHz, though it is fair to point out that all these lie at or below -96dB in the left channel, -100dB in the right. The left channel (blue trace) has more third and fifth harmonic content than the right (red). Intermodulation distortion was also very low (fig.7), and no aliasing products were visible. Again, the left channel was not quite as linear as the right, and the performance into the punishing 600 ohm load was no worse than into 100k ohms.

As with other products using the SRC4392 chip as an S/PDIF receiver—the Music Hall dac25.2 comes to mind—the V-DAC does not reject incoming jitter as well as I would wish, which is presumably why ST heard significant differences between the transports he tried with the V-DAC. The measured jitter level via both the TosLink and coaxial inputs was never high, but it varied considerably according to the source I used. Fed via 15' of TosLink cable from the RME soundcard mounted in one of my test-lab PCs, the measured jitter level was 444 picoseconds peak-peak, with most of the energy in the data-related sidebands at  $\pm 229.5\text{Hz}$  and  $\pm 689.5\text{Hz}$ . Changing the source to the AP SYS2722's TosLink output and using the same 15' of optical cable, the jitter halved in level, with now just the  $\pm 229.5\text{Hz}$  sidebands visible, and then only in the left channel (fig.8).

Feeding the V-DAC the same test signal via USB, these sidebands disappeared (fig.9) and the measured jitter level dropped below the resolution limit of the Miller Analyzer. Given that the V-DAC uses the PCM2706 chip in the jitter-prone adaptive mode, this result was surprising—until I remembered that the SRC4392 sample-rate-converts the incoming data, which will minimize the jitter. But then I don't understand why its doing so is less effective with S/PDIF data.

Yes, the D/A chips now coming from the foundries run by companies like Burr-Brown/Texas Instruments are capable of superb linearity and resolution, but the designer of a product like the Musical Fidelity V-DAC still has to be able not to compromise that performance with analog design and circuit layout. The V-DAC's generally superb measured performance indicates that compromise was avoided; it would not disgrace a much-higher-priced product, let alone one that costs just \$299—half what our family spends on groceries each month.

—John Atkinson

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## Anouar Brahem *The Astounding Eyes of Rita*

For many in the new world, the sinuous melodic lines and infinite variety of dark harmonic shading produced by the exotic oud define the term “Middle Eastern music.” And when it comes to players of that ancient instrument, only a handful, Hamza El Din for example, have ever been as internationally well known as the Tunisian oud master Anouar Brahem, who has just made his ninth and perhaps best record, *The Astounding Eyes of Rita*, for Manfred Eicher’s ECM label.

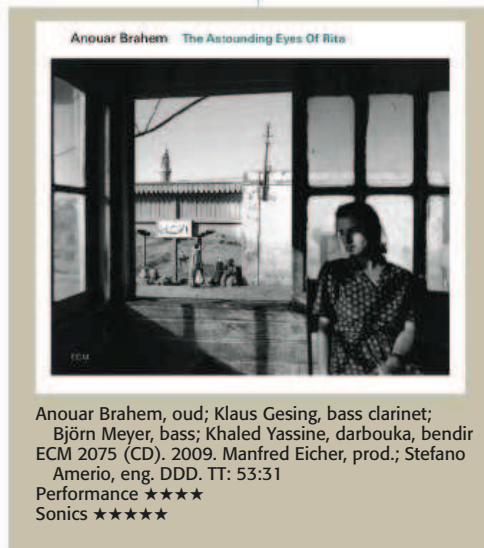
The oud is a fretless, 11-stringed instrument (five paired strings and one bass string) that first appeared in Mesopotamia about 5000 years ago. Reputed to have been invented by a descendent of Cain, the oud is the forerunner of the European lute. Despite local variations, the oud is distinguished by its pegboard, which is bent back at a 90° angle, its bowl-like back, and, in many cases, the intricate carving around its sound hole.

The now long and glorious partnership of Brahem and ECM has had many highlights. His first record for the label, *Barzakhi* (1991), was remarkable in that few in the West, even among ECM’s multiculturally literate audience, had ever heard this kind of lucid virtuosity on the oud. On *Thimar* (1998) he explored the jazz possibilities of the oud with the help of an all-star trio that included saxophonist/bass clarinetist John Surman and bassist Dave Holland.

In 1992, Brahem’s second ECM record, *Conte de l’Incroyable Amour* (Story of the Incredible Love), introduced what is perhaps the oud’s most surprising and most perfect accompanying instrument: the clarinet, played in that instance by Brahem’s longtime collaborator, the Turkish clarinetist Barbaros Erköse. On this latest project, the creatively restless Brahem has formed a powerfully simpatico musical relationship with bass clarinetist Klaus Gesing, who was suggested as a possible collaborator by another steadfast creator, ECM founder-owner-producer Manfred Eicher.

From the very first cut here, “The Lover of Beirut,” Brahem’s fascinating blend of traditional Eastern-flavored tonalities and his very jazz-like sense of free rhythms mix, in an astonishingly instinctual and intimate way, with Gesing’s moody clarinet, their melodic lines at times doubling before breaking free to bend and swerve off into a melodic maze before slowly returning to their intricate Byzantine dance. The timbre of the clarinet is a perfect match for the oud’s sonorities.

According to Brahem, “When I write music, my focus is simply on the melodic universe. Ideas for instrumentation come later.” While you have to take an artist’s statements about his art at face value, it would also seem that the improvisational interplay between Brahem and Gesing,



Anouar Brahem, oud; Klaus Gesing, bass clarinet; Björn Meyer, bass; Khaled Yassine, darbuka, bendir  
ECM 2075 (CD). 2009. Manfred Eicher, prod.; Stefano Amerio, eng. DDD. TT: 53:31  
Performance ★★★★★  
Sonics ★★★★★

which sounds somewhat composed but has a great degree of improvisational freedom inherent in its loose forms, is at the heart of the music on *The Astounding Eyes of Rita*. He also blurs the line between past and present. Although Brahem’s music is grounded in the traditions that have grown up around the oud over centuries, and which are still to be heard in North Africa, Turkey, and even central Asia, his hybridization of those traditions with the ways of European and American jazz have made his extremely individual canon pointedly modern, and very much an example of a genuine world music.

Brahem and Gesing’s beguiling musical interplay—a mystical poetry that, despite a richness of tones and

ideas, is really very minimal and spare—could not exist without rhythmic drive, supplied here, as is only fitting for a truly world-music project, by Swedish bassist Björn Meyer and Lebanese percussionist Khaled Yassine. Using both a darbuka (the familiar goblet hand drum, variations of which are used from Egypt to Thailand) and a bendir (a wooden frame drum), Yassine is the third most prominent and influential instrumental voice in this very talented quartet. Both he and Meyer drive the lead instrumentalists while also gathering a powerful energy between themselves.

Throughout these eight tracks, it’s clear that not only do the clarinet and oud belong together, but the ideas that flow from both players mesh into an emotional and intellectual whole as they thrust and parry in turn, bending toward and away from each other—as they do in the title track, leaning at times toward sustained single notes and long legato passages, and at others toward nimble, compact bursts of speed and economy. These songs, which on record are close to what Western music fans know as “jams,” evoke a wonderfully dark-hued atmosphere, with oud and clarinet working much of the time in their lower registers. The foursome is gorgeously recorded by Eicher and engineer Stefano Amerio, the players and the music given the expansive space, separation between instruments, and the silence they need to breathe and bloom. Yet again the legendary ears of ECM have scored a triumph.

Some of this disc’s best moments are in “Stopover at Djibouti,” which is as close to a jazz-like cutting session as this disc comes. Brahem and Gesing swiftly, and with a muted but perceptible joy—and perhaps even a bit of competitive spice—navigate passages of breathtaking inventiveness in a full-tilt mixture of ancient instruments and mountains of tradition. You hear each keeping an open mind, readily welcoming what is best from modern jazz, and reveling in the freedom that comes from imagining and then realizing a music that is unmistakably new.

—Robert Baird



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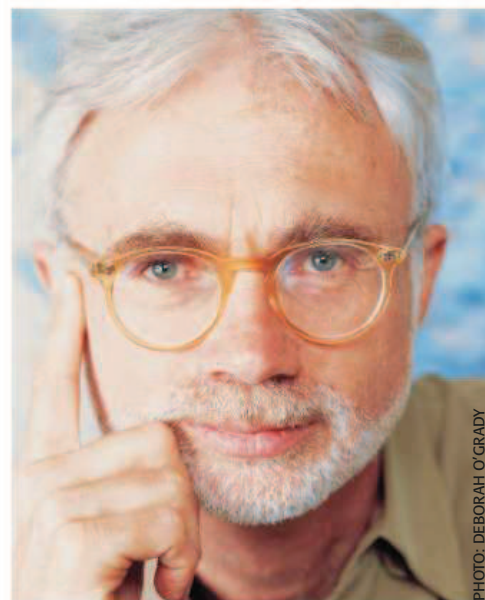


PHOTO: DEBORAH O'GRADY

The Great Atomic Power: John Adams.

## classical

**ADAMS**

*Doctor Atomic Symphony*

David Robertson, St. Louis Symphony Orchestra  
Nonesuch 468220-2 (CD). 2009. Steven Epstein,  
prod.; Richard King, eng. DDD. TT: 47:00  
Performance ★★★★★  
Sonics ★★★★★

First off, if you have not seen John Adams' opera *Doctor Atomic*, you need to snap up the two-DVD set from Opus Arte. A work that will stand the test of time as one of this century's first masterpieces, the opera is a brilliantly staged (Peter Sellars), sung (Gerald Finley, Jessica Rivera, James Maddalena, etc.), and choreographed (Lucinda Childs) tale of the race to build the first atomic bomb, complete with the overtones of guilt, ego, and destiny that abounded in that scientific crucible.

Like Paul Hindemith's *Mathis der Maler Symphony* and Adams's own *The Chairman Dances* before it, the three-movement *Doctor Atomic Symphony*, composed in 2007, is less a distillation of themes from the opera than a separate work idiomatically telling part of the story in a different medium. On first listen, I was reminded of the lengthy interview with Adams I did for *Stereophile* in April 1997, in which Adams discussed how postwar composers in university communities embraced atonality almost as a way of competing for technical parity with the physicists and mathematicians who ruled the campuses in the atomic age.



Though the musical language of the *Doctor Atomic Symphony* may not be quite atonal, it sits close to that edge. But no musical language other than one of predominant discord could capture the opened Pandora's box that was Dr. J. Robert Oppenheimer's creation. The music is mostly ominous, menacing, and complex, making use of the modern orchestra's full set of power tools and atmospheric shadings. Adams's genius for orchestration is in full effect: insistent brass, thunderous percussive hammer blows, and massed, discordant strings are tangled with scurrying woodwinds, ghostly string harmonics, and ethereal soft percussion on a thrilling, propulsive conveyor belt of roiling, translucent sonic textures. There is also great beauty in this work, particularly in the low-brass melodies of the second movement and the uneasy trumpet melodies of the third. Complex and largely bombastic the work may be, but amid the turmoil are true genius, subtlety, and grace.

The disc is logically rounded out with Adams's 2001 composition *Guide to Strange Places*. More predominantly tonal but no less complex than the symphony, *Strange Places* is built on overlapping musical cells that transform almost continuously over time, obscuring and revealing in exciting, unpredictable ways on their 22-minute march. You won't find yourself humming melodies, but this cinematic thrill ride, free of cliché, will bring you back for more.

Sonically, this disc rocks hard. What might have been mud in the hands of lesser musicians and engineers is here delivered with pristine clarity and hardcore wallop from top to bottom. Consider this essential listening for the 21st century.

—Daniel Buckley

## HANDEL

### *Alexander's Feast, Ode for St. Cecilia's Day*

Simone Kermes, soprano; Virgil Hartinger, tenor; Konstantin Wolff, bass; Kölner Kammerchor, Collegium Cartusianum, Peter Neumann Carus 83.424 (2 CDs). 2009. Sebastian Stein, prod.; Christian Meurer, eng. DDD. TT: 2:15:34  
Performance ★★★★★  
Sound ★★★★★

These are two of Handel's greatest works, excitingly performed. The texts are based on poems by no less than John Dryden: *Alexander's Feast* depicts, well, a feast given in Persepolis by Alexander the Great

and his mistress, Thaïs. There are arias about revenge, war, and more: eventually, egged on by Thaïs, Alexander is impelled to burn the city down in revenge for his dead Greek soldiers. After the conflagration, St. Cecilia is invoked to restore order. The *Ode for St. Cecilia's Day*, a briefer work, is simply about the power of music, and the arias about flute, trumpets, violins, and organ are suitably colorful. And if Handel wrote anything more exquisite than "The soft, complaining flute," I've yet to hear it. Choruses in both works are stirring. The pairing of these works makes historical sense: Handel composed *Feast* in 1736, and for a 1739 performance he wrote the *Ode*; they were performed the same evening.

German soprano Simone Kermes is fast becoming a cult favorite among early-music fans; in highly dramatic works she can be wonderfully wild, and we get some of this in *Feast's* "War, he sung, is toil and trouble," which is sharply executed (if sung in funnily accented English, which is hardly an issue). Elsewhere, her unique sound caresses the "flute" aria from the *Ode*, and, from *Feast*, "Softly sweet" (with its ravishing cello obbligato) and "He sung Darius great and good." Konstantin Wolff gets *Feast's* greatest hit: "Revenge, Timotheus cries," among the most superbly energetic bass arias of its century, chock-full of coloratura and great expressivity. Virgil Hartinger sings all the tenor arias well and with accomplished ornamentation, but his is a wispier voice than is preferred, particularly in the *Ode*, in which he asks for the trumpets to call men to arms. And at least half of his words are unintelligible.

A few other performances of these works are available, mostly by Brits (John Eliot Gardiner's, on Philips, is exceptional). This group is German, and the fine recording, made live in Köln's Trinitatiskirche in October 2008, is vibrant without being "churchily" reverberant. The solo singers are miked somewhat closely; no problem there. The Collegium Cartusianum play handsomely, with spicy oboes, fine string attacks, thwapping kettledrums, and blazing trumpets. They also play with vibrato, which is a pleasure and not at all anachronistic, but at A=415Hz rather than the modern concert pitch of A=440Hz. The 27-voice Kölner Kammerchor is even better, their English quite good. "Break his bands of sleep," two-thirds

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Uneasy riders: Hansard and Irglová

of the way through *Feast*, is a splendid showpiece for chorus and players, with trumpets, drums, orchestra, and singers all at full throttle. Compare it with the gentle "The princes applaud" moments later, complete with elegant ornaments audible, and you'll realize how fine these ensembles are. Very highly recommended—a fine double whammy.

—Robert Levine

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## rock/pop

### THE SWELL SEASON *Strict Joy*

Anti- 87048 (CD). 2009. Glen Hansard, prod.; Peter Katis, prod., eng., mix; Greg Giorgio, eng.; Greg Calbi, mastering. AAD? TT: 49:04  
Performance ★★★★★  
Sonics ★★★★★

For anyone who saw the acclaimed indie film *Once*, about a pair of star-crossed lovers played by Glen Hansard (frontman of Ireland's Frames) and the Czech actress Markéta Irglová, the scene in which they take their first, tentative steps, duetting on "Falling Slowly," remains a genuine lump-in-throat moment. Equally memorable was when Hansard and Irglová performed the song during the 2008 Academy Awards broadcast, and subsequently won that year's Oscar for Best Original Song—a root-for-the-underdog success story that even jaded Hollywood types found irresistible.





PHOTO: PIPER FERGUSON

*Strict Joy*, the duo's follow-up to their self-titled 2006 debut, is rich with a similar poignancy. Boasting a warm, cocoon-like vibe that places the musicians in a semicircle around the listener, the production pushes the singers further into the foreground without sacrificing the nuances of the individual instruments (played by members of the Frames, Chicago Underground Duo, and the bands of

Levon Helm). Such focus, particularly when Hansard's and Irglová's voices come together, forges a sonic intimacy that's nigh-on cinematic; you'll be writing dialogue in your head for the pair. There's a sweeping romanticism at play in tracks like the lush, neo-orchestral folk-rock of "High Horses" and the buoyant heartbeat anthemism of "The Rain," while the Van Morrison-like blue-eyed soul of "Low Rising" has a grace and elegance that are positively antebellum in tone.

*Strict Joy* inspires its own lump in the throat. "In These Arms," spartan yet luminous, with acoustic guitar, violin, and piano, charts a relationship beset by distraction and restlessness. "Maybe I was born to hold you in these arms," sings Hansard in the chorus, as Irglová's voice rises to meet his, and in that instant you sense the lovers' latent resolve to make things work. Though only characters in a lyric, these underdogs will have you rooting for them.

—Fred Mills

## jazz

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#### THE HEATH BROTHERS: *Endurance*

Jimmy Heath, tenor saxophone; Jeb Patton, piano; David Wong, bass; Tootie Heath, drums  
Jazz Legacy Productions JLP 0901004 (CD). 2009.  
Jimmy Heath, prod.; John Lee, prod., eng. ADD.? TT: 53:02  
Performance ★★★★★  
Sonics ★★★★★

#### CYRUS CHESTNUT: *Spirit*

Cyrus Chestnut, piano  
Jazz Legacy Productions JLP 0901002 (CD). 2009.  
John Lee, prod., eng. ADD.? TT: 65:38  
Performance ★★★★★  
Sonics ★★★★★

#### STEVE DAVIS: *Eloquence*

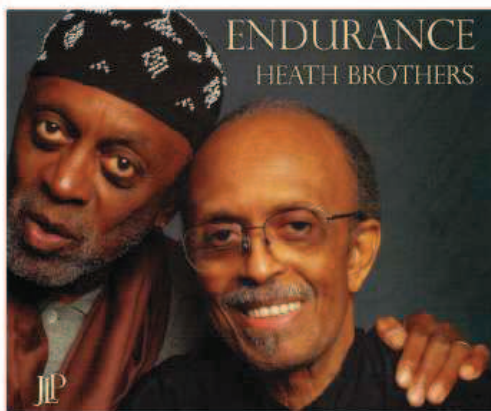
Steve Davis, trombone; Roy Hargrove, trumpet, flugelhorn; Hank Jones, piano; Nat Reeves, John Lee, bass; Steve Nelson, vibraphone; Joe Farnsworth, drums  
Jazz Legacy Productions JLP 0901003 (CD). 2009.  
John Lee, prod., eng. ADD.? TT: 69:18  
Performance ★★★★★  
Sonics ★★★★★

#### SHAREL CASSITY: *Relentless*

Sharel Cassity, alto & soprano saxophone, flute; Jeremy Pelt, trumpet; Michael Dease, trombone; Orrin Evans, piano; Dwayne Burno, bass; E.J. Strickland, drums  
Jazz Legacy Productions JLP 0901001 (CD). 2009.  
John Lee, prod., eng.; Randy Crafton, eng. ADD.? TT: 47:26  
Performance ★★★  
Sonics ★★★★★

Record labels run by musicians may not always be the most profitable, but they're almost certain to provide an outlet for great music. Bassist John Lee's Jazz Legacy Productions (JLP) is a good example of this, and the label's first four releases comprise a well-balanced quartet of albums that bode well for its future.

One of the truly great families in jazz history, the Heath Brothers may be diminished by the passing of bassist Percy, but as brother Jimmy writes in the notes for *Endurance*, "½ ain't bad." Jimmy is a superb writer and an extremely expressive saxophonist who, in his mid-80s, can still deliver the goods. From the moment he plays the opening tones of "Changes," you're aware of the fact that you're listening to a fully developed sensibility—an artist with the chops, the self-awareness, and, most of all, the experience to create jazz at the highest level of expression. Jimmy's tenor playing is relaxed and full-voiced throughout, and his compositions—seven of the nine tracks—are superb examples of the living post-bop tradition, and outstanding vehicles through which this quartet can demonstrate its collective sympathy. Younger brother Tootie swings away on



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drums with an effortless that belies his 74 years. Pianist Jeb Patton is superb throughout and contributes a strong composition, "Dusk in the City." David Wong handles the bass ensemble parts and walking accompaniment with perfect aplomb, adding his arco playing to Jimmy's mournful tribute to Percy, "From a Lonely Bass." Jimmy will not end things on a down note, though, closing *Endurance* with the joyous "Rio Dawn," written about his first visit to Brazil, in 1982.

But it shouldn't surprise anyone that the Heath Brothers play post-bop jazz more convincingly than more celebrated musicians half their age. After all, they invented it.

*Spirit*, a solo-piano album from Cyrus Chestnut, is a clever reimagining of a program of gospel-related music. Jelly Roll Morton made a convincing argument that jazz was invented by piano players; no other instrument affords the soloist more room for improvisation, and on *Spirit* Chestnut gives a definitive illustration of how creative a pianist can be. He plays "Lift Every Voice and Sing" like a classical sonata. Then, in "Blessed Assurance," Chestnut pushes the gospel soul component with his left hand while bringing extraordinary variety to his interpretation of the melody. In "Wade in the Water" he builds a groove out of a series of improvisations on this simple, timeless theme. Chestnut's powerful musical imagination turns the track into a tour de force of cascading runs, a waterfall of dazzling technical accomplishments somewhere between James Booker and Keith Jarrett.

Chestnut handles gospel-related pop tunes with equal facility. He plays "Bridge Over Troubled Water" with the grace of a Chopin nocturne, and finds new contours in the beautiful but over-covered Bill Withers standard, "Lean On Me": in the first chorus, he contrasts the familiar melody

with a wistful left-handed rhythmic figure before taking it through variations the rest of the way.

Chestnut moves across the keys with the ease and open-mindedness of Fats Waller in "Old Time Religion," genuflects before the mastery of Duke Ellington's "Come Sunday," and includes a couple of new-age variations on the *Spirit* theme with Chris Potter's contemplative "All By All" and Horace Silver's "Peace." Chestnut treats the finale, "The Lord's Prayer," as if it were the coda of a Bach Mass, and in the process draws a fascinating parallel between the role shared by jazz and classical musics in the realm of the spirit.

Though *Eloquence* lists trombonist Steve Davis as the leader, the album is as much a showcase for the 90-year-old pianist Hank Jones, Davis' main partner in this album of mostly quartet sessions. The group has a blindfold-test level of interaction on material ranging from a sprightly take on Charlie Parker's "Yardbird Suite" to the pensive John Lewis composition "Django" (with Steve Nelson playing the Milt Jackson part on vibraphone) to the raucous finale, "When the Saints Go Marching In." The album's strengths are in evidence on tracks like "How Deep Is the Ocean," in which Davis, then Jones, then bassist Nat Reeves, all take splendid solos. John Lee, who produces and engineers all of the releases on his label, sits in on three tracks, as does trumpet/flugelhorn veteran Roy Hargrove.

On her first album, *Relentless*, Sharel Cassity explores her skills as a writer, arranger, and bandleader, leaving her prowess on alto, soprano sax, and flute to fill prominent yet understated roles. In fact, the technical tour de force that opens the album, "Say What!?", is less effective than it should be because it shows off her chops without really distinguishing her as a musical personality. The lower-key "Still" follows

without telling us much more, and then the trombonist, Michael Dease, contributes "Relentless," further confusing the issue.

Things suddenly fall into place with "Call to Order," a flag-waver that features band members Orrin Evans on piano and Jeremy Pelt on trumpet. When Cassity jumps in on alto for the third solo, we finally get a sense of what her concept of jazz is all about. Her great feeling for the blues shines through on "Love's Lament" as she plays the theme with emotional substance against a gorgeous arrangement, carrying the day with subtlety and soul. Dwayne Burno's contemplative bass line pushes "Those of Us Who Seek," a great example of Cassity's neo-soul jazz style and graced with a memorable theme. On the swift-running "No Turning Back" Cassity dances through the changes before Pelt delivers a dazzling high-register trumpet solo. Cassity closes things out with a septet arrangement of Charles Tolliver's "On the Nile" that benefits from a hypnotic rhythmic pulse generated by E.J. Strickland's magnificently accented drumming and Burno's bass pushing urgently against Evans' strategic comping—opposing forces that create a tidal flow. All in all, it's a promising debut.

—John Swenson



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## JOHN PATITUCCI TRIO

### *Remembrance*

John Patitucci, acoustic bass, six-string electric piccolo bass, six-string electric bass; Joe Lovano, tenor saxophone, alto clarinet; Brian Blade, drums; Sachi Patitucci, cello; Rogerio Boccato, percussion

Concord Jazz CJA-31018-02 (CD). 2009. John Patitucci, prod.; Joe Barbaria, eng. DDD? TT: 65:53

Performance ★★★★★

Sonics ★★★★★½

**P**retty safe bet here: one of the best bass/drum teams in the world and a tenor player in everybody's top five, set loose on 11 personal tributes to great jazz masters composed by the leader.

John Patitucci is a bassist powerful enough to dominate an ensemble (eg, Wayne Shorter's quartet). But on his own projects he tends to emphasize romanticism and spirituality. For all the firepower here, this music feels understated and light, Joe Lovano glancing and dodging and veering over the airy energy whipped up by Patitucci and Brian Blade.

"Sonny Side," as it rolls brightly along, suggests some of Rollins' dry wit but not his ferocity. On "Meditations" (for Coltrane), the fervent emotion of Lovano's solo builds until it breaks and rasps, yet the piece stays quiet. "Play Ball," for Ray Brown, is a languid, dead-slow blues. Most tunes based on Coltrane's "Giant Steps" become headlong charges. "Monk/Trane" is an exception. It skips and floats.

If the moods are mellow, the creativity is sharply focused. Patitucci is a poetic bass soloist. Sometimes, in pursuit of new pastel colors, he changes to the six-string electric, which he plays like a deep guitar. As for Lovano, there is no major leader in jazz who is busier as a sideman, and no wonder. Lovano spills his guts every time out, even when, as here, he rarely raises his voice.

Not everything works. The overdubbed "arco bass quartet" on "Scenes from an Opera" sounds pasted-in. In the overdubbed title track, a two-minute eulogy for Michael Brecker, Patitucci's electric-bass choir, meant as poignant, is merely pretty.

But *Remembrance* is continuously engaging because all the players press for fresh ideas. The fact that it presents a unified album statement is directly related to its sound. Joe Barbaria recorded *Remembrance* in one room with no isolation, a risky business with an ensemble that contains bass and drums. Patitucci wanted an "organic" blend, and Barbaria gets it, yet

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—Thomas Conrad

## BOBBY SANABRIA *Kenya Revisited Live!!!*

Bobby Sanabria, conductor, drums, timbales, vocals; Candido, congas; various musicians from the Manhattan School of Music Afro-Cuban Jazz Orchestra Jazzheads JH1167 (CD). 2009. Bobby Sanabria, prod.; Kevin Bourrote, eng.

ADD.? TT: 72:34

Performance ★★★★★

Sonics ★★★★★

It's a testament to percussionist and conductor Bobby Sanabria's exuberant commitment to the lifeblood of Latin jazz that, in preparing to record this triumphant live disc, he was able to run the Manhattan School of Music's 20-piece Afro-Cuban Jazz Orchestra through rehearsal rigors very like those of a preseason training camp. With the exception of the maestro and guest percussionist Candido Camero, who serve as the marquee players, the band largely consists of students and ex-students who learned the basics of Afro-Cuban music and history in Sanabria's classes. It could be expected that, with such a cast of apprentices, the result would veer toward amateurism or consist of little more than a sprightly shake through the charts of the landmark Latin jazz album *Kenya*, recorded in 1957 by Machito & the Afro-Cubans, directed by Mario Bauzá, and with guest Cannonball Adderley. But while remaining thoroughly faithful to the spirit of the original sessions, Sanabria, who received

much of his schooling in Latin jazz while a drummer in Bauzá's Afro-Cuban Jazz Orchestra, offers an exhilarating reappraisal of *Kenya* with challenging new arrangements—most notably by Joe Fiedler—and invigorating performances that he often verbally cheers on from the sidelines like a coach rooting his team to victory.

Energetic, fiery, and fueled by an exclamatory personality, Sanabria opened the *Kenya Revisited Live!!!* performance by announcing, "This is not nostalgia. This is the music of yesterday, today, and tomorrow." In the liner notes, he quotes an ancient Congolese proverb: "To know one's ancestors is to live forever." The vitality of this musical legacy informing the future strikes sparks from the get-go, with "Frenzy," a firestorm of spirited rhythm. Sanabria further ignites the show with the second tune, a rumba treatment of "Congo Mulence"—he launches into a spanking timbales solo, then introduces Candido, who appeared on the original *Kenya*. The master conguero accelerates the rhythms here, and later, on "Wild Jungle," a cooker in which bebop meets clave, ripples out multirhythmic drive.

Besides the updated arrangements, Sanabria's goal of smartly thrusting the contemporary into the past is heard most notably on the cha-cha-cha rendition of "Blues a la Machito," which includes the Beach Boys' vocal chant of "Help, help me Rhonda," and the funky New Orleans second-line march of the final track, "Turarato."

Though recorded as a revival of a 50-year-old original, *Kenya Revisited Live!!!* is more than a mere labor of love—it is an electrifying documentation of the next step in the evolution of Latin jazz.

—Dan Ouellette





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## Benz-Micro LP S

Editor:

Thanks to Michael Fremer for his review. Yes, the Benz is about enjoying all the music in your record collection, making the great recordings sound great. The many adjectives Mikey uses to describe his listening experiences truly capture the qualities of the Benz LP S.

Mikey writes about the 38-ohm coil impedance, describing the relationships between coil windings, internal impedance (resistance of the coil), magnet strength, and the resulting output voltage. He mentions the heart of this generator, the square plate-coil system of jewel-grade ruby. The advantage of a ruby nonferrous (nonmagnetic) core over an iron core is the purer signal generated in the magnetic flux field by eliminating unwanted eddy currents. More coil windings of ultrathin-gauge, high-purity copper wire are required, both by virtue of the square plate shape and the absence of iron in the core. Hence, the 38-ohm coil impedance.

Benz introduced ruby-core cartridges (not to be confused with ruby-cantilever cartridges) in the 1980s. Over the past 20-plus years, the advances and refinements to the ruby generator include a redesigned ruby square plate with radiused edges and reduced mass, accomplished by machining a ring of material out of the 2mm-square plate (no easy feat). New coil-winding techniques further reduce moving mass and coil impedance by going from a three-layer to a two-layer stacked coil.

Magnet strength was increased using the largest, most powerful neodymium magnets found in any cartridge today. This could be done only in a ruby-core cartridge; such a powerful magnet would magnetically saturate an iron core. You can actually load the LP S down to 400 ohms—10 times its internal impedance (our general recommendation as a starting point). Mikey talks about using the LP S with a step-up transformer, but Albert Lukaschek feels that putting the iron “back” into the signal path ameliorates some of the advantages of the ruby core. If you choose a transformer, make it a 10x ratio, which will load the LP at 470 ohms into your 47k ohm phono input.

The ebony-wood body of the LP S enhances its performance but is not added as an afterthought or tweak. It was designed-in from the start. Its purpose is to increase the surface area for coupling to the tonearm, thus controlling unwanted energy generated at that key mechanical interface.

Albert Lukaschek personally listens to every Swiss handmade cartridge built at his

factory, from the ACE to the LP. They are measured and adjusted after assembly, and prior to listening and final tuning. Both front and rear pole pieces were redesigned, the rear pole piece featuring a countersunk damper of soft butyl rubber (sourced here in the US from the aerospace industry) for enhanced mechanical linearity. The entire suspension mechanism was improved, allowing the skilled technicians to perfectly adjust all parameters, as Lukaschek auditions each handmade sample with Stax electrostatic headphones to ensure maximum performance and uniformity.

In addition to having focused on every aspect of the cartridge generator for the LP S, Lukaschek addressed the actual frame of the cartridge, where the generator assembly and ebony body are mounted. Brass, known for its strength and used extensively in musical instruments, was chosen for this frame. The specific brass formulation Lukaschek uses is MR58, which contains 58% copper, and the frames are machined from solid bar stock. The brass frame is gold-plated for environmental stability, with a thin nickel subplate, and, as with all Benz handmade cartridges, tapped at 2.5mm for the mounting hardware. This brass frame increased the overall mass of the LP S to 16.4gm (the mass of the original LP was 10.6gm). Its physical dimensions, construction, and medium compliance make it suitable to the majority of today's best tonearms. The electrical, magnetic, and mechanical properties of the brass frame enhance dynamic range, linearity, and definition.

We are heartened by the resurgence in analog and records. We look forward to music lovers moving away from stark analysis toward romance, so that they may fall in love all over again with their systems, their record collections, and the music. Thanks again for Michael Fremer's review of the LP S.

*Garth Leerer, Musical Surroundings  
Albert Lukaschek, Benz-Micro Switzerland*

## Audio Valve Sunilda

Editor:

We want to thank Michael for a fine review. His article does an exceptionally good job of describing the sonic characteristics of the Sunilda, and the reason that audiophiles are drawn toward tube products.

Audio Valve has been the cutting-edge manufacturer of tube-based audio products in Germany for many years. Audio Valve feels that valve-based products offer superior-performance designs, both sonically and aesthetically. *Ray Lombardi*

*Audio Valve & Audion International*

## Nordost Tyr & Vishnu, Quantum Qbase & Qx4, Vertex AQ Super Kinabalu & cones

Editor:

First and foremost, we should thank Art Dudley for his forbearance in allowing us to turn his system upside down. Don't underestimate the leap of faith involved in allowing a bunch of strangers with their own agenda loose on your system—especially when that system is a vital reference point in your daily work.

Foundation theory is based on the premise that it is actually the AC supply, equipment supports, and signal cabling that define the conditions of operation for the rest of the system. Without these things being sorted, it is difficult, if not impossible, to hear what the source, amplifiers, and speakers are really contributing—one of the reasons that high-end audio has come to rely so heavily on the crutch provided by the law of diminishing returns to justify poor performance from expensive upgrades.

Experience shows that the key criteria in establishing a successful foundation for any system, irrespective of the equipment involved or its cost, are consistency and energy management. That means using the same cables and, ideally, the same supports throughout the system. That consistency is actually more important than quality; you won't get anything like the full benefits of any qualitative improvements without first establishing a coherent cable loom and support structure. This is something that we showed Art by moving first to a basic Wyre Wizard loom, before stepping up to the all-Micro Mono-Filament loom we left him with. Second, while supports or racks are generally referred to as “isolation” components, the most important function of any support is to deal with energy generated within the equipment itself. This self-microphony is literally coincident with the signal, and we have found that providing an effective drain across the system as a whole is critical to musical performance. Dealing with mechanical issues in a single location is akin to pushing down on a waterbed—the level just rises elsewhere. We were able to leave only two of the Vertex AQ platforms with Art, although during our initial setup we actually had four available, allowing us to support the CD player as well—and while short-term listening is never ideal, we felt that experiments with and without the cones in that situation clearly demonstrated their benefits.

As Art correctly points out, his system already enjoys a considerably greater degree of consistency than most. Our



object here was to introduce a rationale to explain superior system performance, as well as a strategy or road map to achieve it. Consider this: Despite removing all of the cabling approved by the manufacturer of the core electronics, we were able to produce a sound that, while different, was just as musically coherent and valid as before—and that's a big task. Disturb anything in a well-sorted system at your peril.

The message here is not about what you buy but about how you use it. Choose those cables and supports that you prefer the sound of, but apply them in this fashion and the results will be musically much more coherent and communicative. The more consistent the materials and technology employed across your cables and supports, the greater the potential benefits.

Two additional points: A US-type distribution unit should have reached Art by the time you read this, allowing him to experiment further within the context of his own cabling; the Qbase is designed to be used connected directly to a clean ground post. This simple and affordable step offers one of the most cost-effective upgrades available for any system: If you haven't done so already, it's well worth examining the possibility.

Finally, Art's little teaser about measurements: Frustrated by being able to demonstrate these effects so easily but being unable to measure them, we set about seeking objective evidence. If your measurements don't reflect what you can readily observe, get some better measurements—so that's exactly what we did. Working with Vertex AQ and a defense contractor, Acuity, we have also discovered some fascinating things about existing measurement techniques (and their shortcomings). We presented the first results of these cooperative efforts at the 2009 Rocky Mountain Audio Fest, actually in the context of the very ancillaries that we took to Art, and I think that it is fair to say that the implications both for the way we measure hi-fi and the priorities within our systems are potentially profound. We think that you'll be hearing quite a lot more about this program—especially if John Atkinson's reaction to it is anything to go by.

*Joe Reynolds & Roy Gregory  
Nordost Corporation*

### Teo Audio Liquid Cable

Editor:

Greetings from Moosylvania, and thank you for inviting us (or, at least, Teo Audio's Liquid Cable) into Art Dudley's home. As he mentioned in his December column, we would, of course, be happy if he kept the Liquid Cables for a while longer.

Wonderful, Art! Seriously. You opened a huge can of worms few would dare

to tackle: all the biggest dilemmas in high-end audio in one column. Room! Resonances! Power delivery! Component system synergy! This brave, short essay lets everyone who loves this stuff know how many areas there are to address for any audio system to really dance.

Many audiophiles simply change out pieces of a system without considering all of the other aspects Art mentioned, and wonder why they can't hear much in the way of changes, losing perhaps 30% of their systems' refinement because they lack the knowledge (or, in my case, audio neurosis) to really go for it! Sometimes, the right audio dealer will come along and educate and work with the client to facilitate his way up the curve, as it were, but with the wealth of mail-order dealers and the dearth of in-your-home service providers, precious few end users benefit from such expertise. Art's column points out clearly how important all of these areas are to one's ultimate listening experience.

To be mentioned in the same breath as Shindo is huge praise for Teo Audio, a newcomer on the audio landscape. Here's an idea. What we believe happened in the direct comparison with the Shindo cable is this: The Shindo cable is balanced out within the system with the same care with which Shindo voices their other products—and that the high-frequency tonal emphasis/noise that is part and parcel of all solid-conductor systems was accounted for in the cable design and its subsequent place in Shindo's system matching. To translate that into loomological terms: The Shindo system has addressed the issue of system symbiosis in a very proficient manner, and their cable is a key component in this process.

When the Liquid Cable is placed within the Shindo loom, we have a very interesting result: the same loose voicing, yet slightly darker. This we believe to be the result of two things: First, the sound that all the principals in our company gravitate toward is broadly the same as that expressed in Air Tight, Leben, and Shindo products. We prefer musicality, body, and rhythm over detail, air, and transparency. As a result, the voicing of the Liquid Cable has a familial resemblance to the Shindo sound. Second, the novel technology that our cable is based on allows for some interesting characteristics. It has a unique ability to impedance-match between sources; it allows signal flow with virtually no skin-effect issues; and it has a very low electron-transfer noise function (due in large part to the lack of solid-metal crystal junctions in our liquid conductor). As a result, the Liquid Cable sounds darker because it lacks the noise that is inherent in all solid-conductor cables.

We feel the Liquid Cable did its

job and kept the editorializing of the electrical signal to a bare minimum. It was placed in a system that was balanced at the design point throughout all of the components, including cables. It removed much of the noise inherently created when moving a signal through solid material. We get the same basic sound but slightly darker, due to our inherent lack of solid-material crystal junctions; thus our liquid sound. Solid conductors further emphasize the smaller bits by adding noise. Transients are damaged mostly due to the noise generated in solid-metal electrical flow, and are also skewed in time compared to the body of the given signal. The absence of these problems in the liquid conductor produces our cable's remarkable soundstaging and unmatched dynamic capability. The impossible-to-remove slight HF and detail emphasis are artifacts of solids. The Total System Concept, accounting for all parameters, removes a source of noise, resulting in the change heard.

That's my take on it. Keep the Total System Concept thing going. It's great for all of us. Looking forward to the next listening session.

*Brian Kurtz,  
Sales Director, Teo Audio Distribution  
Teo Audio*

### PrimaLuna DiaLogue Seven

Editor:

All of us associated with PrimaLuna wish to graciously thank Art Dudley, John Atkinson, and *Stereophile* for the glowing review of the DiaLogue Seven monoblocks. We're so very grateful that the thorough and thoughtful evaluation captured the essence of our labor of love in creating the entire line of PrimaLuna components. When Art writes that "I've never seen a better-built amp," I can only smile because, in a nutshell, he articulates exactly what we're all about. It requires stringent controls and an iron grip on assembly.

We were surprised that the review hit earlier than expected. I was going to send Art some "propaganda." We're again grateful that he has the experience to take the bottom of the chassis off and figure out some of our secret recipe: dual output transformers developed in the Netherlands by PrimaLuna's chief engineer, Marcel Croese (formerly chief engineer at Goldmund). Croese's comments:

"The DiaLogue mono amplifiers posed a unique design challenge. We wanted them to have an identical sonic signature to the original (the DiaLogue Two), albeit with twice the output power. This almost automatically ruled out bigger output transformers to accommodate the doubling of output power, because it's almost impossible to make big output transformers behave and sound the same as their



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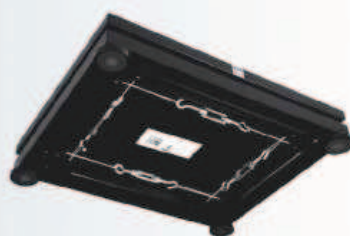
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smaller cousins. To this end, we developed a solution that would employ two discrete audio channels on one chassis, and parallel them at the loudspeaker terminals, so that the outputs would be added, resulting in double the output power.

"Paralleling two free-running output stages is asking for trouble; you'll always end up pushing a percentage of power from one transformer into the other, due to output-voltage differences caused by circuit tolerances and tube aging. How does one design countermeasures? We developed a specific cross-coupled positive/negative feedback scheme which balances out both channels perfectly, and in its slipstream reduces harmonic distortion as a bonus.

"When output transformers are paralleled, the original output impedance is halved, so the 8 ohm taps became 4 ohms, and the 4 became 2. So the output transformers needed a new 16 ohm tap, which, when paralleled, would end up as the new 8 ohm output. The 2 ohm taps were a nice bonus, as we can drive very inefficient low-impedance loudspeakers. The 2 ohm taps are especially well suited for any electrostats, including Quads and MartinLogans.

"We redesigned the pre-stages in such a way that would improve the drive capacity to the power tubes, ending up

with even lower distortion, without the need for extra negative feedback. The result is a circuit that is inherently more stable, and virtually immune to drive imbalance and its accompanying distortions with tube aging.

"All these circuit features are responsible for surprisingly low harmonic distortion. The measured higher output impedance was more the outcome of our low-feedback design than a design goal itself. Tube amplifiers with very low output impedances invariably have very high feedback factors. Careful listening and transformer design are key."

The minds behind PrimaLuna possess a sincere desire to bring something unique to the hi-fi community, from beginners to solder-sniffers. We want people to feel that when they purchase *any* PrimaLuna, they've bought a truly special product; that when they open the box and take it out, they're thoroughly surprised by the beauty and build quality; and that when they finally use it, they're completely blown away. Imagine going to a small club and paying \$10 to hear an unnamed band, only to find out that it's the Rolling Stones . . . simply playing for fun.

Art uses such phrases as "stunningly dramatic," "jumping in my seat," and, fi-

nally, "having fun." That is what this whole audio thing is supposed to be, and it's the experience we strive to provide. My thanks again to Art and John for a review that will undoubtedly help us do so. *Kevin Deal*

*PrimaLuna USA*

### Musical Fidelity V-DAC

Editor:

Thank you for the excellent V-DAC review. I am so pleased that your objective measurements confirm our claim that the V-DAC has technical performance on a par with dramatically more expensive units.

We know that the V-DAC is in a modest box (okay, cheap then), but it does contain state-of-the-art electronics. For those music-loving audiophiles who don't judge a book by its cover, the V-DAC is for you.

As you know, our distribution arrangements in the US and Canada have been rather patchy for the past 18 months. We have now put that right by appointing to the job Tempo Sales & Marketing.

Once again, thank you for a proper technical review that confirms our value-for-money claims about the V-DAC.

*Antony Michaelson*  
*Musical Fidelity*

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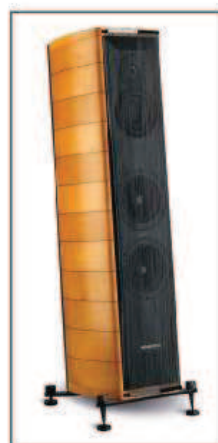
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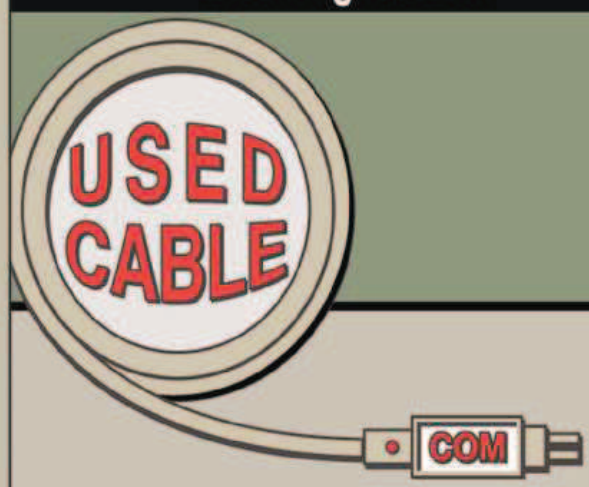
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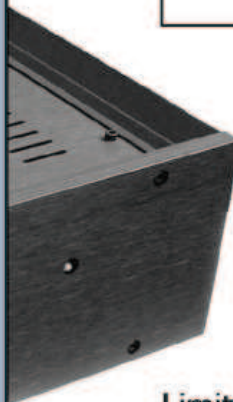
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Robert Baird

## Great Expectations

Every genre of music, every so often, suffers from the It's Dead Syndrome. None has weathered more last rites than classical music, which has not been expected to live through the night for the past 400 years. It's a phenomenon I suspect began each time the music changed. Once Mozart fans heard Beethoven's music, the haters began to sing their death songs. This nonsensical state has continued until, like clockwork, raving critics and self-important social commentators have made an annual ritual of wringing their hands in print about how, very soon, the "Jupiter" symphony will be no more—"Th-Th-Th-Th-That's all, folks!"

Now, some of these same sulky voices have set their sights on jazz. In a celebrated exchange this past summer, Terry Teachout, writing in the August 9 *Wall Street Journal*, ["Can Jazz Be Saved?"] argued that jazz has backed itself into a corner by becoming high art; and so the fear factor among kids, who think it's too brainy, now equals that of classical music. Hence, "it's hard to pretend that the great American art form is economically healthy or that its future looks anything other than bleak." Teachout supported his thesis with data from a 2008 study on participation in the arts conducted by the National Education Association. (Details can be found at [www.nea.org](http://www.nea.org).)

Ten days later, *New York Times* critic Nate Chinen weighed in ["Doomsayers May Be Playing Taps, But Jazz Isn't Ready to Sing the Blues."] using evidence from his life as a hands-on critic. Saying in part that "this Chicken Little lament felt wearily familiar," Chinen went on to cite, "a wealth of anecdotal evidence to the contrary."

There is no doubt that music, no matter the genre, has become less important to the general population. The shrinking audience for music, particularly as distributed via a physical format, has occurred because of competition from gaming, television, and the almighty Internet. In the case of jazz, other factors include the shocking demise of Tower Records, which accounted for about 30% of all US retail sales of jazz CDs; the collapse of the International Association for Jazz Education (IAJE); the lack of jazz on TV; and the continued shrinkage of jazz coverage in daily newspapers.

No, jazz is no longer as widespread or as economically viable as it was when it was background music in Storyville, or dance music just before WWII, but I'd still ar-

gue that, creatively, it's more vital than ever. Its various streams of inspiration and influence are constantly crossing. The definition of the music, Chinen's salient point, is broader than ever. And while some jazz has undoubtedly become high art, there's also a good chunk—can you say *smoooooth*—that remains highly accessible.

Against all this ponderous finality and critical mishegoss, up pops a promising new jazz label with distinctive-looking packaging that goes by the generic-sounding name of Jazz Legacy Productions. Founded by John Lee, a jazz bassist who has worked with Joe Henderson, Pharoah Sanders, and Max Roach, and who, more recently, has been associated with the Dizzy Gillespie Big Band, the fledgling post-bop label has released four albums since August: *Spirit*, by pianist Cyrus Chestnut; *Eloquence*, by trombonist Steve Davis; *Relentless*, by saxophonist Sharel Cassity; and *Endurance*, by the drummer/sax siblings the Heath Brothers. Starting up a straight-ahead jazz label in 2009? After listening to JLP's debut foursome, which are solid if not earth-shattering (see reviews on p.123), I got Lee on the phone to see how far his madness had progressed.

"The big companies are only signing singers," Lee said, unfazed by my gentle suggestion that hunting this particular Yeti had foiled stronger men than he. "The instrumentalists, if they're not recording for some tiny jazz label—a lot of which want you to pay them to put your record out—are recording for a Japanese label, and those records never get here. And with a lot of the older guys, especially, I feel like part of history is going missing. The investors I have are not going to pull out if they don't make money in the next two or three years. They really are interested in building a catalog. They're all music lovers."

Okay, so maybe Lee's not bound for Bellevue quite yet. Anyone with the taste and sense to sign and record the two surviving Heath Brothers, who at this point are godfathers of jazz, deserves respect. It's clear that Lee's years as a player have given him a small list of crucial tricks that he hopes will give JLP an edge. The records are all recorded in Lee's home studio in New Jersey. While not in the league of that other Jersey recording legend Rudy Van Gelder, Lee's records are so far cleanly, simply recorded with decent dynamic range and reasonably wide soundstages.



Sharel Cassity

PHOTO: TOM HAYNES

JLP has also distinguished itself with the unified look of its CDs. Packaged in shatterproof plastic cases, each has a one-word title, and all have similar cover images shot by the same photographer.

"When I was a kid, I would buy a CTI album based on the cover," Lee says. I didn't even have to hear it. They were branding. In every other business, it's so important when you're selling product. So we got a fabulous photographer, one of those high-paid fashion guys who makes three, four thousand a day. He just happened to like the music, and he decided to come in on the job."

Another key to Jazz Legacy Productions' survivability is Lee's focus on the hard truth that, just as most musicians these days make their money playing live—as opposed to selling records—most physical media is now sold at gigs. Along with the light, durable CD cases, which are easy for musicians to transport, Lee also sells the players their own CDs at a reasonable price, and has a generous buy-back program.

JLP's first four records are all available as downloads from both iTunes and Amazon.com. The label's upcoming projects—albums by the One for All sextet, pianist Randy Weston, trombonist Michael Dease, and guitarist Yotam Silberstein—will also be available in both physical and digital forms. Given that Lee is recording mostly straight ahead jazz, he's depending on an older crowd, whose loyalty figured prominently in Teachout vs Chinen, to be his customers.

"A lot of older jazz fans that I know, they don't even know how to pick up their voice mail. They like album covers and notes. I'm starting to see some people who are 60 and 70 that have an iPod, but it's not a lot yet."



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