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The Blind Leading the Blind?

Jon Iverson

The first epiphany I experienced in blind audio testing took place in the Dunfey San Mateo Hotel, in Northern California. We were stuffed into a large, well-lit room in which dozens of listeners sat in chairs, and others stood around the back or sat on the floor. Up front were two large B&W 801 speakers on tall stands placed far apart, behind them, opaque curtains hid a small pile of audio equipment. John Atkinson and Will Hammond stood at stage left.

The occasion was the 1989 High End Hi-Fi Show (many audiophiles still call it the "Stereophile Show"). Although it has since officially morphed into the Home Entertainment Show, and JA was conducting a series of public blind listening tests in which an Adcom GFA-555 stereo amplifier ($750) was pitted against a pair of VTL MB300 tube monoblocks ($4900/pair).

You can read all about the testing procedure and results online at www.stereophile.com/featu res/113, including a letter to the editor I wrote at the time. As JA discussed the results immediately following our listening test that day 16 years ago, what struck me was this: It wasn't the amps that were actually under test, it was us. The implication was obvious: The only thing a blind audio test can really do is ascertain the listening acuity of those taking the test.

Advocates of blind listening tests who say that ABX or similar tests prove anything about audio components or can be useful in Stereophile product reviews have it upside down and backward. They're living in negativeland. The fact that any two of us in the same room taking the same test end up scoring different results is all you need to know about the nature of blind audio testing.

Human beings are not pieces of objective test equipment. Some listeners consistently score above average, others bounce around the middle, and still others never get it right. My own blind-test results are not consistent. And all the while, the differences that do or do not exist among products remain fixed—and likely undiscovered.

Perhaps, then, under ideal conditions (whatever those might be) one could suggest that blind tests might—just might—help sort the rabbit ears from the cloth ears. (By the way, here's what I think disgruntled advocates of blind testing secretly hope to achieve by demanding that these tricky tests be part of our reviews: Not to reveal differences among audio components, but to humiliate as many unsuspecting audio reviewers as possible.)

Also consider that someone with an axe to grind can always use a room full of cloth ears or a poorly designed test to "prove" that no meaningful differences exist between two components. Another series of tests, with a single properly trained listener who consistently beats the odds, can prove the opposite. This problem has been repeatedly documented. The question to ask of a blind test is not "Are there really any differences between these two components?" but "Can anyone here detect anything under these particular conditions?"

Looking on the bright side of blind testing, how about using the procedure for its entertainment value? Using blind tests, can the world's most sensitive, most critical listener be found, or the ultimate listening panel created? A blind test could be developed in which a known distortion is added to one of two components; then we can see who can hear it. We could then repeat the test with less and less distortion, until no one scores. Wouldn't it be fun to see who can hear it? We could then add to one of two components; then we can see who can hear it. We could then add to one of two components; then we can see who can hear it. We could then... repeat the test every time. Regarding that amplifier-test at the Dunfey San Mateo in 1989, it so happened that I then owned and was a dealer for Adcom's GFA-555 amp, and was familiar with its strengths and weaknesses. That day, another person and I tied for the highest score in the room: out of seven trios, six correct. The other high scorer was also an industry veteran.

As a result of this, and dozens of listening tests since, whenever I come across a group of guys (it's always guys) going on about ABX or blind listening tests and how they prove or disprove that there are aren't differences between components, cables, etc., I picture them all standing around a pile of apples, discussing whether or not their tests can determine which ones are the good ones. They're arguing about the wrong thing, and it gets boring pretty quick.

Thanks, guys, for coming up with a wonderful way to figure out who has the best trained ears in a particular situation. Let's leave it at that.

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1 You'll want to check out this link, if for no other reason than to see a picture of John Atkinson as a cherub, clean-shaven youngster with a big grin on his face, hunched over a table of test gear.

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FEATURES

The Home Entertainment 2005 Show
A Look at Gear from A to Z with a report in words and pictures from John Atkinson, Robert Deutsch, Richard J. Rosen, and Wes Phillips.

Trumpeter Terence Blanchard
On Blakey, Hancock, and "My Funny Valentine."

EQUIPMENT REPORTS

Wilson Audio Specialties MAXX Series 2 loudspeaker
(Michael Fremer)

B&W DM603 S3 loudspeaker
(Robert J. Reina)

Tetra 505LTD Custom loudspeaker
(Paul Bolin)

Quad II Classic monoblock power amplifier
(Art Dudley)

Channel Islands Audio D-100 monoblock power amplifier
(Wes Phillips)

Harmonic Technology CyberLight interconnects
(Michael Fremer)

FOLLOW-UP

Coda Technologies S5 power amplifier
(Wes Phillips)
As We See It
Jon Iverson, Stereophile's own webmaster, weighs in on the blind testing debate.

Letters
This month, readers write in about our "contemporary" music reviews; our supposed lack of, ahem, "balls;" our "religion;" our Sam; HE2005; reports on vintage equipment; and the ubiquitous question of blind testing.

Industry Update
High-end audio news including dealer-promoted seminars, plus: news from the New York Home Entertainment 2005 Show and Munich's High End Society Show.
Want to know more? Go to the "News Desk" at www.stereophile.com for up-to-the-minute info.

Sam's Space
This month Sam listens to the Lavardin Technologies IT integrated and the Quicksilver Audio Mid Mono monoblock amplifiers.

Analog Corner
Michael Fremer discloses some negative insight on Universal Music Group's closing of the UNI pressing plant and the positive turnout for analog at May's HE2005.

Listening
Art Dudley recounts tales from the eight exhibitor rooms that turned out to be his musical favorites at the HE2005 Show.

The Fifth Element
John Marks talks with Richard Rives Bird from Rives Audio about his PARC, your listening rooms, and the need to pay attention to the acoustics of it all.

Book Review
John Marks reviews A Love Supreme: The Story of John Coltrane's Signature Album by Ashley Kahn, which includes a foreword by Elvin Jones.

Record Reviews
August's very special "Recording of the Month" is Fair & Square, the first studio recording of new material in nine years by singer/songwriter John Prine. In classical, this month we offer opinions on a pair of sparkling Donizetti operas. In Rock/Pop, we listen to an anthology of At The Drive In, as well as the latest from British Sea Power, M. Ward, and Bruce Springsteen. In jazz, we review ECM's recording of saxophonist Charles Lloyd. In Etc., there's Bang On A Can All-Stars meets Kyaw Kyaw Naing.

Manufacturers' Comments
This month we've heard from Fried Products, Cyrus, Tetra, Channel Islands, Harmonic Technology, and Elhen loudspeakers about our coverage of their products.

Aural Robert
A new Flaming Lips documentary, The Fearless Freaks, has made music DVDs suddenly essential.
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Publisher: Dave Colford

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Managing Editor: Elizabeth Donovan
Production Manager: Patricia Nolan
Senior Contributing Editors: Sam Tellig, Martin Colloms, Michael Premer
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Jeff Fritz, SoundStapel on the Studio 100

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LETTERS TO THE EDITOR

Garbage music
Editor:
I was pleasantly astonished to see the article on Garbage in the April Stereophile (p.124). Please continue to concentrate on contemporary acts. The overexposure of the magazine gives to "classic" acts is embarrassing and shows ignorance of contemporary music. As much as I love it, we really don't need another review of Pink Floyd's Dark Side of the Moon.

Steve La Cena
Northamust@aol.com

Garbage magazine
Editor:
It just amazes me how you guys cannot give a product a poor rating. The MartinLogan Montage has poor dynamic bass response at high levels with low-bass colorations, the lowest piano notes sounding "a bit gruff," "clangy," muddy sound, and added hardness at high playback levels. All these descriptions are Stereophile's, yet in June you recommended this speaker. Unbelievable.

Now let's turn our attention to the Kora Explorer 150SB, again reviewed in June. "The Kora Explorer 150SB's measured behavior reveals it to be a marginal performer in a number of areas, in my opinion." Margin? In a number of areas? And then you recommend it? Sellouts!

Michael Fremer's review states problems with a mislabeled remote, a non-working muting circuit, excessive warnings in the manual, important information missing from the manual, a minor hollowed-out midband coloration, dynamic expression somewhat muted though the deficiency wasn't that noticeable (no halls, guys)—oh, and let's not forget that it blew up when headphones were plugged in. Did I mention the balance tracking problem? But let's recommend it anyway.

You guys are really making me—and a lot of other readers—sick. What happened to your honesty? Has advertising put it in the freezer? You definitely are no longer the big boys—just a once-mighty publication gasping for air through countless ads in your shrinking pages.

Jim Peak
Jamies17@aol.com

Regarding the MartinLogan Montage, I recommended it because, in my opinion, at its price this speaker is not sufficiently compromised to be dismissed. Its problems will not be a factor at normal listening levels in a smallish room, something I made clear in my published comments. Regarding the Kora amplifier, I described its performance as marginal, not inadequate.

We leave it up to our readers to make up their own minds based on the evidence we provide. Perhaps, Mr. Peak, you should reflect on the question of just how you learned of these products' problems. Was it not from the Stereophile reviews themselves? In which case how has the magazine let its readers down?

—John Atkinson

Good magazine
Editor:
A few years back I let my subscription wane—I got tired of reading whiny, vitriolic letters from little men with little perspectives talking about little issues pertaining to big-ticket toys. (I used to tell my friends that Stereophile was the magazine that targeted guys with significantly more money than brains!)

On a whim, I recently decided to re-subscribe. Wow! Somewhere along the line, you guys got religion—and got real.

In April ("Old Wine, New Bottles"), Wes Philips addressed what is painfully obvious to all of us in the buying public: high-end audio dealers act as if their goal is to intimidate and condescend rather than to sell. The average high-end audio dealer presents a wildly effective case study in how not to merchandise and sell. You addressed this idiocy head-on. Good for you! (And good for the industry.)

Also in April, Art Dudley wrote about how no one seems upset when other people's hype. I have Krell and Classe and B&W, etc., but it's my iPod that gets the most use. No useful snob factor, but the music goes where I go and sounds just fine, thank you. And then I saw the iPod on your list of "Recommended Components." Wow! An acknowledgment of components that meet the needs of real people who live real lives outside the hi-fi bubble. Cool!

Somewhere along the line, somebody came out of their coma and reintroduced a refreshing dose of reality to the discussion. Bravo! Best two issues I've read in years! Please continue to keep it real.

Gary A. Schmidt
gary@westendconsulting.com

Great to be home
Editor:
The next time Sam Tellig visits Europe, I hope he enjoys it so much that he stays there?

David Franchino
tenlinks@aol.com

How nice to come back from Europe this evening and see your e-mail Mr. Franchino. America is a better country because of people like you, who are always ready to spread cheer and good feelings. It's great to be home.

—Sam Tellig

Thanks for HE2005
Editor:
Allow me to congratulate you on Home Entertainment 2005. Michael Fremer's turntable clinic was very helpful—and we could see what he was doing! The live musicians were all very accomplished, and I was gratified by the volume of terrific two-channel stuff. Blue Circle did their usual good job, and I kept going back to hear more from newbe Gini Systems. I spent the most time, however, lis-

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www.Stereophile.com, August 2005
tuning to the Avatar Ascendos and hanging out in the Reimyo room. These are two gorgeous and natural-sounding systems that I can afford— if I sell a kidney! I thought your readers might be amused by something my girlfriend, a first-time attendee and not an audiophile, said as we left the Joseph Audio–Manley Labs demo. “I liked what they played, but if I was showing off speakers that sounded that good, I'd use Steely Dan.”

Looking forward to next year.

David Miceli
dmiceli@metlife.com

Say yes to the HES
Editor:
My wife, Lisa, and I made the trip from Wisconsin to New York City for HE2005. We got to make the rounds on Friday and Saturday. We thoroughly enjoyed the Show. Sometimes she doesn't fully comprehend what all my fuss over equipment is about, but she knows when music is skillfully reproduced. In fact, as long as I am willing to play some Fleetwood Mac or Frank Sinatra (and I am) when she sits with me in the listening room, she doesn't seem to mind the equipment upgrades and the ever-expanding music library (with +3500 titles, I've been told I can call it a library).

The Sound by Singer rooms took our breaths away. The demonstration of a system comprising equipment from dCS, VTL, Peak Consult, Stereovox, and Shunyata was especially compelling. After an a cappella track by Great Big Sea (fun group, sensational live), Lisa remarked, “It doesn't sound at all electronically.” I think you know what that means. Not only did I have a very attractive and witty woman on my arm as I visited demonstrations and displays over two days, she didn't bat an eye when I suggested that I wanted to purchase a $14,000 SACD/CD player and take it home with us. Got to love that!

There were many rooms with fascinating gear and satisfying sound. Indeed, I saw lots of great equipment and met and listened to many interesting designers, manufacturer reps, retailers, music-lovers, and audio enthusiasts. That, for me, is what a show is all about: the people. Music and equipment are what bring us together and bond us. Bravo to all who exhibited this year.

The New York Hilton was an excellent choice for a venue. For us, it was close to all the attractions and restaurants on our list (Patsy's was terrific—loved the dessert cart!). I, for one, couldn't have asked for a richer weekend: romance, fine dining, leisurely strolls down Fifth Avenue, good music, exciting audio products, memorable demonstrations, and hotel rooms, halls, even elevators filled with friendly, enthusiastic people. I even got to put faces to the names of many writers from various audio (and AV) publications, both print and Internet.

I hope shows like the HES can continue. Perhaps unity by everyone associated with the industry/hobby can perpetuate such shows for consumers. Me, I can't wait for HE2006.

Mark Bruce
Waukesha, WI
markhb@iol.com

A delight
Editor:
Peter Breuninger’s review of the Fisher 500-C receiver in June was a delight. I hope you’ll review more classic gear in the future. I’m bummed I ever let my old Dynaco A-25 speakers and Sherwood S-8900 receiver go. I’d like to know how these classics, my parents’ old AR-2ax’s, and many other components from the “golden era” would stack up against today’s components in the same price range.

Colin H. Saks
Pleasant Hill, CA
hornswig@iol.com

Great work!
Editor:
I just got my June Stereophile, and in it was the best article in years: Peter Breuninger’s review of the vintage Fisher 500-C stereo receiver. I don’t own one but love vintage equipment. He did a great job on that review—very, very informative. I only wish Peter would do a review like that on a monthly basis. I’ll bet you anything all the subscribers will love it! Great work!

Mark Korda
mark.korda@verizon.net

Dismayed
Editor:
I was delighted to see Peter Breuninger’s Fisher 500-C review in June. His article nicely captured the allure of these lovely vintage units. As a Scott aficionado, I hope a review of the Scott 340-B receiver is in the works. I was dismayed, however, by two points:

First, it’s "Hermon Hosner Scott," not "Herman Nosner Scott" (tsk, tsk).
Second, in the sidebar "Reviewing & Testing Vintage Audio Components," Mr. Breuninger discusses his review unit as being "repaired to functional condition." Although I understand his desire to try to review an original unit, the unit, as he stated, is unsafe for normal use. No vintage vacuum-tube unit should be powered up without verifying that the power supplies and bias system are healthy, and the output couplers are a critical part of the bias circuit.

Replacing the original output coupling caps and rebuilding the power supplies should be done for the same reason you would always replace original coolant hoses on a 1969 Can-Am: When (not if) these old parts die, they will take other things with them. Failure to do minimal preventive maintenance in either case is asking for trouble in the form of blown-up parts, some irreplaceable.

I would hate to think that less technical folks than Mr. Breuninger would read this article, go get an eBay unit, plug it in, and immediately destroy a nice piece of vintage gear.

Dave Racht
dcaer@farrmedia.com

So that’s why
Editor:
The Fisher 500-C sounds pretty good after all these years because amplifier design reached the point of diminishing returns long ago. Sure, there are some things it can’t do at the limits, but few listeners use their equipment at their limits. I see many exotic sports cars on the road, but never has one passed me at 165 mph.

Kevin H. Park
Tarzana, CA
kpark@weplanning.com

The eternal question
Editor:
I am an avid audiophile and reader of your magazine, and deeply desire help in improving my system. I am also a scientist, and believe that there is only one way to ensure objectivity in comparisons such as you engage in. That is, of course, blind testing. If, for example, you can not measure the difference between two amplifiers, one costing 100 times more than the other, but you can hear a difference and report it in your review, why not prove this in blind test?

Blind testing is, after all, quite easy for you to implement, given that you have numerous duplicate components available for every nonblind test and, I assume, an honest colleague or two around to set up and record the results of a blind test. Would such tests end your career, or help me?

Dr. Paul McNeil
Augusta, GA

See “As We See It” in this and the July issue for some relevant comments on the subject of blind testing. But I must admit that, contrary to Dr. McNeil’s assertion, I have yet to encounter two amplifiers that don’t measure differently.

—John Atkinson
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It’s not unusual on Fridays, when Wilson Audio ships the week’s production, to find Director of Manufacturing Korbin Vaughn in the shipping department. It’s part of the culture at Wilson, where multiple skill sets are encouraged, and people are quick to lend a hand.

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CALENDAR

Those promoting audio-related seminars, shows, and meetings should fax (do not call) the when, where, and who to (212) 886-2809 at least eight weeks before the month of the event. The deadline for the October 2005 issue is August 1, 2005. Mark the fax “Attention Stephen Mejias, Dealer Bulletin Board.” We will fax back a confirmation. If you do not receive confirmation within 24 hours, please fax us again.

Attention All Audio Societies: We don’t have room every month to print all of the society listings we receive. If you’d like to have your audio-society information posted on the Stereophile website, e-mail Chris Vogel at 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.

ARIZONA
Tuesday, July 26, 7–10pm: Audionut (7075 W. Bell Road, Glendale) will host a seminar on speaker design with a focus on ribbon speaker technology, presented by Brian Anderson of Q-USA, importers of ELAC speakers. RSVP: (623) 487-1116 or e-mail questions@audionut.com.

MICHIGAN
Saturday–Sunday, October 15–16, 12–6pm: Superior Sight & Sound (West Bloomfield) will conduct a seminar to present the dCS single-box CD player and new transport-DAC combo. For more info and to RSVP: (248) 626-2780 or e-mail soundsuperior@hot mail.com.

US: NEW YORK
Wes Phillips
As I walked the corridors of the Home Entertainment 2005 Show at the end of April, I kept hearing audiophiles asking one another, “Have you heard Mark Levinson’s demo yet?” Yes, that was Mark Levinson, the man, and the Burwen Bobcat was possibly the most discussed item at HE2005.

“One of the problems I had as a high-end manufacturer,” Levinson told me, “was that, with the exception of records and a few well-recorded SACDs, most music people listen to sounds bad. Part of the problem is obviously low-resolution sources, such as 128kbps MP3s, but it’s a bigger problem than that. It has to do with the recording spaces, the recording chain, a lot of the equipment used in the mixing process. … It’s not just a digital problem.”

Enter Richard S. Burwen, extremely well-respected audio engineer and an almost revered designer who developed the TNE7000 and DNF1201 audio processors, which were years, if not decades, ahead of their closest competition. Levinson explained that Burwen had developed a powerful digital editing suite that Levinson recognized might offer audiophiles a solution to the compromised sound sources he sees growing in popularity. Levinson’s company, Red Rose Music, now offers a product it calls the Burwen Bobcat ($1500), a combination of a Windows Media Player 10 software plug-in and a USB DAC.

In his demonstration of the Burwen Bobcat at HE2005, Levinson played three 128kbps MP3 files through a system consisting of a laptop running the Burwen software, the USB DAC, and what appeared to be Red Rose’s entry-level integrated amplifier and two-way loudspeakers. I wasn’t overwhelmed by the sound, and suspected that we were hearing the “before” tracks, to be followed by an “Ah-ha moment,” when the Bobcat would work its magic. This was apparently not the case. All we heard was the Bobcat versions, and Levinson did not offer any A/B comparisons of 128kbps files and the Bobcat’s reconstructions of them.

When I asked Levinson what the Bobcat actually did, he steadfastly refused to say, telling me I could read the patent application when it was published in three years’ time—if then. I pressed harder. “Without giving away trade secrets, what does it do?” But other than saying that “The answer is fixing the problem at its root,” Levinson provided no answers. I left unsatisfied.

Levinson later contacted me and offered to set up an interview with Dick Burwen that would explain everything. He wrote, “I didn’t want to get into comparative listening in a show environment. Maybe it wasn’t the right decision, and [I] am sorry you were turned off. This industry needs a solution to the PCM problem and BB really works. Maybe you’d like to stop by to do some comparative listening.”

I’ll be sure to stop by Red Rose Music and take Levinson up on his offer, which I assume is open to anyone interested in this new technology. I also received a note from Dick Burwen that addressed many of my questions about the Bobcat. Here it is verbatim:

“Burwen Bobcat is a plug-in for the Windows Media Player that processes audio by adding equalization and unique, patent-pending, high-frequency reverberation. Unlike any previous technology, Burwen Bobcat makes CDs, MP3s, and DVDs sound comparable or superior to analog or SACD. The result is the most seductive, emotionally involving, and entertaining experience possible with contemporary and vintage recorded media. Burwen Bobcat also dramatically reduces listening fatigue and includes a very simple user interface.

“Burwen Bobcat has two windows: Basic Bobcat for the wider audience, and Big Bobcat, which offers 18 different combinations of the most useful outputs from Burwen Technology’s Splendor & Ambiance software. Basic Bobcat improves all PCM material with minimal processing, while Big Bobcat settings enable the listener to select smooth high frequencies, reduced screech, fuller midrange, lower bass, a wider acoustic image, clearer speech, and eliminate high-frequency irritants. Burwen Bobcat’s patent-pending high-frequency reverberation process cannot be replicated by any existing technology. Dick Burwen optimized each setting with careful listening and a lifetime of live recording experience, rather than digi-
tal calculations, to produce natural, musical, enjoyable sound from recordings of musical instruments, voices, and film soundtracks.

"Burwen Bobcat processes audio at 44.1kHz or 48kHz, which it sends to the USB DAC, manufactured by Daniel Hertz Advanced Audio Designs. The Windows Media Player converts every source it plays to one of those frequencies delivered to Burwen Bobcat. It plays CDs, movies, and MP3 and WMA compressed music through Burwen Bobcat, but does not record through Burwen Bobcat.

"You cannot achieve Burwen Technology's high-frequency improvement using ordinary or sampled reverberation with boosted high frequencies. It just does not work."

"Most available program material has moments when the high frequencies are irritating enough to cause the listener to turn the volume down below the point of maximum enjoyment for the rest of the program—and sometimes to just turn it off. Burwen Bobcat processing greatly reduces high-frequency irritants via its combination of high-frequency reverberation and tone balancing. You can listen longer. High-frequency irritants can originate from the recording or transmission process, bit reduction, studio mixing, the musical instruments, and dry acoustics at recording and playback.

"Burwen Bobcat software is a C++, C*, Direct Show program the same as the processing part of my Splendor & Ambiance program, but with 18 fixed settings and a few things removed. The basic parts, Audio Splendor™ and Optimum Ambience™, are described at www.burwenaudio.com. There is also a Burwen Bobcat page."

Even if you can't make it by Red Rose Music in NY for your own Bobcat demo, you owe it to yourself to check out Dick Burwen's website, which includes a great biography page describing the engineer's many career accomplishments (and some great photos of Burwen and audio gear).

GERMANY: MUNICH
Paul Messenger

This past May 5 was Ascension Day, the traditional start date for the High End Society Show in Munich, Europe's biggest hi-fi event, organized by the German High End Society. Because Ascension is linked to Easter, it moves around the calendar—sometimes the

High End Society Show coincides with Stereophile's Home Entertainment Show, though this year HE2005 took place in New York a week before Munich.

For 21 years, the High End Society Show had built its formidable reputation in the charming Kempinski Hotel, in woodlands just outside Frankfurt. But success breeds growth and overcrowding, so in 2004 it moved some hundreds of miles south and east, to a brand-new exhibition center in the northern suburbs of the Bavarian capital, Munich. That first show in Munich was accompanied by the usual shake-down problems, including steel freight containers moved into the exhibition hall to serve as demo booths, with controversial results.

The complaints were not lost on the organizers. For this year's show, special knockdown cabins were designed with acoustic performance in mind. The exhibitors I spoke to seemed pretty happy with the results, though one said that it would have been better to have painted the inside black rather than white, to help those displaying video systems.

Despite the difficulties of the 2004 event, the move to Munich meant a substantial increase in visitors, and 2005 only strengthened High End UK's Heathrow show is a sure indicator of the importance of the Munich event. Some of the growth has undoubtedly come through adding home theater and custom-installation equipment to the traditional hi-fi core, but high-end principles remain very much the heart of the High End Society.

As hi-fi grows ever more specialist and upmarket, national identities are reasserting themselves after having been dulled by the influence of Japanese multinationals in the 1970s and 1980s. Anyone who visited the Munich show would have been impressed by the strength of vinyl on the German home market, where local turntable makers such as Clearaudio and Transrotor are major players. Where vinyl leads, tube amps and horn loudspeakers inevitably seem to follow, and both components were well represented by German brands. Among power amp brands, the solid-staters outnumbered the tube protagonists, as one would expect, but the ratio was only about 60:40.

Mass-market electronics are weak in Germany, but high-end audio seems to be holding up pretty well. Home brands tend to focus on the domestic market, and so German firms dominated the show, but there were a number of world players as well. Britain's B&G and France's Focal-JMlab, the two leading players on the international hi-fi speaker scene, both had new goodies on show. Along with its enthusiasm for beryllium tweeters, Focal recently seems to have been paying much more attention to industrial design. The pretty Sib/Cub AV packages were just the first examples of a trend now confirmed in the brand-new, very stylish, and much more stereo/hi-fi oriented Profile series. The midpriced 908 stand-mount and 918 floorstanding speakers have elliptical-plan enclosures, using thin bonded layers of MDF to create the curved sections, while the drivers are mounted on slanted, tapering baffles. The 918's baffle slices off half of the top surface, but only the smallest arc down at the base, while the grille further emphasizes the shape, adding a striking concavity.

B&W's newcomers are totally different animals—and "animal" is an apt description of the new CT800 series, B&W's avowed intention for which was to create multichannel sound systems of high quality and the loudest possible volume output, with corresponding headroom and freedom from strain. The CT presumably stands for...
Halcro Logic.
The sequel to the award winning Halcro amplifier.

The producers of the world’s finest high end amplification system - the Halcro amplifier - now bring you Halcro Logic, an extension of our unique technology into a range designed for the highest performance in home theater.

Our Surround Sound Processors/Preamplifiers feature:
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UNI90
Universal Format Player

SSP100
Surround Sound Processor & Preamplifier

SSP80
Surround Sound Processor & Preamplifier

MC70
Multi Channel Power Amplifier

MC50
Multi Channel Power Amplifier

MC30
Multi Channel Power Amplifier

MC20
Multi Channel Power Amplifier

www.halcro.com
Custom Theatre—these bulky speakers with their massive drivers are ugly affairs of black-painted MDF, the idea being to integrate them into appropriately decorative furnishing schemes. The CTs share much of the technology of B&W’s regular 800 series, though in here the 800s’ fancy diamond tweeters are replaced with large-diameter alloy domes for greater power handling, and all bass drivers are actively driven with room-compensation filtering.

B&W’s master plan to turn its sister brand Classé into the leading high-end electronics brand seems to be on track. Ex-Linn engineer Allen Clark recently joined Classé, emigrating from Scotland to Canada. He helped create the new CDP300, which plays all discs but SACDs and is claimed to be the first in the world to deliver 1080-line progressive-scan DVD pictures. More goodies are expected soon.

Chord Electronics introduced the Media Engine, essentially a high-powered, high-capacity PC dressed up in high-end hi-fi clothes, which extends the “server” concept firmly into the movie arena. The Engine’s six hard drives have a total capacity of 2.4 terabytes (2400GB) and can store about 400 complete movies and/or virtually unlimited music material. The package has plenty of redundancy and upgradeability, as well as a scaler on the video input.

Japanese brands seemed surprisingly thin on the ground, but Denon confirmed its continuing commitment to serious two-channel hi-fi by demonstrating its new upmarket DCD-SA1 SACD player and partnering PMA-SA1 amplifier to very good effect via a pair of B&W 802D speakers.

Most high-end companies first develop a flagship product, then trickle down the technology to less costly models. With links to Britain’s largest budget hi-fi retailer, Cambridge Audio has adopted the opposite strategy; its new 7-series components are its most ambitious yet. Step by step, Cambridge is introducing its own proprietary software and tweaks, the 740 CD player featuring upsampled data and adaptive time filtering with gentle slopes to minimize phase errors.

I try to avoid judging sound quality at shows, but it was nice to enjoy some instant relaxation in the Tannoy room. They were playing one of my favorite discs, Lambchop’s Is a Woman, through a pair of my favorite speakers, the archaic-looking but exceptionally musical Kensingtons. Visitors seemed to be ignoring the little Arena sub/sat AV speakers in the other half of the room, but everyone was enjoying the Kensingtons driven by German ASR amplification and a Primare disc player. Two pairs were actually sold as a direct consequence of the show.

An Italian speaker brand new to me, Eventus Audio, caught my attention for their clever way of using CNC machines to create enclosures that should disperse internal reflections and prevent standing waves. Building up an...
INDUSTRY UPDATE

enclosure from successive layers of MDF may not be new, but it's the first time I've seen the technique used to create enclosures whose insides look like irregular anechoic chambers. "NO PHOTOGRAPHS PLEASE!" said a label on the cutaway.

It wouldn't be a hi-fi show without a profusion of exotic cables and accessories. As one cynic put it, cables are where the money is today, and represent one of the few remaining options for tweaking since tone controls fell out of fashion. German brand Inakustik claims to have developed "the world's first active loudspeaker cable": "A separate electronics system picks up electrical impulses directly from the amplifier output and generates a 'duplicate' in a parallel auxiliary circuit. This produces an induction voltage in the main circuit, thus ensuring compensation for any loss of sound." Imagination knows no bounds.

Even stranger were the accessories promoted by German brand Phonosophie. Main man Ingo Hansen—a real enthusiast whom I've known for many years—sat me down and made me listen to the effects of waving a crystal rod, the

Virtual Dynamics presents five new cable lines featuring never-before-seen technologies

"I am using Virtual Dynamics products exclusively in my main system, and it has never sounded better."
Richard Weiner, Bound for Sound Magazine

"One of those rare products that directly and pretty much without qualification increased the satisfaction that I received from listening to music."
Jason Thorpe, SoundStage!

Artkustik Audio Animator, over the top of a CD, of unplugging and reconnecting a "room animator," the Artkustik Raumanimatort, and of spraying a costly fluid, CD Flux, on a disc. Perhaps if it hadn't been so close to the end of the show's second day, I might have been more easily persuaded.

Still, High End Society remains a very impressive show that, in 2005, still placed the emphasis firmly on two-channel hi-fi. By a comfortable margin, it's the best such event in Europe. I plan to return next year.

GERMANY: MUNICH
Markus Sauer

Paul Messenger has mainly covered the British products seen and heard at the Munich Show; I take a look here at the rest of the world's offerings.

Everything's new at Audio Physic—new ownership after what was effectively a management buyout, new US distributor, and lots of new loudspeakers: the production version of the Caldera (€20,000),1 whose ring-radiator tweeter is mounted coaxially with its midrange driver; the new Step bookshelf model (€1500); the latest version of the Spark (€2000), a 2½-way floorstander just below the Tempo in the model range; a new powered subwoofer, the Luna II (€2400 each), with a taller and slimmer cabinet than before; and a new center speaker, imaginatively called the Center III (€1000 each). Audio Physic's home-theater-oriented Yara range has also been updated, the main difference being larger woofers across

1 All prices in euros. At time of writing, $1 US = €90.80, or €91 = $125 US. All speaker prices are per pair unless otherwise indicated. Prices include 16% German VAT, which is deductible for export outside the EU.
the Yara Evolution series.

The Caldera featured in a demonstration, run by a German magazine, intended to highlight different principles of speaker construction: horns (JBL K29000), dipoles (MartinLogan's new Summits), conventional dynamic speakers (B&W 801D), and coaxial midrange-tweeter and side-mounted woofers (Caldera). Each speaker had its champions, but from what I heard, the JBL and the Audio Physic were the public's favorites.

Avantgarde showed the Meta Primo (€46,000) and Meta Picco (€32,000), from a new range that extends the company's traditional horn drivers to the bass region. The Primo has four actively driven bass drivers, the Picco two. Avantgarde is also getting closer to production of its innovative electronics, which bias all signal-carrying parts with a DC current.

Backes & Müller introduced a new flagship speaker, the BM-Line 50. A fairly radical departure from this company's earlier offerings, this 6'-tall model can take both an analog line-level signal (converted to digital by an onboard A/D converter) and a digital input (AES3, 32–110kHz sampling frequencies). An onboard DSP module then provides phase and amplitude equalization for the user's room and taste and acts as a crossover; the six 8'' bass drivers per speaker use servo control to keep distortion extremely low. The tweeter, which covers all frequencies above 800Hz, at first glance looks like a medium-sized ribbon but is actually a unique combination of a ring radiator with a waveguide that lets the soundwaves emerge in a cylindrical wave, as if from a line source. (The geometry of the waveguide was developed by the Fraunhofer Institute for Applied Mathematics.) Onboard amps with 1000W power allow for 130dB peak loudness. This technological tour de force will cost "under €110,000," including calibration at the customer's home.

Burmester, probably the most successful German high-end firm worldwide, had almost too many new products to list here: a new Rondo line, consisting of the 051 integrated amp, 052 SACD/DVD/CD player, 053 FM tuner; and additions to the Classic line, the 038 power conditioner, 035 preamp, 036 two-channel and 037 three-channel power amps. The 056 SACD/DVD/CD player and 057 surround decoder complete the Top line. The Reference Line continues unchanged except for a new loudspeaker, the B100, which replaces the B99, but to commemorate 25 years of production of its 808 preamp, Burmester made a limited edition of 25 gold-finish 808s that was sold out before it was officially announced. Dieter Burmester has been named Entrepreneur of the Year in his Berlin home state, and recently appeared on the most prestigious German political talk show. One especially neat feature is that most of the new products have a USB 2.0 port; if the software needs an update, a Burmester customer will receive a flash drive from his dealer, from which the new software will be installed.

Audio Aero introduced the new Capitole SACD player (€8300) with up-to-the-minute technology and 6021W subminiature tubes in the output stage. Also shown were the Prima CD player and hybrid integrated amp, each at €1900.

Sun Union Audio, a Chinese company, showed some speakers from its extensive range, all using high-quality European drivers in excellently finished cabinets. Of particular interest was the top model, the Dragon Prince (€21,600 excluding VAT), which features an Alian ribbon tweeter from France and Audio Technology drivers from Denmark in a beautiful piano-black cabinet.

System Audio showed prototypes of a new speaker, the explorer (note lower case) at €4400, with a soft-dome tweeter and four dual-voice-coil midrange-and-woofer chassis in a 2½-way configuration, internally wired with Nordost cables. Speaking of which, Nordost introduced three new interconnect cables, the Heimdall, Frey, and Tyr, named after Norse gods and available single-ended with WBT NextGen plugs, or balanced with XLR plugs. And speaking in turn of WBT, this company will soon introduce NextGen speaker connectors to match their hugely successful RCA plugs.

T+A showed a new addition to its V series. The gorgeous D10 two-channel SACD/CD player with tube output stage joins the V10 tube integrated and G10 turntable, both of which have been praised in these pages. In its regular electronics line, T+A introduced the SACD 1245 R SACD/CD player; the SADV 1245 R, which adds DVD-Video/Audio to CD; and the SDACD, a true universal player.

Lumen White put on the world-premiere event for its Diamond Light speakers (€80,000), with a 30mm diamond tweeter and the latest version of the Accuton ceramic drivers. Showing that those drivers can also be used in somewhat more affordable speakers, Isophon has a new top speaker, the Cassio, featuring all-Accuton ceramic drivers (€11,900); diamond tweeters are optional for an extra €5000. Canton showed prototypes of its new Vento 809 SE speaker, which brings the tweeter and midrange drivers from their Reference model to a lower price level. Sonics, the new company by Audio Physic founder Joachim Gerhard, had two models at the show, the Allegretto two-way (€3900) and Allegra (€5900), the latter in a fetching brushed-copper finish. The Allegretto was used to demonstrate Art du Son, a vinyl cleaning mixture, to great effect. (Art du Son now makes a CD/DVD cleaner as well.) Elac showed their new top-of-the-line speaker, the FS 609 X-PI, which has three woofers, a coaxial midrange-tweeter jet-foil driver, and Elac's famous circular ribbon.

In an active display, WLM (Wiener Lautsprechermanufaktur) drove their Gran Viola speakers with electronics by NAT—a name new to me, from Serbia and Montenegro. The power amps feature 845 tubes, and special care is said to have been expended on the output transformer. Melody has its home in Australia but does its manufacturing in China. I loved the snappily named SHW 1688 II tube preamp (€4400) with its bulbous 101D tubes, but their most exciting product for me is the SP3, a 5881-based tube integrated. Great looks and very tidy construction for just €1290.

Behold had a new kind of digital product that captured my interest: a
Hybrid Super Audio CDs newly remastered in DSD (Direct Stream Digital) from original source tapes by the Grammy Award-winning Soundmirror engineering team headed by John Newton.

Plays back on both Super Audio CD and standard CD players.

Legendary performances from RCA Red Seal’s greatest artists including Van Cliburn, Jascha Heifetz, Arthur Rubinstein, Fritz Reiner, Leopold Stokowski, Charles Munch, Arthur Fiedler, and more.

30 SUPER AUDIO CDs AVAILABLE NOW

LEGENDARY RECORDINGS MAKE HISTORY. AGAIN.
10 NEW LIVING STEREO SUPER AUDIO CDs

SUPER AUDIO CD MEETS LIVING STEREO

Representing the best recording techniques of their era, Living Stereo recordings were made with only two or three microphones. Today, with Super Audio CD and multi-channel sound, the listener is now able to hear the left, center, and right channels just as the original recording engineers heard them. In order to remain true to the vision of the original producers, John Newton and his engineering team used only three of the available six channels on the Super Audio CD when they re-mastered these originals (or two channels in the case of a two-track). Without any signal processing to “improve” the tapes, you can now hear these historic performances in brilliant DSD resolution.
Our solid steel CD & DVD racks are high capacity, infinitely expandable, and made in the USA. Our CD racks will organize and add style to your music collection, while our Multimedia racks hold CDs, DVDs, VHS, & Console games all in one rack! We combine modern style and classic engineering to make these great looking and amazingly strong racks. Add expansion kits at any time to our racks and they can grow with your media collection.

Visit us at www.boltz.com to see our complete line of A/V and Lifestyle furniture.
The standout room at the 2005 High End Society Show was Clearaudio’s—a veritable high-end Aladdin’s cave, complete with black satin on the walls and acrylic showcases for the bewildering multitude of Clearaudio products. To single out a few: lounge presentation as the ECI 5. The company now also makes a six-channel preamp and a threechannel power amp, the EC 4.9 and AW 3x120 (guess the power rating on that one).

The best-look- ing electronics for me was the new 800 series from Lindemann: the 820 SAD/C/CD player, 830 preamp, and 850 dual-mono power amp (each costing around €7000). Having been talked through the features of the pre, I understand why a relatively small company such as Lindemann needs to employ a software programmer; if you connect player and pre to each other, they work as an integrated unit.

The most surprising demonstration was by Stereofone, using a lowly $400 TEAC mini CD receiver to drive the €16,900 Erda speakers with a Lowther-like 8" full-range driver from AER and an 18" JBL woofer in an open-back cabinet: excellent sound from a modest source. Also present was a turntable with an acrylic platter, lighted from within in a fetching color, too (€2500).

Another interesting digital development came from Esoteric, the high-end arm of TEAC. The UZ 1 universal player has an entirely new mechanism. It has onboard D/A conversion but can also be hooked up via FireWire to the AZ 1 integrated amp (€6000 each), which accepts both analog and digital inputs. The Esoteric representative at the show was a little reluctant to give any more details, so I can’t tell you for sure how the amp’s output stage works. Player and amp can both be slaved to an external clock, however, which suggests a PWM output stage for the latter. There’ll also be an AZ 1 CD player at a slightly lower price.

Analog was alive and well at High End Society. Thorens has introduced a new turntable, the TD 350 (€3400), which replaces the long-discontinued TD 2001. They also announced a new line of high-end electronics: tube-MOSFET hybrids that are claimed to offer a novel electronic design (using only n-channel MOSFETs in a pushpull configuration) and extremely low distortion. Shelter now has a mono version of its 501 cartridge (€1200), with a conical stylus, of course. Helmut Brinkmann has a new turntable, the Oasis (€4500), and a new phono stage, the Edison (€4000). The Oasis is special because it features direct drive for the platter, a technology of ill repute in the 1980s but that’s said to sound great when done as carefully as in this product. Acoustic Solid premiered their WTB 213 tonearm (€1600), which looks a lot like a vintage Ortofon. Pluto Audio showed the 10A turntable in a new version with a carbon-fiber subchassis and a flywheel in the motor drive (€65,000 including accessories). Rolf Kelch had a new baby turntable in a blue finish, appropriately called the Baby Blue but available in other colors, too (€2500).

Jadis has a new integrated amp, the DA 885, based on the 6CA7 tube (€9500). Densen said that their longawaited B150 integrated will begin shipping in July; the smaller amps should come later in the year, as well as a new entry-level CD player, the B410 (€900). Electrocompaniet is back after a restructuring, with some updated models; for example, their integrated amp is now in its fifth iteration as the ECI 5. The company now also makes a six-channel preamp and a three-channel power amp, the EC 4.9 and AW 3x120 (guess the power rating on that one).

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Overall, High End Society 2005 was a great success. The organizers easily sold 24% more floor space than last year, attendance was excellent, and every manufacturer I spoke to was very happy with the venue and the public response. While interest from Western European countries, the US, and the Pacific Rim states was flat, there were many new visitors from former Iron Curtain nations. A number of companies are doing brisk business with Russia, for example, and the Munich show seems the best venue to reach those customers.

The next High End Society Show will be held in Munich May 25-28, 2006.
PowerSnakes power cables have single-handedly legitimized a product category that has been mired in skepticism and controversy since its inception.

Shunyata Research's investments in custom parts engineering, patented geometries and specialized materials have revolutionized expectations for products that were once thought of as mere "tweaks".

Unanimous endorsements from the world's finest production studios, music producers and preeminent recording engineers speak volumes for products that have set the performance bar for others to follow.

"The PowerSnakes power cables added effortless muscularity, control and wide-open clarity to the amps driving my speakers. These are not subtle tweaks."
-Rick Rubin, Five-time Grammy nominated Record Producer

"Shunyata's power cables have provided me with an extremely clean and transparent foundation by which I can check and approve test pressings with full confidence."
-Steven Epstein, 12 time Grammy-winning Record Producer

The most recognized electronics and speaker manufacturers also endorse PowerSnakes as their reference for design, tradeshows and playback.

PowerSnakes have earned universal praise and awards from the industry's leading magazines, publishers, editors and reviewers.
received a mailing the other day from Portero. If you have luxury items to sell, you can find them at www.portero.com. If you live in (or even near) Manhattan, Scarsdale, New York, or Greenwich, Connecticut, they’ve most likely already found you.

“Remember last spring’s wild shopping spree when you melted your Platinum Card? Half those clothes probably haven’t seen the light of day in a while. The stores won’t take them back, but we will.”

High-hat folk may want to avoid eBay—so low-brow, so common, so hoi polloi. Now they can have Portero manage the online auction of clothes, brand-name figurines, home entertainment and pro audio gear, handbags (I must tell my wife, Marina), vintage dolls and bears, and other items—even old comic books.

“We’ll take away all of the hassle, lighten your load, and get you more cash to spend on your new passions.”

So much for atonement.

I want to get rid of things without buying new stuff. Too many books, LPs, CDs, and DVDs, not to mention a gaggle of hi-fi gear and a veritable graveyard of audio accessories. If I weren’t so lazy, I’d hold a gigantic tag sale.

My friend Dima, too, is on a simplicity kick. “I want to become a monk,” he declared the other day. He’s looking to practice minimalism by simplifying his hi-fi system. No unnecessary components. No complexity. As few features and as few watts as possible.

I know the urge. I’m pretty certain that none of these audiophiles had actually heard the Lavardin IS, because the first units were just starting to become available in the US. Some audiophiles love to hold opinions—usually negative—on products they haven’t heard.

But I was serious. All the Lavardin IS Reference offers is superbly transparent sound—the kind of sound audiophiles kill for and pay tens of thousands of dollars to get. The IS Reference illustrated Tellig’s Law: you can have great sound for a modest amount of money; you just can’t have a lot of it.

Je ris mon mauvais rire. I laugh my evil laugh.

Like the IS Reference, Lavardin’s IT integrated amp offers no frills, no features, no convenience, no styling, and as little power as possible. Just the ticket, perhaps, for someone who wants to escape the audiophile rat race.

Lavardin Technologies was founded in 1996, and the IT was their first product, launched in 1997. The amp has been in production for nearly nine years with only minor changes. I met up with the IT several years ago when a sample was making the rounds among potential importers. I loved it and tried to talk Roy Hall, aka Music Hall, into importing it.

“Tough sell,” Roy declared. That’s probably true. But it doesn’t seem to bother Walter Swanbon, of Fidelis AV. Walter thinks there’s a niche for Lavardin gear among customers who are turned off by big, powerful, expensive, and often mediocre-sounding amplifiers. We’ll see if Walter’s right. We’ll see if Dima opts for the IS or the IT.

Compared to the IS Reference, the IT is a powerhouse, rated at 50Wpc into 8 ohms with 20 amps of current vs 12 amps for the IS Reference. It sells for $6595 (no phono option) and is fit for a Russian Orthodox monk, which is what Dima would like to become.

Regarding: Here’s what you don’t get: No remote control. (An optional remote is said to be on the way.) No balance control. No tape monitor loop. No preamp outputs, and thus no provision for biamping or powered subwoofering. No provision for multiple pairs of speakers; only a single pair of speaker binding posts.

“You paid $6595 for that? You must be out of your mind.”

The frills and features are missing not out of Gallic perversity but from Lavardin’s conviction that they would compromise the purity of sound: more switches, more internal wiring, more parts. I do regret the lack of preamp outputs, but that’s it. The rest I can do without.

Lavardin Technologies has a story. Normally, I’m skeptical when it comes to audio “stories”—miracle circuits, design breakthroughs, and all that. I think Lavardin’s story—the company’s raison d’être—is true. But I don’t care if the story is fishy or not—I’m not judging the story, I’m judging the sound.

Lavardin’s story is shrouded in mystery. So are many of the IT’s internal parts—potted in some kind of black goop...
to keep the circuits secret. The identifying marks of other parts have been removed. Whatever Lavardin has discovered, they're keeping it to themselves.

Lavardin claims to have discovered why tube amps tend to sound better than solid-state amps. According to them, the problem has to do with the way musical signals have to slog their way through silicon. They get slowed down by the silicon—stuck in the mud, as it were. Transistors hold past signals in memory, and these memories distort the new signals coming in. The music can't flee the silicon fast enough.

Lavardin calls this phenomenon "memory distortion." They claim to have found a way to measure it and a way to correct it, thus bringing solid-state amplification up to the level of tubes.

The Lavardin amps may surpass most tube amps, being quicker, cleaner, clearer, quieter, not to mention more reliable. I don't get the feeling that Lavardin is trying to emulate the sound of tubes—the IT and IS sound like solid-state amps. I don't hear the extra richness and warmth of tubes, or the tubby bass that's typical of many tube amps.

I used the IT along with the Musical Fidelity system I described last month: the X-Ray3 CD player as transport into the X-DAC3, into the Whest Audio dap.10 thingamajig. I ran the X-Ray3 to the Lavardin Reference, the IS or the IT and IS sound like solid-state amps. But why worry about that?

The resolution of the IT is extraordinary, placing this amp among the finest I have heard, without regard to design philosophy or price. I could hear more space in each recording—assuming that the recording wasn't a multimiked mess. Soloists and their instruments were precisely placed within the soundstage. They were just...there. Or here. The Lavardin had a way of putting me in the hall or room with the performers that hall or room with the performers that came very close to single-ended triode at its best—namely, SET amplification of the flea-watt persuasion.

Now will you quit laughing, find a dealer, and listen?

I tried the Lavardin IT briefly with my reference Quad ESL-988 speakers. I've heard amplifiers that coax stronger bass from Quads, but the IT's transparency made it an excellent match.

I know—you need" more power than what the Lavardin offers. But do you? Probably not, if you choose a proper pair of French loudspeakers from Focal-JMlab, Triangle, or JM Renaud. Probably not, if you avoid loudspeakers with highly complex, difficult-to-drive crossovers. Probably not, if you don't listen too loud or if you listen nearfield. As Artie Dudley—the illustrious AD—declared the other day, the trick is to avoid listening at loud levels. Quantity is ever the foe of quality.

If you still want more power from the Lavardin, you can't have it. I suspect that some of the magic of this amp comes from the fact that it uses a single pair of (bipolar) output transistors per channel. When you parallel multiple pairs, you generally lose something: immediacy, clarity, maybe harmonic structure. A single pair of output devices may be one reason the darTZeel NHB-108 power amplifier sounds as glorious as it does (Wes Phillips reviewed it in April).

Several speaker manufacturers—none of them French or Italian—have told me over the years that amplifier power is cheap, you can have a lot of it for very little money, all amps sound the same anyway, only the speakers matter, so why design for high sensitivity and an easy amplifier load?

Don't tell your audiophile friends—they won't listen—but the Lavardin amps are bargains. You get a product that's bench-built, one unit at a time, by one person. Each amp gets a listening test before it leaves the factory. Most of the IT's performance can be found in the IS Reference for half the price—the IS is an IT, but a little less so: less powerful and, I feel, a tad less transparent. If you can, compare them. Pour moi? The IT is it—and now a reference chez nous—my wife Marina hears the difference, too.

**Quicksilver Audio Mid Mono monoblock amplifier**

Here's another suggestion for Dima: Quicksilver Audio's Mid Mono power amplifiers, $1895/pair with standard EL34 output tubes. Add $300 for the chrome chassis option, and you'll probably want to: the chrome chassis are beautiful.

I've known Mike Sanders, of Quicksilver Audio, for nearly 25 years. That's almost as long as he's been in business—and before I started writing for hi-fi rags. I owned a pair of the original 8417 mono amps. It was dumb of me to sell them. Mike told me that most 8417s are still in service.

Some time ago, Mike introduced his flagship M-135 monoblock amplifier. I forget the price—more than $6000/pair, and this was about a decade ago. Mike told me he thought they were "awfully expensive," and that he felt shy about charging so much money. I thought the amps were awfully good, and worth every penny.

But Mike has resisted the urge to build to ever-higher price points: pumping up the bottom line by shrinking unit sales. I have other reasons to like Mike. He's quirky. He doesn't advertise. He doesn't send out review samples—I borrowed these from my dealer buddy, John Rutan, the hi-fi gentleman of Verona, New Jersey. (John's store, Audio Connection, is worth a visit). Mike has resisted the urge to build to ever-higher price points: pumping up the bottom line by shrinking unit sales. I have other reasons to like Mike. He's quirky. He doesn't advertise. He doesn't send out review samples—I borrowed these from my dealer buddy, John Rutan, the hi-fi gentleman of Verona, New Jersey. (John's store, Audio Connection, is worth a two- or three-hour drive. While you're there, you can hear the Quicksilvers with three of my favorite speaker lines: Harbeth, ProAc, and Spendor.)

Mike Sanders is big on simplicity: the simpler the circuit, the better it sounds, he says. And the easier it is to
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service a product. I mentioned to him that I found simple circuits to be a good thing with solid-state amps, too—especially with regard to multiple pairs of output transformers.

"It's the same with tubes," said Mike. "Power is the culprit. To get more power, you usually need more tubes. But the more output tubes, the worse it sounds. This is why I had such difficulty designing our V4 amplifiers. I needed more output tubes to get the power. I found that running the tubes in pentode worked the best in a multiple-pair configuration.

"I think the essence of good engineering is simplicity," Mike continued. "When stuff gets complex, the stuff gets unreliable; doesn't sound so good, and doesn't last. Simplicity sounds good and lasts long: it's as simple as that."

Each Mid Mono amp uses just four tubes: a 12AX7 input, a 6922 driver, and two output tubes. To check the bias current on the output tubes, push a button and, using a slot-head screwdriver, turn the bias control so that its LED just barely lights. Difficult to do in daylight, easy at night.

The Mid in Mid Mono refers to mid-power—more power than Quicksilver's Mini Mono that I wrote about in March 2001, at 25W ($995/pair), less power than the Quicksilver Mono 100, with 100W ($2995/pair). The Mid Mono's power depends on the output tube used: 50W into 8 or 4 ohms with a pair of Tesla EL34s (supplied as standard), 55W with a pair of KT88s, or 60W with a pair of KT90s. Other tube types—6L6, KT66, KT77—can be used, but you must match, not mix: Tubes should be purchased as matched pairs. When you buy replacement tubes from Mike Sanders, you know that he's selected, tested, and matched them by hand.

"Overall, the EL34 is probably the best performer," he said. "It gives you good bass, good highs, and the tube is dynamic. And it's not expensive."

The Mid Mono's rectification—its conversion of AC into DC—is solid-state, with a thermostat to ease stress on the tubes. Early Quicksilver designs, such as the 8417 monos, used 5AR4 rectifier tubes. According to Mike, US and UK versions of this tube were exceptionally reliable; the versions available today are less so. This is why Mike has gone to solid-state rectification: reliability.

Each amplifier is entirely handwired, point to point. There are no circuit boards; Mike doesn't like what circuit boards would do to the sound.

"It seems that circuit boards degrade the sound," he said. "There's the reliability issue, too. Output tubes get really hot. After a while, circuit boards turn brittle and crack, especially when you're pulling tubes in and out. A circuit board is just not going to last very long in a power amp. When circuit boards start failing, it's expensive to fix them, and the result of the repair is always something of a jerry-rigged situation. We want to make something that lasts."

When I asked Mike how long a Quicksilver amplifier lasts before needing an overhaul, he said that it depends on a number of factors, but that after 20 years or so the large electrolytic capacitors—the caps that stick out from the top of the amp—could be replaced. The transformers seem to march on forever.

My daughter has heard almost everything that has passed this way. She sticks with the Quicksilver amp I gave her more than a decade ago: the GLA, or Great Little Amp, no longer in production. She's replaced the output tubes once. She uses the amp every day. No problems whatever.

In a world where people junk their cell phones every few months and their computers every few years, here's something you can own for decades and never have to atone for your shopping sin.

I tried the Mid Monos with the Musical Fidelity and Whast digital setup described above, and a pair of Triangle Antal ES loudspeakers. Nice match-up, great system. The Triangles don't need a lot of power to get juiced.

I liked what I heard in terms of resolution and musicality—harmonic presentation, if you will—but I did feel it was a little shy in dynamics. The system needed more oomph, more drive. Clearly, an active line stage was called for. Fortunately, one was at hand in the form of a Sutherland Director, distributed by Acoustic Sounds and recommended by my buddy Chad. Now I was ready to boogie, as Wes likes to say.

The Mid Mono delivered very good resolution and convincing harmonics. There was a sweetness to the sound, and some of the inner light that seems to come only from things that light up, namely tubes. Like other Quicksilver amps I've owned and heard over the years, the Mid Mono glowed with the rightness of tubes. I thought the bass was excellent for a tube amp—a tribute, perhaps, to the quality of the output transformers.

If there was any shortcoming, it might have been a slight lack of transparency compared with the Lavardin IT integrated. The Quicksilvers delivered greater warmth, the Lavardin a tad more speed and clarity. Bear in mind that the Lavardin integrated costs three times the price. I thought it offered superior spatial presentation, that it was able to place soloists and their instruments in the room with greater precision and clarity. As my late friend Lars liked to say, "a whale was lifted." (He meant veil.)

In recent years, some makers of tube amps have abandoned this price point. But amps that are bigger, more powerful, and more expensive might not sound better—and, if they're tube'd, might not prove as reliable as the Quicksilver Mid Mono, which is an excellent buy at $2195/pair. (You really do want that chrome option.) The Mid Monos are beautiful without being showoffish, and their construction is bulletproof. I can recommend no amplifier more highly. The Quicksilver Mid Mono is a great amp from a great company, and a super value.

If you're shopping at the Lavardin IT's price point, you might look into Quicksilver's secret Triode Amps, each of which uses a pair of Russian 6C33C output tubes. These sell for $5800/pair and probably do offer the ultimate in transparency. I hope to try a pair soon. (The amps are "secret" because Quicksilver doesn't feature them on its website. Mike says he's embarrassed by having to charge so much, but they're expensive to build. You can find the Triode Amps at John Rutan's website: www.audioconnect.com.)

Dima—these Quicksilver Mid Monos would be ideal with your Triangle speakers. Want to give a listen?
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May 1998  World’s First Professional DSD (SACD) A/D and D/A converters
January 1999  World’s First Audiophile Upsampler – dCS Purcell
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April 2003  Stereophile Tests dCS Stack and Declares, “It doesn’t get better than this.”
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December 2003  Stereophile Names Verdi-Purcell-Elgar “Digital Source of the Year”
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Sundazed Music’s Bob Irwin was angry—and not because the corned beef at the Carnegie Deli was fatty (a given). A bunch of grizzled industry veterans, among them John Atkinson, AudioQuest’s Joe Harley, and David Chesky, were gathered for the annual pre-Home Entertainment Show high-cholesterol blowout organized by Ken Kessler at the famous New York eatery, and Irwin was explaining what the nice folks at Universal Music Group (UMG) had just done to him.

“Is this for publication?” I asked.

“You betcha!” Irwin responded with gusto.

For the past 15 years, Sundazed, based in Coxsackie, New York, has been churning out a musically eclectic mix of reissues on CD and LP, aided on the vinyl side by the company’s close proximity to the UMG-owned UNI pressing plant in Gloversville, New York. Thanks to Irwin’s dogged pursuit of high-quality vinyl, he’d pushed, prodded, and cajoled UNI into becoming a first-class purveyor of 180gm black biscuits. As Irwin and cohort Tim Livingston explained during our artery-clogging meal, it was sometimes hit or miss, the plant operators often not knowing exactly what they were doing—especially in the early days. Irwin would receive a test pressing, give it a listen, then report back, “Whatever you did that time, keep doing it!” or “Don’t ever do that again!” Over time, UNI’s plating and pressing acumen grew to where the 180gm LPs they made—at very reasonable cost—rivalled the best available. Business grew for the factory, one of the last large employers in depressed Gloversville, as other companies were drawn to the plant for their vinyl pressing needs.

Then, late last winter, UMG decided to shut UNI down, even though, by all accounts, the factory was making money. These days, it’s all about the short-term corporate bottom line. Shut it down, sell the assets, take the payroll off the balance sheet, and guess what? facturing, it included the cost of plating and the cost of the record itself. I own the metal parts stored at the factory. These SOBs called me when they announced the shutdown and asked me if I wanted my metal parts [plated lacquers, mothers, and stampers]. Of course I did. “Well, it’s going to cost you,” they responded. ‘But I own them!’ ‘Either you pay what we’re asking or we’re going to destroy them.’”

So, Irwin told us, he was forced to fork over a large sum of money (he described it as “a small fortune”) to get back what he’d already paid for and owned. When he contacted his lawyer about legal release, he was told, “Do you want to pay them $x dollars to get your stampers, or fight them in court and pay me twice as much—which is what it will cost to fight them and win the case—to prove a point?”

Irwin would have to pay an amount that, for an indie label, isn’t exactly chump change. As of the day I write this, other charges are pending for the return of certain items stored at the UNI plant and subject to negotiation.

Not on the table will be Sundazed’s Warners metal masters (Love, Van Dyke Parks, The Stooges, etc.). Sundazed owns these, but despite Irwin’s expressed willingness to buy them back, UNI inadvertently scrapped them. Irwin retained control of the mothers and stampers and can press records in the short term, but once those parts wear out, he’ll have to start over again and cut new lacquers.

Bob Irwin is a perfectionist. For him, mastering a record is no simple matter of putting up a tape and cutting a lacquer. He went through months of painstaking hell and dozens of lacquers trying to match the on-the-fly mastering moves made for the original pressing of Love’s classic Forever Changes album, for instance. He’s not looking forward to going through that again.
Meanwhile, Irwin checked around and found out that the major labels got all of their masters and parts back, no questions asked. Why? Probably because they have teams of attorneys at the ready and the resources to fight back. UMG was very particular about which companies it would steamroll: small, defenseless indie labels.

But that wasn’t the only call Irwin had received from UMG that he told us about during the Carnegie Deli dinner. UNI had discovered a stash of extra Sundazed record labels. These had not yet been paid for and belonged to UMG, but the company had no use for them; given the 15-year relationship with Sundazed, what would have been the big deal about just letting Sundazed have them? But again, UMG set Sundazed a price, a deadline, and an ultimatum: Buy them or they’ll be destroyed. Because the cost of reprinting was greater than what UMG was asking, Sundazed chose to accept, but when a Sundazed employee called—well within UMG’s deadline—to close the deal, she was told that the labels had already been destroyed.

According to Irwin, UMG’s 180gm presses have been bought by and shipped to United Record Pressing in Nashville, Tennessee. Fortunately, Sundazed already had a great relationship with United: all of the label’s 7” 45rpm are pressed there, and have been for years. Sundazed’s 180gm LPs will now be made there as well, pressed on the same machines formerly located in Gloversville. Irwin and I made plans to fly down and visit the United plant sometime in June. Hopefully, by the time you read this, we’ll have been there.

### On with the Show!

The Home Entertainment 2005 Show was an odd mix of products and companies. It’s expensive to produce a show in New York City, and consequently expensive to exhibit. Many of the major players in high-performance audio stayed away, but many upstarts chose to play, hoping to get noticed by consumers and the press. The infusion of new and, in some cases, young talent and capital into a supposedly fading industry gave many veterans a much-needed shot of optimism.

The home theater side was equally underrepresented. New Jersey–based Sound by Singer, chose to participate. Innovative, Lyric, CSA, and the rest were missing and missed. Smaller dealers, such as In Living Stereo and Rhapsody Audio, did make the effort.

The press turnout at HE2005—612 journalists from around the globe were registered—was excellent. The official attendance figure was 13,000 consumers, along with 2500 members of the trade; most exhibitors with whom I spoke were quite satisfied with the quantity and especially the quality of the turnout.

I spent all of the press day being the Show mouthpiece, escorting television and radio crews around the Hilton New York, and so missed many of the press events, including Mobile Fidelity Sound Lab’s master-tape demo featuring legendary recording engineer Marc Aubert.

I didn’t expect to find much that was new since the Consumer Electronics Show, in January, but I was pleasantly surprised by a few developments, including a new, lower-cost turntable from Brinkmann. The new Oasis ($6800) is the company’s first direct-drive design, the details of which are best left to a review. The handsome-looking ‘table features a conventional-looking square wooden plinth. Build quality and fit’n’finish appear to be...
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equal to that of the more expensive Brinlcmanns.

Importer Lawrence Blair told me that my review of the Brinkmann Balance in this column last May had helped push sales of over two dozen units—a surprisingly high number, given the $14,850 price of the basic 'table without tonearm (add $3650 for the arm, $3100 for a tubed power supply, and $2400 for a Harmonic Resolution Systems isolation base).

The news that one review can so motivate that many audiophiles to invest in such an expensive product (many without ever actually hearing it) left me humbled and somewhat uncomfortable. On the other hand, wielding such influence comes only after years of sharing what I hope are strong, mostly unequivocal opinions with readers. Obviously, having them validated to the point where such a level of trust develops is gratifying, to say the least! I hope all you new Balance owners are enjoying your 'tables. I hope to join you soon.

Audio Imports (correct spelling) presented the New York debut of the Einstein line from Germany, which I'd admired on every trip to the now-defunct Frankfurt show, which was held at the picturesque Kampinski Hotel. Eventually, I hope to give a listen to Einstein’s The Turntable's Choice MC phono preamp ($4950). Also of great interest in the Audio room was an extensive line of record-cleaning solutions from Audiotop Products of Switzerland. Vinyl1 ($157/liter) is the company’s detergent-based cleaning fluid designed for vacuum machines. Vinyl2 is a post-cleaning friction reducer ($125/50ml), while Stylus ($89/10ml) cleans guess what? There’s even TQI, a special product for cleaning the Clearaudio-Souther tonearm’s quartz rods. Audiotop also makes contact and CD cleaners. I hope to get samples of these products. If I can figure out some way to conduct a meaningful shoot-out between record-cleaning solutions, I will do so, but for now I’m not sure it’s possible—at least in terms of how well a particular solution cleans. However, hearing if and how a solution sounds should be possible; in my experience, cleaning even a clean record with a particular solution can often change the sound.

Speaking of shoot-outs, John Atkinson’s “Great Debate” with online audio skeptic Arnie Krueger was easily the most unpleasant and uncomfortable experience I’ve had since Zell Miller’s out-of-body speech at last year’s GOP convention. Krueger’s main point...
Continuum Audio Labs Caliburn table and Cobra arm.

seemed to be that *Stereophile*'s reviews are “invalid” because we don’t do double-blind ABX tests, though he failed to back up his contention. [An MP3 recording of the debate is available at www.stereophile.com/news/050905/1 debate—Ed.]

After the session I attempted to engage Krueger in conversation, but I could not finish a sentence without him interrupting and cutting me off. When I told him how rude he was to not let me finish my thought, his answer was that because he knew what I was going to say, he wasn’t really being rude. When I tried to bring up the double-blind amplifier challenge I’d made to David Clark, and how I had joined attendees in taking Clark’s test at an Audio Engineering Society convention in Los Angeles and got five out of five identifications correct (JA got four of five) but was declared a “lucky coin” and my results were tossed out, he cut me off again, telling me that he’d heard Clark’s version of the story and that it wasn’t really a test but a “demo.”

There’s no winning with these people, but there’s a great deal of losing. Thanks to folks like Krueger, his associate Tom Nousaine of *Sound & Vision* magazine, and the rest of their crowd, the fun has been suffocated out of what should be a joyous hobby for tens of thousands of audio enthusiasts. (I was sucked into that dreary sonic dead end myself for a few years in the early 1970s.)

Many readers stopped me in the crowded halls to tell me to check out the *Sound Engineering* SE-1F turntable. Turns out it’s made by Bob Benn, the Nashville-based gentleman who made the outer ring for the platter of my Simon Yorke ‘table a few years ago. The SE-1F is distributed by High Water Sound’s Jeff Catalano, whom I’d met years earlier when reviewing the AudioNote Kondo cartridge and step-up transformer. The SE-1F is a formidable-looking, space-consuming assembly of brass and wood featuring a high-mass platter, a flywheel, a totally independent arm pod, an outboard DC motor, and both a spindle record weight and a platter ring. It sat on a Silent Running Audio isolation platform. According to Bob Benn, the

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'table, motor, flywheel, platter ring, record weight, SRA platform, arm pod, and SE-1 motor umbilical will sell for $12,500. A second arm pod will be available as an option, and most likely the 'table will be available as a "basic" model, with both record weights, motor umbilical, and isolation platform available as options.

High Water also imports the impressive looking, Swiss-made DaVinci Audio Labs Grandezza tonearm, available in 9", 10", and 12" editions ($6000, $6200, and $6400, respectively). The arm features ruby bearings made by a watchmaker, and an arm-tube of grenadilla wood (denser than ebony), sourced from a clarinet maker. The arm uses a standard SME mount and what appears to be a Rega-sourced cueing mechanism, but is otherwise an elegant-looking, ruggedly built, custom design that comes in an equally elegant wooden box. This is a tonearm that any analog-loving audiophile would lust for, or at least lust to audition.

Musical Surroundings introduced one new Clearaudio turntable and two new Clearaudio turntable packages at HE2005. The Ambient table ($4350) includes a Satisfy Direct Wire tonearm with carbon-fiber armtube, and a two-piece 'table featuring a plinth made of multiple layers of dense wood sandwiched between two layers of aluminum. The similarly constructed outboard motor housing includes a Clearaudio Smart Synchro speed controller. The platter, made of 40mm-thick GS acrylic, rests on an inverted ceramic ball bearing. The 'table without arm sells for $3500.

Clearaudio's package of Champion Magnum and Satisfy Direct Wire ($3500) features a 70mm-thick GS acrylic platter, acrylic plinth, high-mass stainless-steel feet, an outboard motor, and the carbon-fiber-tubed Satisfy Direct Wire combo. While the new Champion Deluxe/Satisfy Direct Wire combo costs a very reasonable $2000. The new Champion Magnum Deluxe/Satisfy Direct Wire combo ($995) features special high-mass aluminum feet and a Direct Wire arm (cartridge pins to RCA plugs).

Audio Turntable, the new importer of the ELP laser turntable, made a big splash with a Halcro-Manley-Joseph Audio playback system that showed off both the ELP's strong suits (zero tracking and tracing distortion) and its weak one (dirt and groove information are read with equal fidelity). Clean records sounded impressive, and the always-crowded room demonstrated high audiophile interest in the laser tracker, despite its +$13,000 price tag.

Speaking of high prices, Continuum Audio Lab's high-tech, retro-looking Caliburn turntable and Cobra tonearm, made astounding sounds in association with Lamm electronics turntables in which shoot-outs were held hourly. Too bad the US can't support such a display at a consumer trade show (not to mention a healthier environment for audio magazines).

Judging by the vinyl sales at the show, analog is stronger than ever in the digital era. Acoustic Sounds, Elusive Disc, and Music Direct schlepped large inventories of vinyl to HE2005 and went home with much lighter loads. I appreciated the pickings at Music Direct most because they had a good selection of nonaudiophile rock and jazz vinyl, such as The Arcade Fire's haunting Funeral, Kathleen Edwards' Back to Me, and a great Albert Ayler compilation, Holy Ghost, on Rev-
2005 Jimmy Award: "Best Show" at CES 2005

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USHER & Sonics Speaker
2004 CES Best of Show
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2005 Editors' Choice

The Stereo Times
The Absolute Sound
Audio Art

"...A smooth, responsive, richly detailed midrange..."
Chris Martens, AVguide Monthly
In midtown Manhattan, where women use dogs as jewelry and men who've never thrown a punch taunt paupers from the safety of their cars, Primedia Enthusiast Media sponsors its Home Entertainment Show each spring. I attend as much to break the monotony as to recharge my interest in audio—as Wes Phillips once said, it isn't long before men who work at home begin telling their wives about all the clever things the cat did that day—and because I enjoy meeting Stereophile's supporters and even our harshest critics, some of whom no longer wear women's clothing.

I don't expect to hear good sound, because hotel rooms are cruel and exhibitors have no control over many of the things that can make or break an audio demonstration: the size and shape of the room, the quality of the electricity, the temperature, the sound from the other rooms, and even the size, shape, quality, temperature, and sound of the attendees. (I don't mean to condescend: Even I had to be shushed once when my whispered conversation interfered with someone's simple wish to listen.) But I'm paid to go from room to room and measure what I hear against some internal audio reference that itself has nothing to do with anything. That would seem to leave me no choice but to select and write about the rooms with the nicest people, or the most interesting-looking products, or the best refreshments...

Except that there were eight exhibitors at Home Entertainment 2005 who actually did, in my estimation and against all odds, create an experience that was fun and enchanting and involving, in the same sense (if not to the same extent) that real music is fun and enchanting and involving. Here are their stories, in no particular order:

• I'd never before heard the Vandersteen Audio Model 5 loudspeaker ($11,400/pair) sound as good as it did in the Audio Connection room. A pair of them were being driven by a pair of Pathos InPower monoblock hybrid amplifiers ($13,000/pair), controlled by an Aesthetix Callisto Mk.II line-level preamplifier ($9000) and fed by a beautifully set-up Clearaudio Maximum Solution turntable with new Graham Phantom tonearm and Clearaudio Stradivari cartridge ($12,000, $4175, and $3000, respectively). I settled in with a good LP of Mahler's Symphony 4—was it the Reiner?—and was impressed at once by how well the music flowed, and by the natural way in which deep-bass notes simply happened, solidly but without calling attention to themselves in that awful high-end way. Utterly nice music making.

• On the same floor, in the demonstration room sponsored by the downtown shop In Living Stereo, the combined forces of Simaudio electronics and DeVore loudspeakers sounded even better than at HE2004—and last year they sounded fine. The electronics were Sim's Andromeda CD player ($9800), P-8 preamplifier ($9500), and W-8 amplifier ($9000); the speaker was the DeVore Silverback Reference, a $14,000/pair floorstander whose serene appearance belies an ingenious enclosure design (and—surprise—lots of silver wire, silver-foil capacitors, and suchlike). I asked John DeVore to play my copy of Del McCoury's Del and the Boys, and "1952 Vincent Black Lightning" sounded just as it should: a
LISTENING

taut, uptempo bluegrass performance with a very clear, present sound.

• In another repeat of HE2004, the demonstration in the suite sponsored by New York retailer Damoka LLC had much more to do with music than with mere sound. Damoka used a Thorens Reference turntable with an SME 3012-R tonearm (vintage components; prices on request) with a limited-production, hand-built cartridge called the Lumiere ($2700); and a CEC TL1-x transport with Weiss Medea D/A converter ($5500 and $13,500, respectively)—all to feed a Lamm L2 Reference preamp ($14,390) and Lamm ML2.1 monoblock amps ($29,290/pair), driving a pair of 1957 Vitavox CN-191 corner horns (price on request). All cables were from Purist Audio’s Dominus line. Most important was the sensitivity with which the gear was assembled—and operated: When they put on my copy of the Eroica Quartet’s Mendelssohn disc from 1999, my hosts didn’t try to make the equipment play louder than a real string quartet ever could in the same room; on the other hand, when they put on a symphonic recording (Leroy Anderson, as luck would have it), the system loaded the room believably. The Vitavox horns didn’t seem very open up top, which was all the more noticeable for their having to be placed so far apart in a +30°-wide room. But more to the point, I found myself responding to that collection of gear as I would to a group of real musicians. During the Mendelssohn in particular, I wasn’t struck by the sound so much as by the strange cognitive disconnect of hearing Showgoers loudly milling around the open door of a room in which a world-class ensemble seemed to be performing.

• The sound of Wavac’s new single-ended, transformer-coupled monoblock amp, the MD 300Bm ($20,000/pair), playing the Beatles’ “I’m So Tired” through a pair of Talon Audio Firehawk Signature Diamond speakers ($36,000/pair), was extraordinary. (I should mention that, in my notes from that day, I immaturately sandwiched a popular vulgarity between ex and tranced, apparently to remind myself of the strength of my feelings. And the MD in MD 300Bm stands for “Music Dandy”—I love that.) I’ve said it before, and the new Wavacs remind me to say it again: In terms of presence, of naturalness, of “breathing,” and of simple believability, a well-designed 300B amp does voices like nothing else. I wasn’t quite as bowled over by the complex orchestral piece that followed (it might have been Reiner’s famous version of Prokofiev’s Lt. Kije, but I forgot to write it down), but I remained impressed by the lack of melodic and harmonic confusion, the sheer impact of percussion instruments, and the overall flow and organic realism of the music. Credit is also due Peter Bizlewicz, who helped get the best out of all the electronics—including a Sony SCD-1 SACD player and Wavac’s own PR-T1 transformer-coupled line stage ($30,000)—with his various Symposium Acoustics isolation devices, including his new Rollerblock Jr. ($169/set of three, with standard chromium steel ball bearings).

• Juana Molina, an Argentinean singer and actress I’d never heard of before, made some of the prettiest and most innocently hypnotic pop music I’ve ever heard, courtesy of the Horning Perikles loudspeaker ($8500/pair) in the High Water Sound room: Think of Molina as a South American Joanna Newsom with a mild wash of electronicia in place of the harp, and an altogether more accessible singing style. (I’m still trying to find an LP of Molina’s brilliant Segundo album for my own collection.) Along with a Tron Syren preamp ($15,000) and Tron Cantata WE300B amplifiers ($20,000/pair), 47 Laboratory Flatfish CD transport with Progression/Gemini D/A converter and three power supplies ($12,400 for the lot), and the impressive and downright expansive Sound Engineering SE-1F turntable with Silent Running Audio base ($13,500) and Swiss DaVinci Audio Grandeza Reference tonearm ($6200), the Hornings sounded nothing
Theater

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Like the usual high-end hi-fi experience. But they did sound like music, and it was a welcome change. Extra points for being the only exhibitor with the courage to play an old mono recording by Dock Boggs, voluntarily.

- Once again, the folks at Merlin, Joule-Electra, and JPS cables combined forces to produce a believable and unabashedly beautiful music performance—done without gimmicks, boasting, or fanfare of any sort. With an Audio Aero CD player as the source, Jud Barber's elegant-looking and painstakingly crafted Joule VZN-100 OTL monoblocks ($18,000/pair) and Bobby Palkovic’s Merlin VSM/mx loudspeakers ($10,000/pair) were endlessly listenable—as on a live recording by Nils Lofgren that Palkovic introduced me to. The basic Merlin speaker design has gained from a number of steady, subtle refinements over the years; if you haven’t heard a properly produced US price: under $15,000) will be the first in a series of simpler, less expensive dCS components.

- But my favorite experience of HE2005 was on Thursday, at the Innersound room, where I listened to a four-channel system using that company’s hybrid electrostatic Kaya and Kachina loudspeakers ($20,000/pair and $12,000/pair, respectively), driven by a brace of Innersound’s new preamplifiers and amplifiers. Best of all, Innersound’s Wes Bender was joined by John Wood of Mobile Fidelity Sound Lab, who brought along the self-same four-channel, half-inch Scully tape deck owned and used by the Grammy Award–winning classical engineer Marc Aubort. (You’ve probably heard Aubort’s work on some Vox and Nonesuch releases, and on Leonard Slatkin’s recordings with the St. Louis Symphony—such as the famous MoFi release of Gershwin’s An American in Paris.) Aubort himself joined us on Saturday for some more listening, and the sound of his Prokofiev Alexander Nevsky recording—with so little between me and it—was something I’ll never forget. (I offer my apologies to turntable designer Peter Clark, of Red Point Audio, and to Philip O’Hanlon, who distributes Ed Meitner’s EMM digital components in the US: Both had furnished the Innersound room with their own top-of-the-line front-ends, but I’m sorry that I never got back to hear them in that setting.)

Stand by for news

So much for the demos I found commendable—although I hope you’ll keep in mind that I didn’t get to hear every system at HE2005: The show lasted a total of only 29 hours, including the Press & Trade Day, and there were more than 100 different suites, rooms, or booths to visit. That works out to an average of less than half an hour per room, without lunches or bathroom breaks—and it takes only one hour-long demo from a well-meaning but needy exhibitor to throw a softy such as I way off schedule. (And there were more than one of those.)
IS THERE LAMP CORD HIDDEN IN YOUR WALLS?

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For over 10 years, the patented GOERTZ speaker cables have been a favorite of audiophiles, reviewers, and even the industry’s most respected amplifier designers because of the ultra-low inductance characteristics of the wire. The audio community unanimously agrees that high inductance is the mortal enemy of great sound, and now CL 2 rated GOERTZ flatwire brings the advantages of ultra-low inductance wire to home theater and whole-house installations!

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Naim's surprising new n-SAT, with optional stand.

- Speaking of which, I'm happy to report that the keynote speech at this year's press luncheon—an annual event known for coaxing tears of nostalgia from the industry's many lovers of overcooked chicken with capers—was actually pretty good. Brian Shea, an executive vice president of X111 Broadcasting, made a fine case for his company's product without stooping to bash his competitors. Plus he said things, instead of just throwing words around. Coming as that did so soon after a certain other press event ("Propagate!" "Docent!" "Converging umbrellas!") I couldn't help being impressed.

- You thought that it could never happen: Naim Audio has taken a step closer to the A/V mainstream with their new n-SAT satellite speaker ($1700/pair with optional stands), n-CENT center-channel speaker ($950), and n-SUB powered subwoofer ($2850), although the company aims to sell them to music lovers as well. The n-SAT is particularly interesting, with a mounting system that decouples the drivers from the energy stored in their more massive surroundings—rather like the SBL and other Naim speaker designs. The n-CENT offers a variation on the same approach to users who wish to mount it on a wall; otherwise, its enclosure is sized and shaped to fit neatly inside a Naim Fraim equipment rack.

- A German firm called Norma-Hylee-Tech is now doing to old Thorens 124 turntables what the English firm Loricraft does to old Garrard 301s: buying them up and transforming them into viable if mildly anachronistic turntables for 21st-century audio enthusiasts. In fact, N-H-T went a step further and made a companion tonearm, the ZA Tritonus—which, packaged with their 124 and an Ortofon SPU phono cartridge, will set you back a mere $8750. This rig is distributed in the US by the same company that handles the famous Brinkmann record player; I've been told to expect a review sample by the time you read this. Which is very cool.

- At a press event across the street at the landmark Riha Royal Hotel, Classic Records announced the beginning of a new project with Neil Young, the first result of which is a 200gm Super Vinyl reissue of Young's Greatest Hits. I came to the party late (I mean that literally, and not just in the "I'm dim" sense) but just in time to hear "Down by the River" playing on a really nice system assembled by the formidable Scott Markwell. I was completely enchanted. There are more great things coming from Classic in the near future; I suggest that any and all vinyl lovers visit www.classicrecords.com and sign up to receive their e-mail updates on new releases.

- Best encore of all: Moscode is back. Designer, bass player, and all-around great guy George Kaye, who was Harvey Rosenberg's right-hand man during the glory days of New York Audio Labs, has returned his attention to the circuit he developed in the 1980s and is once again making a hybrid tube/solid-state amplifier for the masses. The new Moscode ($4995) is a low-feedback, dual-mono, servo-controlled design with an edge-lit Plexiglas faceplate (its color changes in accordance with the amp's status during power-on) that swings out of the way when you want to tune the amp by swapping input tubes. The classiest touch of all is the model designation: 401HR. Somewhere, the Giz is smiling.
The mark of a truly great tweeter - one that can release all the vivid detail in your music - is what's called 'perfect piston behavior'. As long as the tweeter dome is vibrating rigidly, like a piston, its delivery will be accurate. The higher the frequency, though, the harder that becomes. The materials most resistant to 'break-up' combine lightness and stiffness. And there's one that does that better than anything else on earth.

The new B&W 800 Series feature tweeter domes of pure, ultra-hard diamond. It may seem extravagant, but nothing gets closer to the behavior of a hypothetical 'perfect tweeter' - one with infinite stiffness. Our diamond dome carries on vibrating like a piston well beyond the range of human hearing, and delivers audible sound with unheard-of clarity.

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Firms that specialize in architectural acoustics usually concentrate on the big jobs—churches, schools, and auditoriums. Rives Audio (www.rivesaudio.com) is unusual in that they specialize in "small-room" acoustics, for residential listening rooms and home theaters. Rives is unusual in another way: they consult on a nationwide and even international basis.

In addition to offering consulting and room-design services, Rives Audio sells the PARC, a three-band parametric analog equalizer specifically designed to address problematic bass modes in home environments, and which received a Stereophile "Product of the Year" award in 2003. Immediately after Home Entertainment 2005, company founder Richard Rives Bird took some time to discuss with me how you can get more out of your audio system by paying attention to room acoustics.

**John Marks:** How did you get started doing this?

**Richard Rives Bird:** My educational and professional background is in physics, but music is my real love. I play the piano daily for 30 minutes to an hour, and I take weekly lessons with an extraordinary jazz pianist, Dan Knight.

For the first 10 years after graduate school, I worked as a medical physicist for a few X-ray equipment manufacturers. I was working for a startup company, and I found myself with spare time on my hands. I started educating myself on acoustics by reading books, journals, and online papers. I found the math to be pretty straightforward, and started applying concepts to my own listening room.

I had been an audiophile for years. I had very good equipment, and while the room was good, it was also the limiting factor. My biggest problem was the bass response. My room had two dimensions that were nearly identical, and I had the bass-mode blues. I used a McIntosh equalizer to fix that problem, but it was rather noisy and had fixed Q values. I looked at the market and didn't find any analog EQ devices that could solve such problems, so I decided to design one and build it. That was the beginning of PARC.

![Great-sounding rooms need not look ugly. The concert hall in Lucerne's Cultural and Congress Center, designed by Jean Nouvel Architects, Paris in collaboration with acoustician Russel Johnson, Artec, New York City.](image)

[**parametric adaptive room compensation**]. I recognized early on that if you didn't get the bass right, little else would matter, and the nonelectrical fix—cumbersome, large bass traps—rarely solved the problem effectively, and certainly were an eyesore.

So my next step was to determine exactly what the business would do. While I expected the PARC to be a fantastic product, we all know that building a company on one product is not wise. I also examined the issues that I had dealt with in my own room—they weren't just the bass issues. The biggest initial frustration I had with my own room was that I knew it had significant acoustic issues, but I had no place to go to get help. There were no cost-effective consultants out there who could show me what I needed to do to correct the problems. I had to fix my room on my own. It took a lot of time, a lot of research, and a fair amount of expense, as the first steps were a bit of trial and error.

I felt this was what the market really needed—a solution to all those rooms that had problems. And there's no one solution—there is no magic bullet to room acoustics. What I really wanted to do was provide a full answer to residential room acoustics. The PARC is just one tool that helps us to that end. The main part of the business is acoustical engineering and design services. We design listening rooms, media rooms, and home theaters world-wide now, very cost-effectively, through our dealer network.

**JM:** What are the differences between small-room acoustics and church and auditorium acoustics?

**RRB:** The problem areas are very different for large-room [church and auditorium] acoustics compared to a small room. In a small room, you are most concerned about room modes that create boomy, muddy bass; hence, the design of the PARC. In large rooms, you typically have just the opposite problem—not enough bass—and are more focused on slap-echo issues.

**JM:** When did you form your company?

**RRB:** The company was officially formed in April of 2002.

**JM:** What was its growth like?

**RRB:** At first, growth was slow. I can recall my first Home Entertainment Show in New York, just after the company was officially formed. We didn't exhibit, but we were there. I met Chris Huston at that show, and he told me he also designed theaters and studios and might be able to help me. We started talking, and I looked into his background further. I discovered this guy had a huge amount of practical experience, and all his clients loved
Perfect form and sound.
The form is artistic. Beautifully crafted like the body of a musical instrument. The sound is exquisite, and the combination of perfect craftsmanship and state-of-the-art technology is unique. This new Canton loudspeaker series represents pure musical enjoyment and timeless design. Its name is Vento.
him. Chris started working with us almost immediately on a contract basis. He is now VP of Acoustical Engineering for Rives Audio. Our website has a page dedicated to his history—and it's worth taking the time to visit it. [www.rivesaudio.com/company/huston/hustonframe.html]

Shortly after the Show I got a call from John Atkinson. He suggested that Stereophile review the PARC. Kal Rubinson wrote the review, and one result was a “Product of the Year” award from Stereophile. That really helped the overall credibility of the company, and increased awareness of acoustics.

JM: What was your personal on-the-job learning curve like?

RRB: Never-ending. I learn all the time—about everything.

JM: How many audiophiles have you advised?

RRB: I lost count a long time ago. We do an average of about 25 designs a month now, so it's been hundreds.

JM: Has there been anything common to the home-audio situations you've faced?

RRB: There's not any one consistent thing, which is why everything is custom. We start with an application form, so we can understand our client's needs. What is consistent is that certain issues need to be dealt with, if only to establish that they are nonissues. For example: Is sound isolation important? Is the room for two-channel or home theater? How many people need to be seated? Our form gathers this information, and then we design accordingly. For the person who wants great two-channel sound—but whose room serves both for two-channel and for home theater—we provide a design that is optimized for two-channel, and its home-theater sound will still be pretty good. However, if you damp a room for optimal home-theater surround sound, the room is usually too dead for good two-channel sound. Aesthetics or spousal acceptance is another issue that we have to accommodate regularly. Many of our clients do not have dedicated rooms, and we need to design accordingly.

JM: I am not going to ask you to tell us about the dumbest thing you have ever seen, because that person might recognize himself, but: what is the most common acoustical sin of omission that audiophiles commit?

RRB: Well, the biggest is just ignoring the subject altogether. If you look at our website, we have a huge amount on education regarding acoustics. I would rather help someone do it himself or herself than ignore the subject. Acoustics seems daunting for one to take on alone, but it's not that hard to get the basics right. That won't be as good as an engineered room, but it sure will be better than doing nothing. The second thing we see is someone will go out and buy a few absorbing panels and put them in the room and think, “Wow, that sounds a lot better—I should go buy at least 50 more, and fill up my room.” That logic doesn't work in acoustics, and is expensive for the novice. If you are going to do it yourself, take it slow, one small step at a time, and you will get good results over time.

JM: What is the most common acoustical sin of commission that audiophiles commit?

RRB: Well, I don't know if this is the most common, but we have received a few calls that went something like: “I've changed every cable in my system a dozen times, and none of it has fixed my acoustical problems.” It's funny, in a way, because it clearly dawned on the person that the cable was not the problem, but they didn't know that when they started swapping out cables. It's also sad, because although good cables can make a difference, getting on the cable merry-go-round can be pretty pricey these days.

JM: Let's say someone is the average Stereophile subscriber, which means he has about $15,000 invested in a two-channel system. What should he do to get better sound?

RRB: Well, as I said before, the one thing is, don't ignore the acoustics.

acoustics. Even if you have $3000 invested in a nice two-channel system, do something for the acoustics. Get the basics right. Now, that might mean reading some books or doing some research on the Web, and doing the work yourself. Many people don't want to go the DIY route, which is why we offer an entry-level service priced at around $1000. We analyze the room's dimensions and contents, make recommendations on what treatment is needed, and deliver CAD drawings with assembly drawings (if they want to build the devices themselves) or a list of prefabricated devices they can buy. Bottom line is, acoustics is probably the most cost-effective improvement you can make in this hobby, so you really need to budget something to deal with these issues.

JM: When someone fills out your room questionnaire and application form, what happens next?

RRB: One of our engineers will call back and go through an interview process with the potential client. They will typically suggest some possible paths and let the client decide if those are realistic for them. There are some rare cases when we cannot offer a good value to the client, based on their limitations. We let that client know this up front, before they've spent one dime. So, filling out and faxing back the application is really a no-risk proposition. If the client likes what we can do for them, they provide a deposit and we begin designing.

JM: Are most of your Level 1 customers happy with what they end up with?

RRB: I think they may be the happiest! These are the people who have been debating "Should I do this?" and finally they take the plunge. Most of them call me to thank us for how incredible the room sounds, how every upgrade they've done is so much more meaningful in a well-designed room, and how our design remains the most cost-effective thing they've ever done in this hobby. That's very rewarding for me, because I wanted our company to meet the needs of as many people as possible. I did not want to run a company that catered only to a very wealthy clientele.

JM: Let's say that someone doesn't yet want to take the step of engaging your firm. Is there any advice you can offer of near-universal applicability?

RRB: My advice would be read, read, and then: start small. We have a whole resource page on our website, and doing the work yourself. Acoustics seems daunting for one to take on alone, but it's not that hard to get the basics right. That won't be as good as an engineered room, but it sure will be better than doing nothing. The second thing we see is someone will go out and buy a few absorbing panels and put them in the room and think, “Wow, that sounds a lot better—I should go buy at least 50 more, and fill up my room.” That logic doesn't work in acoustics, and is expensive for the novice. If you are going to do it yourself, take it slow, one small step at a time, and you will get good results over time.

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Richard Rives Bird, keeping in practice.

SONIC AND MUSICAL GEMS FROM RICHARD RIVES BIRD'S PLAYLIST

J.S. Bach, Goldberg Variations, Ito Ema, piano. M+A Recordings MO24 (LP, CD, gold CD). It's no longer just the "Gouldberg' Variations." This is a fabulous performance, and possibly the best audiophile piano recording.

Dave's True Story, Sex without Bodies, Chesky JD164 (CD). Remarkable clarity—a really fun recording.

Peter Gabriel, 3, Classic PG-3 (200gm LP; also available on CD, InterSco 493622). If you want a really great rock album that covers the full range of both macro- and microdynamics, this is it.

Janis Ian, Breaking Silence, Analogue Productions CAPPG 027 (gold CD, out-of-print LP; also available on CD, Morgan Creek 2959-20023-2). A long-time audiophile favorite, and count us in. The depth of the lyrics, coupled with one of the best recordings and masterings, is truly stellar.

Ben Webster, At the Renaissance, Analogue Productions AJAZ 7646 (45rpm LP; also available on Analogue Productions gold CD, CAP1G 011; Fantasy Original Jazz Classics LP, AJOC 390; and Fantasy Original Jazz Classics CD, OJCCD-390-2). A live recording with clarity, imaging, and performances that are breathtaking. I treasure this recording as an all-time milestone in jazz. It was a tough call between this and Sonny Rollins' Saxophone Colossus, another breakthrough album.

—Richard Rives Bird
A compass is an everyday example of how material can be influenced by an external “field.” The earth’s magnetic field causes a compass pointer to align itself relative to the earth’s magnetic poles.

In a very similar manner, the AudioQuest Dielectric-Bias System (DBS) causes the molecules of a cable’s insulation to align themselves relative to an electrostatic field. A 36v DBS battery-pack attached to inner and outer DBS field elements creates a strong and stable field.

Electrostatically unorganized insulation causes non-linear phase error; different amounts of time delay for different parts of the signal. Polarized (aligned) insulation eliminates almost all of this distortion. Sound is much smoother and easier to understand, seeming to come from a quiet black background. Information and emotion come through as never before.

Listen and Enjoy!

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Cable not used in recent weeks
The insulation material is electrostatically unorganized. Electrical signals of different frequencies and amplitude all suffer different amounts of time delay.

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But what’s a desk without movies and music from your computer? The Micro DAC (digital to analog converter) plugs into your USB port and, voila, the Micro DAC becomes your sound card. Feed the signal into the Micro Amp and you’ve got sweet, sweet sounds perfectly pumped into your head. The Micro DAC will also take an optical or coax S/PDIF digital signal from an outboard player and allow you to switch between it and your computer.

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**JM:** Who is the customer for the full-boat, Level 3 consultation?

**RRB:** Level 3 is our highest level. We do full construction documents at Level 3, and all acoustical treatment is built into the room. Usually there is a tremendous amount of attention put into both the acoustics and the aesthetics, so that the room looks as good as it sounds. The Level 3 client typically has a dedicated unfinished space or new construction. They want to push the envelope of what can be done acoustically. Most Level 3 customers are in the home they plan to be in for a long while. Most have been into this hobby for some time, and really enjoy music or movies and understand how important the acoustics are.

**JM:** Does an acoustically great room have to be ugly?

**RRB:** Acoustics have no inherent look to them. They have the reputation of being ugly because most prefabricated solutions are less than domestically acceptable for a living room. We do living rooms all the time, and we hide things in coffered ceilings or behind artwork; we use bookcases, and we select high-quality and visually appealing fabrics. On our website there is a Level 1 room (Mr. W) in the “Examples” section. You cannot tell by looking that there are any acoustical treatments in the room, but there are diffusive elements built in behind the wainscoting panels, there is a giant bass trap in the ceiling that is covered with white fabric, and we even went to the extent of building tuned Helmholtz resonators into the corners of the bookcases.

**JM:** Any final words?

**RRB:** Yes. The room is really the first, the most basic thing that our sound systems start with, but it is often the last thing we think about. Whether you hire a professional or do it yourself, don’t ignore it; it can determine 50% or more of your overall sound quality.

Questions, comments, or reflections: jrnrcds@jmrcds.com.

---

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Sound Fusion's speakers feature high-tech drivers, including a ribbon tweeter with response extending to 60kHz, and cabinets with sophisticated vibration control. - Robert Deutsch

Wes Phillips escapes the Show hubbub to his happy place, courtesy HeadRoom's new $300 Micro DAC and $300 Micro Amp, hooked up to a pair of Sennheiser phones. - John Atkinson

Ascendo's System M speaker ($36k/pair with stands) combines a bandpass-loaded woofer with a conventional midrange unit and a ribbon tweeter. The latter is mounted in a separate, decoupled enclosure that can be adjusted for time-alignment at the listener's ears. - John Atkinson

The Butler Monad monoblock power amplifier ($18,995/pair) runs a specially modified 300B with "backward bias," zero negative feedback, and no output transformer, to give 100W into 8 ohms or 200W into 4 ohms. - Wes Phillips

Chord's three-piece stack, comprising the UK company's new single-box CD player, preamp, and power amp, sells for $19k, including the nifty-looking rack. - Wes Phillips
A LOOK AT GEAR, FROM A TO Z

DeVore Fidelity's $14k/pair Silverback Reference loudspeakers made sweet music with Simaudio's 250Wpc Moon W-8 power amp ($9200), two-chassis P-8 preamp ($9950), and two-box Moon Andromeda CD player ($9800). -Wes Phillips

Gini Systems is importing JAS Audio tube preamps, power amps, and speakers, "designed and manufactured in Hong Kong with top-notch components and exquisite finishes." They sounded pretty nice, too. -Robert Deutsch

Germany's Acapella claims to be the inventor of the spherical horn, and they had some of those on hand—but they also had the Fidelio 2, a quite tasty nonhorn minimonitor. -Robert Deutsch

Bösendorfer demoed their unique "horn resonator" loudspeakers at HE2005, but also allowed Showgoers to calibrate their ears with live music in the form of piano works for four hands performed on a $500k, rococo-finished concert grand. -John Atkinson

Bard Audio is the brand name of a line of WiFi audio devices from Britain's Sonneteer, makers of some highly regarded analog and digital components. -Robert Deutsch

John Atkinson and Amy Krueger put physical as well as metaphorical space between them at "The Great Debate." -Wes Phillips
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The Merlin-Joule Electra room can usually be relied on to provide civilized sound at shows, and their demo at HE2005, featuring the VSM Millennium speakers, was no exception. —Robert Deutsch

Continuing a tradition, Joseph Audio and Manley Labs combined forces to present one of the best sounds at the Show. The system featured the Joseph RM55LE speaker shown here ($12,500/pair), with the new Pearl Center speaker ($11,000), a McCormack universal player, and the Manley Ghidorah three-channel preamp, using the three-channel Mercury Living Presence SACD reissues. —John Atkinson

Polk's new $999 i-Sonic entertainment system includes an HD radio tuner (iBiquity's inband digital system), AM/FM radio, alarm clock, and a DVD/CD player. But wait, there's more: you can add an XM satellite antenna/tuner module to the whole shebang for an extra $50. —Wes Phillips

Music Hall's Shanling CD-T300 Limited Edition tube-based CD player ($6995), reviewed by ST in the July Stereophile. —Robert Deutsch

Design Kevin Hayes of VAC loves his Phi Beta integrated. Given the sounds it was making with Von Schweikert speakers, who wouldn't? Just wish it cost less than $19k. —Robert Deutsch
the use of Nordost cables may induce a thoroughly undignified desire to dance.

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Whatever the budget
Whatever the system
The other day Dave Wilson was vexed by the sound of the crossover in a new loudspeaker. Engineer Vern Credille brought him a piece of graph paper covered from top to bottom with equations. The result at the bottom of the page, he calmly announced, was the solution to the design issue they were wrestling with. Subsequent listening demonstrated that Vern's claim was, in fact, correct.

The ability to translate the problems of high-end audio reproduction in real-world situations into the language of mathematics and back again is not what you'd expect from your garden-variety engineer. Part of Vern's talent lies in the multiplicity of his degrees: math, electrical engineering, and electronics technology; he's even studied the science of air turbulence (the influence of the last bearing directly on the revolutionary port designs for Alexandria™ and the WATCH Dog™ subwoofer.)

Certainly no modern loudspeaker company would choose to do without their multi-processor computers, digital spectrum analyzers, and other exotic tools of the trade. At Wilson Audio, however, we assign equal—if not greater—value to a piece of paper and a sharp pencil in the hands of a true polymath named Vern Credille.
Marten Design speakers and Brinkmann Electronics sounded good in a system featuring Audience's new adeptResponse power-line conditioner. — Robert Deutsch

A Showgoer seems impressed by Shure's new E4c Sound Isolating Earphones ($299). — John Atkinson

The DK Design Group's DK-1 hybrid integrated amplifier offers 150Wpc for $2995. The sound, driving Von Schweikert speakers, was taut and incisive, with lots of swell tube warmth and depth. — Wes Phillips

The Totem room, decorated as a Native American tepee, featured the 5950/pair Rainmaker speakers driven by Ayre CX-7 CD player and AX-7 integrated amplifier. Stephen Mejias' best sound at the Show. — John Atkinson

The VR-9SE was the most expensive (860k/pair) Von Schweikert speaker demoed at HE2005. They all sounded great, my favorite being the 50k/pair VR-45R, shown here. — Robert Deutsch

The VR-9SE was the most expensive (860k/pair) Von Schweikert speaker demoed at HE2005. They all sounded great, my favorite being the 50k/pair VR-45R, shown here. — Robert Deutsch
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Kalman Rubinson, Stereophile, June 2004

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Chris Lewis, Home Theater, April 2003

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Kalman Rubinson, Stereophile, June 2004

"One of the more musically satisfying rooms I visited in Las Vegas... The bass was almost too good to be true... I enjoyed my time with the Opera Sauvage."

John Atkinson, Stereophile, July 2004

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A Love Supreme: The Story of John Coltrane’s Signature Album
by Ashley Kahn; Foreword by Elvin Jones. New York, Viking Books, 2002; hardcover, 260 pages, 9” by 8”. $27.95.

Writing an entire book about just one record—especially one that clocks in at just 32:47—might seem a questionable proposition at best. However, A Love Supreme, saxophonist John Coltrane’s 1965 concept album with his “classic” quartet (McCoy Tyner, piano; Jimmy Garrison, bass; Elvin Jones, drums), is one of the handful of recordings important enough to merit such extensive attention.

This is the definitive book about one of the most important jazz albums. Even if you’re not a jazz fan, there’s a lot to be said for at least sampling from the book, in the interest of cultural literacy. If you are a jazz fan—or if you want to begin an in-depth exploration of jazz—this book is a must-read.

If you’re totally unfamiliar with Coltrane’s A Love Supreme, or know it only by name, some introduction is in order. Coltrane’s career can perhaps best be viewed as a struggle against the limits of conventional jazz improvisation, and also ultimately against the limitations of conventional saxophone technique. Somewhat of an introvert and unquestionably a perfectionist, Coltrane reportedly went so far as to work his way through Nicholas Slonimsky’s massive Thesaurus of Scales and Melodic Patterns.

Talent, plus never-ending practice, allowed Coltrane to develop a revolutionary faculty for rapid improvisatory passage-work outside the bounds of traditional major or minor tonality. One critic coined the phrase “sheets of sound,” and it stuck.

A Love Supreme is a concept album. The concept is Coltrane’s gratitude to God for the spiritual reawakening that Coltrane credited for the cold-turkey end to his heroin addiction, his rededication to study and practice during his five years in an effort to cut storage costs.)

For the Deluxe Edition, the reissue producers were able to locate uncompressed and unequalized master-tape copies that had been sent to EMI for producing LPs in England. The Deluxe Edition includes a second CD that has a live performance in France of the entire suite, outtakes from the quartet session, and previously unreleased sextet tracks with Archie Shepp and Art Davis. The non-hybrid SACD is of the original album tracks only; I haven’t heard it (Verve 589596).

I highly recommend this book. However, if you find its completeness daunting and you just want to get your feet slightly wet, Coltrane’s family maintains a very classy website, www.johncoltrane.com. In addition to the biography and discography you would expect, there is no-cost streaming audio of 12 of Coltrane’s most beloved recordings, as well as some video footage of the A Love Supreme concert in France. Not to be missed. —John Marks

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One of the scariest things a music journalist can hear is no sound at all—the silence of an interview subject who has nothing to say, or music so bad you're left speechless. Or, as was recently the case in my life, the sound of an entire interview for which the recording device has malfunctioned. My brand-new digital recorder tanked and I lost the whole thing, right on deadline.
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Brian Damkroger - Stereophile Vol. 21 No. 5

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The groveling necessary to reschedule the interview only made matters worse.

To my great fortune, trumpeter Terence Blanchard is gracious and genial—not to mention well-spoken—and readily agreed to repeat our interview exercise. For the second chance, I switched back to cassette tape. Blanchard chuckled over my ranting—"That's why everybody believes in backup," he said—saying he'd faced the dilemma of analog tape vs digital computer drive during the making of his new album, Flow.

In recent years, thanks in large part to his work with director Spike Lee, Blanchard has developed a lucrative and growing side career as a film composer. He's scored a number of Lee films, including Jungle Fever, Malcom X, and Summer of Sam; several, including the soundtrack for Mo' Better Blues have been nominated for Grammy Awards.

Recording to hard drive instead of to tape and the use of electronic instruments are common practices in the world of film music, but Flow is the first time Blanchard has used the techniques for a nonsoundtrack record of his own music. "We had an interesting process. We had this thing called a "board, and as we were recording all of the tracks to protocols we had another guy who was set up with a G5 in the studio with us, and he got a stereo feed of the audio to that computer and we took all the MIDI information from the drums, piano, and the two horn controllers that Brice [Winston, Blanchard's tenor sax player] and I use, and we recorded that into a separate computer with all the SMPTE [Society of Motion Picture and Television Engineers] time codes, everything was locked, and I took all those Stereofiles—" (A moment of silence followed by both of us laughing and Blanchard saying, "You know what those are, don't you?") "But I took those files, along with the MIDI information, and created the synthi tracks."

If you care about jazz in its acoustic (read: real) form, just hearing or reading the words synth tracks can provoke an instinctive shudder, or convince you to turn away from a record without even listening. Yet on Flow, Blanchard has fashioned an amalgam of electronic and acoustic instruments that works in ways most similar projects can't reach or don't even try for.

"I was one of those guys who had a visceral reaction years ago [to electronic instruments] because I didn't have any practical knowledge. I used to play in pop bands in the '70s when I was growing up, but to actually touch those things and hear them and see exactly what they do—I didn't have that kind of knowledge until I started working in film. To be competitive with other composers in film, I'm always trying to expand my sonic palette. In the process I learned a great deal about what the characteristics are of a digital filter vs an analog filter, what does a sampler do, things like that. This is just the first time I've tried to bring their strengths to bear on a record."

Always a tasty soloist, and a vastly underrated player who's been unjustly shadowed by the wingspan of that other New Orleans trumpet player of his generation, Wynton Marsalis, Terence Blanchard has created music on Flow that's forward-looking fusion in the best sense of that word, yet that's still laced with enough traditional jazz feel and structure to be appealing to those who think Miles Davis' electric fusion/funk bands of the late 1960s and early '70s were sacrilege.

Part of why Flow's mixes of acoustic and electric, of straight-ahead jazz and fusion, work as well as they do is the sound, which is expansive but detailed. This is the province of engineer Don Murray, a veteran of the '70s soul explosion at Philadelphia's Sigma Studios ("The Philly Sound"), where he worked with Thom Bell, Kenny Gamble, and Leon Huff, and engineered records by the Spinners, the Stylistics, and the Delfonics. Murray has since worked mostly on jazz records, many for the GRP imprint, by such artists as guitarist Lee Ritenour, Diane Schuur, and label founder Dave Grusin. He first worked with Blanchard when he recorded the trumpeter's score for the 1997 film Eve's Bayou, in which, coincidentally, Branford Marsalis had a bit part.

Murray says that while small digital voice recorders like mine may be buggy, digital recording and the myriad effects now available to musicians have changed recording for the better. "I did not like digital. I worked with analog until three years ago. But since ProTools has come out with the HD system, it really has answered the question for me whether I should record analog or digital. It's a very powerful tool at this point."

Still, everything heard on Flow comes from playing live together in the studio. According to Murray, instead of editing tracks after recording them, Blanchard and his band decided to cut multiple takes of each tune and then pick the best. While the trumpeter added synthesizer effects and
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</table>
made other small tweaks after the fact, what you hear on Flow, despite layers of electronic instruments and effects, comes from the spontaneity of the musicians playing off each other in the studio and seeing what happens.

"The only anxiety I have when we do [whole] takes is how it's going to turn out, because it could go in any direction at any time. I've always said, with this band, it would be great to do an album of one tune but do seven takes of it."

Blanchard's band, one of the few working jazz ensembles with a consistent roster of players, is another part of his story these days. "My first orientation into music was all about working bands. I've always kind of felt like that's where it's at in this world. I know there are a lot of guys who believe in playing with different musicians all the time, and that's fine for those guys. But for me, I grew up listening to bands. I grew up listening to the records of bands. Duke Ellington's band, Monk's band, John Coltrane's band—and then, of course, the older I got, I went back and listened to Louis Armstrong and all those cats."

"The thing that is amazing is that if you listen to the records [of a band] in a certain order, you can hear the development of the groups. That's what I was really intrigued with as a kid, and that was always my dream—to have a working band of musicians who were always working at ideas, concepts."

After synth, another word that makes many music fans cringe is concepts—as in concept album, or a project with too damned many concepts for its own good. Flow is sure to elicit that kind of response from a certain segment of the jazz listening public. The title track, which alternates between being spacey and loose, and tight and funkily drum-driven, is split into three separate bits that appear as tracks 1, 6, and 10. By framing what's between them, these bits of "Flow" give the whole album the feel of a jazz suite. This was the idea of producer Herbie Hancock, who plays on two of the album's slow tracks, "Benny's Time" and "The Source."

For me, Herbie was a perfect fit," says Blanchard. "I didn't want somebody in there with a traditional approach to a) producing records and b) handling a jazz band. Herbie's an innovator; he's the type of guy who's always looking forward, never looking back. He's a great motivator in what he doesn't do. We were sitting there listening to him talk, and all of a sudden he goes, 'Hey man, well, who plays like you? What band plays like your band?' We had to sit down and think about it, because we never think of ourselves as being separate and apart. We're still very much musicians who are trying to learn how to get better, learn other things, and, like him, move forward."

One thing that's obvious from listening to Flow is that Blanchard's band contains some muscular talents. The leader says he's happy those talents can now shine, something he didn't feel was possible with his last label, Sony Classical. Since 2003, when he signed with Blue Note and released Bounce, things have changed for the better.

Perhaps the band's most pronounced talent is West African guitarist Lionel Loueke, a native of Benin. According to Murray and Blanchard, Loueke uses effects pedals to play many of the sound textures on Flow, his guitar is the album's most pronounced flavor, adding a bit of African rhythms and melody, and Loueke's "Wadagbe," which clocks in at 10:27, is almost a mini-suite in its own right; besides his guitar, the track features great stick work from Kendrick Scott, and inventive solos on soprano sax from tenor player Brice Winston, whom Blanchard refers to several times as one of "the most underrated guys in this business." While it's clear that they're a band who've spent time playing together and so have a certain cohesion and
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esprit de corps, it’s also audible that there are lots of ideas, um, flowing among the members.

“If everybody was going in the same direction, it would be kinda tough. One of the things when you listen to our records is that everyone is vastly different. You put that all into a musical context and it makes for interesting listening, because you’re not hearing similar approaches from solo to solo. That’s one of the things I’ve always loved about Miles Davis’ band with John Coltrane and Cannonball Adderley. You couldn’t have two more different styles than that.”

For Blanchard, who’s had a band ever since leaving his partnership with Donald Harrison in 1989, just after the release of their landmark duo record, Black Pearl, maintaining the kind of working band he wants to play in has meant becoming that band’s leader. In that endeavor he’s had the advantage of having a great model and mentor, thanks to the time he spent in the 1980s in the Jazz Messengers, led by the great Art Blakey. Replacing Wynton Marsalis, Blanchard served in an incarnation (one of many) of the Messengers that included altoist Donald Harrison, bassist Lonnie Plaxico, and pianist Mulgrew Miller. He fondly remembers Blakey’s photographic memory; once, in Japan, Blakey led the band in playing Fletcher Henderson charts that he remembered note for note.

“That thing that I learned from him is you have to let the artist be who they are going to be. You have to allow them to bring their personalities and strengths to your musical situation. When we stepped outside of the boundaries, he’d let us know. When I was playing ‘My Funny Valentine,’ trying to play like Miles Davis without playing the melody, he let me go for a little while and then he pulled me aside and he said, ‘You gotta stop doing that. The guy wrote the melody for a reason. Play it!’ ”

Speaking of writing melodies, Flow contains an almost anthem-like tune, “Over There,” by bassist Derrick Hodge. It starts out slow and quiet before rising into a sweeping, cinematic musical storm, the lightning supplied by Blanchard’s stabbing, skittering solos. Based on the idea that the grass is always greener somewhere else—over there—and that people should appreciate what they have, the tune comes from a band-member who, say both Blanchard and Murray, is a key to the band’s sound and success.

“I like to hear low end,” Murray says, “and Derrick just has an incredible sound on his acoustic bass. It’s very rich and he’s very easy to record. His electric bass sounds good too, and he has what’s called an octave divider—it’s a pedal he kicks in occasionally that gives you a lower octave—and that’s really effective on some of the songs on this album.”

While he goes out of his way in our interview to mention every bandmember and what he brings to the process—one mark of a canny bandleader—Blanchard singles out Hodge for special praise. “I always say Derrick Hodge was the final piece to a perfect puzzle. When he joined, the band started to have rhythm and a concept to it. The musical ideas began to flow effortlessly. We would play a solo or a tune, and Derrick would play a line, and everyone would go ‘Whoa!’ And then everything would shift.”

Flow’s wide-ranging sounds should win the trumpeter new fans among those who dig electronic music, while simultaneously offending those who prefer more straight-ahead acoustic post-bop jazz. The album seems to mark the full blossoming of Blanchard as the leader of a working jazz band—one that’s a democracy in which ideas from everyone are welcomed, and that, hopefully, will grow as fast as its members’ firing neurons can push it.

“For me, it’s more a fascination than trying to stay open-minded,” Blanchard says about leading a band whose ideas are expanding. “For me, it’s a fascination about what other people think about the chromatic scale. I’m always amazed at how guys can look at the same harmonic, rhythmic, and melodic possibilities that I do and come up with something completely different but also very interesting, very strong in its musical statement. I don’t want to just experience things from my point of view, because things can get very stale. There’s no growth in that.”
Wilson Audio Specialties
MAXX Series 2
LOUDSPEAKER

When Wilson Audio Specialties' Peter McGrath offered me a pair of MAXX Series 2 loudspeakers to review, I reminded him of just how small (15' by 21' by 8') my room is, and how close I sit to any speakers in it. "Not a problem!" he responded confidently. Yet the prospect of sitting only 10' from two looming, praying mantis-like towers almost as tall as I am gave me the willies. The way the Cyclops-like topmost midrange driver protrudes makes it seem as if it's staring at you. How could such an apparition get out of its own way?

McGrath had already set up the WATT/Puppy 7s in my room, and he knew the MAXX2s and I didn't. Who was I to argue? But a MAXX Series 2 bass box alone is larger than an entire WATT/Puppy 7. I just kept thinking about how, if my room's well-publicized bass-sucking abilities cut the rug out from under the MAXX2's prodigious bottom end, it would look worse for the accuracy of my observations than for Wilson Audio. And what good would such a mismatch do for Stereophile readers interested in knowing how these $45,000/pair speakers actually performed?

The MAXX Series 2s had sounded anemic and blah in the Lamm room at the 2005 Consumer Electronics Show, and they'd overwhelmed the VTL room, where they sounded congested. But in the Audio Research space—wow! If I could get that sound at home, Tcl have something. However, I'd been down that road before, with the Aerial 20T—a great speaker with plenty of bottom-end heft that packed an impressive wallop in a large Mirage Hotel suite, but that sounded neutered in my room when driven by the same Musical Fidelity electronics. But hey—if Wilson was willing to go through the considerable effort and expense of shipping me more than half a ton's worth of expensive speaker in three enormous crates, and if McGrath felt the speakers would work in my room, I was willing to give them a shot.

Provo
A few weeks before delivery, on a trip to Palm Springs to audition the latest Lexus—Mark Levinson car-audio system, I stopped in Provo, Utah, to visit Wilson Audio Specialties and see how they build speakers. Some speaker makers, such as Thiel and B&W (their more expensive products), build everything in-house. Others, like Audio Physic, outsource cabinets and drivers and do only the final assembly themselves, while some, such as Sonus Faber, outsource the drivers and build the cabinets in-house.

All of these manufacturing methods are valid. Nor, in my opinion, does it make a whit of difference that some companies use off-the-shelf drivers while others commission custom-built ones from such respected driver makers as Vifa/ScanSpeak, Focal, and other familiar names.
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Wilson Audio sources most of its drivers from Focal and ScanSpeak, using either modified stock drivers (e.g., the MAXX2’s two Focal carbon-fiber/paper composite woofers, one 10.5”, one 13”), “remanufactured” drivers (e.g., the MAXX2’s titanium inverted-dome Focal 1” tweeter, which has an additional magnet and a Wilson-made backwave enclosure), or OEM codeveloped proprietary drivers (e.g., the MAXX2’s 7” hybrid midrange units, made by ScanSpeak of paper pulp and synthetic carbon fiber).

Like Rockport Technologies and a few others, Wilson goes to heroic efforts to make its speaker cabinets as inert as possible. The value of inertness made itself known to me in my listening room a few years ago, five minutes into hearing the Rockport Antares.¹

On arriving at the factory, Dave Wilson sat me down and gave me a well-rehearsed dog-and-pony show of samples and resonance measurements of various enclosure materials, including MDF and Wilson’s own M and X materials. The Series 2’s mid/high module is made of M, a constrained-layer laminated material that’s hard on its outer surfaces, softer in the center, and has more uniform particle size throughout than MDF. The result is a material claimed to be both harder and more effectively damped than MDF. The material is difficult to work; all machining for Wilson speaker cabinets is done in-house.

Dave Wilson claims that X, a phenolic-based composite, is as hard as steel and is as inert a material as Dave Wilson has been able to obtain. X is used for the MAXX2 woofer cabinet’s top and bottom plates and is even more difficult to machine than M (which makes up the rest of the woofer enclosure). Only Wilson’s X2 Alexandria woofer enclosure is all-X.

Then we entered the factory, where

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**MEASUREMENTS**

A speaker as massive as the 5’ 3”-tall, 410-lb MAXX Series 2 presents problems when it comes to measuring its performance—maneuvering it as required is no trivial task. Ultimately, I decided that, rather than have the speaker shipped to my home for measurement, I would travel to the speaker. This would have the advantage of allowing me to perform some measurements in Michael Fremer’s listening room; the downside would be that not all tests would be practicable. Wilson Audio Specialties supplies an ingenious wheeled jack to allow the speaker to be moved; however, raising the speaker off the floor for the acoustic measurements was out of the question. This necessarily led to a lack of midrange resolution in some of the measurements.

My estimate of the Wilson’s voltage sensitivity was significantly higher than average, at 89.7dB(B)/2.83V/m, but not as high as the specified 92dB figure. The speaker’s impedance (fig.1) reveals it to be a demanding load for the partnering amplifier, with a value ranging from 4 to 6 ohms for most of the audioband and dropping to a minimum of 2.25 ohms at 240Hz. The combination of 3.8 ohms and a 33.4° capacitive phase angle at 162Hz, a frequency where music has considerable energy, will also demand an amplifier that can source a good amount of current, as MF found in his auditioning.

The traces in fig.1 are free from the wrinkles that result from resonant modes in the enclosure panels, and I couldn’t find any trace of such resonances in the walls of either the woofer bin or the head unit, proving the efficacy of Wilson’s use of M and X composite materials. The small blip in the traces just above 20kHz suggests that the tweeter’s dome resonance lies at a lower frequency than usual for a metal-diaphragm unit.

The saddle just above 20Hz in the impedance magnitude trace suggests that this is the tuning frequency of the woofer bin’s large, rear-facing port. Fig.2 shows that both the lower woofer (blue trace) and upper woofer (green) have minimum-motion notches at 25Hz in their responses, these due to the back pressure from the port resonance holding the cones still at this frequency. Both woofers roll off slowly above their nominal passband, though the midrange units increasingly dominate the speaker’s output above 200Hz. The port’s output (red) broadly peaks between 10Hz and 70Hz, implying excellent bass extension. I haven’t shown the output of the midrange enclosure’s port, as this was so down in level, it doesn’t contribute in any meaningful manner to the

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**Fig.1** Wilson Audio Specialties MAXX Series 2, electrical impedance (solid) and phase (dashed). (2 ohms/vertical div.)

**Fig.2** Wilson Audio Specialties MAXX Series 2, nearfield midrange units (black trace), 10.5” woofer (green), 13” woofer (blue), and lower port (red) responses.

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I saw the two enormous machines that slice and drill these materials to produce cabinet components. The time-consuming hand-sanding of individual parts comes next, followed by assembly using different, carefully chosen adhesives for the MAXX Series 2's different sections. That's followed by pre-paint prep. Finally, the various boxes and pieces go into the paint booth for multiple coats and a final clear coat. For this part of the process, Wilson has built what is essentially an automotive paint shop. The speakers are available in many different standard colors, with custom colors available as options. It takes weeks to finish building and painting a pair of MAXX2s, which is one reason they're back-ordered, as are the more expensive Alexandrias.

As we toured the factory, Wilson and his wife, Sheryl Lee, made sure I knew that their factory workers are provided with full healthcare coverage and matching 401K plans. When you buy a $45,000/pair loudspeaker that's made in America and built in-house, you're also paying for the non-Wal-Mart wages and benefits that Wilson feels is his obligation to his loyal team.

Until you actually see what goes into designing and building a finished, labor-intensive, meticulously built product such as the MAXX2, the WATT/Puppy 7, or any other complex loudspeaker design, it's difficult to understand just how time-consuming and expensive it is to produce. When you buy such a product, you're paying for the raw materials and labor time, of course. And while some cynics stop there when considering the final price of a high-performance audio product and find the difference between their estimation of the costs and the final price simply appalling, there's far more to consider—such as the crating and shipping. It costs more to ship the Series 2's three crates, which weigh a total of 1100 lbs, than many budget loudspeakers cost to buy.

You're also paying for a portion of

**measurements, continued**

MAXX2's low-frequency output. (I suspect it is there more to maximize the midrange units' power handling.) Though the nearfield measurement technique used to generate the traces in this graph will exaggerate the apparent upper-bass output of the sound sources by 3dB or so, the fact that there are two woofers, each of which on its own looks as if it would provide sufficient output to match the midrange units, implies that the MAXX Series 2's low frequencies will be generously balanced.

That this is the case is revealed by fig.3, which shows the complex sum of the nearfield responses in fig.2 below 300Hz. The midbass peaks up by 7dB, only half of which will be due to the measurement technique.

Above 300Hz, fig.3 shows the Wilson's farfield response on an axis 36° from the floor, which is Michael's ear height. The overall trend in this graph is a mild sloping-down of the speaker's output from the midbass to the top octave, broken by a peak just below the transition region between the upper midrange and the low treble. The tweeter's diaphragm resonance also gives rise to a peak above 15kHz that might be just audible to young listeners.

The speaker's bulk made it impractical to get a serious look at its lateral off-axis behavior in detail. However, its on-axis output appears to be maintained without significant changes out to 15° to the side. In the vertical plane (fig.4), the mid-treble region shelves up a little above the lower-midrange axis, while the height of the upper-midrange peak decreases slightly at low microphone positions.

Fig.5 was produced by measuring the ⅛-octave power spectrum for each speaker individually in Mrs listening phone positions. Averaging these spectra gives a curve that I have found correlates quite well with a speaker's perceived tonal balance. The MAXX Series 2's powerfully extended low frequencies make their presence known in this graph, as does the excess of upper-midrange energy. I could hear the latter as a touch of nasality on pink noise, but it proved surprisingly less noticeable on music, though I'm sure it contributed to the Wilson's fine presentation of recorded detail. Other than those characteristics, the MAXX2's in-room balance is relatively smooth.

In the time domain, the Wilson's step response on the lower-midrange axis (fig.6) suggests that, despite its complicated geometry, the Series 2 is not a time-coincident...
what it costs to run a factory, and to pay workers a decent wage and bennies. And, of course, there are the profit margins at wholesale and retail. True, a pair of MAXX2s cost more than some very good cars, but they’re not built on an assembly line, and not sold in numbers that allow for economies of scale. If you don’t like this capitalist system, build your own pair using “off-the-shelf” drivers. Good luck to ya!

Up front and personal

An update of the original MAXX, introduced in 1998, the MAXX Series 2 features subtle exterior refinements that give it a somewhat more graceful look, as well as many mechanical and electrical changes more difficult to see. The most obvious of the latter is a very small port in the upper unit, which had been a sealed box in the MAXX. New grille-cloth material and a more sophisticated means of attachment help give the MAXX Series 2 a more self-contained, less cluttered appearance. Changes have been made to the drivers (the tweeter is based on Focal’s latest) and crossover network as well. There is an update program for owners of the original MAXX.2

Each MAXX2 consists of two sections. The rear-port bass unit, 3’ tall and almost 2’ deep, contains modified 13” and 10.5” Focal paper-cone woofers said to be fitted with enormous magnet assemblies and rugged, heavy-duty voice-coils. The complex, multi-angled, mid-/high-frequency head unit weighs about 75 lbs and has two ported, proprietary ScanSpeak 7” midrange drivers made of a hybrid of pulp and carbon fiber, and a 1” modified Focal titanium inverted-dome tweeter. These drivers are in a modified D’Appolito configuration, with the top midrange driver about 2” forward of the lower one and angled slightly down for greater focus. In the woofer cabinet is a potted cross-

design. The tweeter appears from this graph to be connected in positive acoustic polarity, the midrange units in inverted polarity, and the woofers in positive polarity (this confirmed by the units’ individual step responses, not shown). The MAXX2 is time-coherent, however; each unit’s step smoothly handing over to that of the next lower in frequency.

The tail of the step in fig.6 can be seen to be overlaid with some ringing, this having a period less than 1ms. The MAXX2s cumulative spectral-decay plot, taken on the lower-midrange axis (fig.7), indicates that this ringing is associated with a broad ridge of delayed energy at 1.8kHz, the center of the elevated region seen in fig.3. Much of the other treble hash seen in this graph is due, I believe, to interference effects on this axis, but the 1.8kHz peak appears to be real, resulting perhaps from the behavior of the relatively large midrange cones. But note the very clean decay of the tweeter in its top two octaves, correlating with the speaker’s absence of HF grain.

Some of the benefits of David Wilson’s design philosophy, such as the MAXX Series 2’s undoubtedly low distortion and its high maximum loudness capability, go unremarked in my suite of measurements. However, the speaker’s impressively extended and powerful low frequencies were evident, as was its relatively smooth in-room response—with the exception of the elevated upper midrange, which concerned me. But I must say that, measured performance aside, I was very impressed by what I heard in Mikey’s listening room. —John Atkinson

Fig.5 Wilson Audio Specialties MAXX Series 2, ¼-octave, spatially averaged response in MF’s listening room.

Fig.6 Wilson Audio Specialties MAXX Series 2, step response on lower-midrange axis at 50” (5ms time window, 30kHz bandwidth).

Fig.7 Wilson Audio Specialties MAXX Series 2, cumulative spectral-decay plot at 50” (0.15ms risetime).
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over network, with separate sets of cables for the midrange drivers and tweeter routed through top openings and attached to the upper unit’s terminal block, which is fitted with double sets of hefty Wilson binding posts. The angle at which the mid/high unit fires at the listening position is adjustable via a massive, sliding, 30-position stepped block of brass bolted to the top of the bass cabinet. Measure the distances of your ear (at your listening position) from the mid/high unit and from the ground, and consult the chart in the instruction manual to determine the exact angle and the ideal length of spike needed to achieve the proper rake. Once the mid/high unit is properly angled between the two “wings” attached to the top of the woofer box, you complete the alignment by installing three sets of nylon spacer screws through the wings unit until they make contact with the mid/high unit’s side-walls. The separate upper cabinet’s spiked interface offers a degree of decoupling through the wings unit until they make contact with the mid/high unit’s side-walls. The separate upper cabinet’s spiked interface offers a degree of decoupling from the larger.

All this done, you’re looking at an imposing, 5’ 3”-tall tower with multiple drivers and a complex radiating pattern that would seem difficult, if not impossible, to integrate into a seamless sonic picture—especially from only 8’ away. Having woofers of different size firing in the same cabinet is an unusual design; it can create at the port backwaves that are difficult to predict and control. Fortunately, Wilson had help with the design from staff engineer Vern Credile, who has master’s degrees in air turbulence and acoustical engineering, as well as a degree in electrical engineering. Both woofers are run down to their lowest frequency response. The combination is said to offer greater speed from the smaller driver and deeper extension from the larger.

The rear port, machined from solid aluminum, is huge: a foot long and 5” in diameter. Between it, the two massive bass drivers, and the large box, which is well-damped and -braced, the MAXX Series 2’s low-end response is said to extend down to 20Hz. The crossover points are not specified, but subtle changes in the speaker’s overall tonal balance can be achieved by swapping out resistors placed behind an aluminum panel on the rear of the upper enclosure. Wilson provides an assortment of resistors for this purpose, but they didn’t prove necessary in my well-treated, essentially neutral room. The toughest part of the setup (dealer installation is included in the price) is fitting the bulky, 75-lb upper unit between the wings on top of the woofer cabinet. The process takes good aim and two pairs of strong, steady hands. One slip and you’re looking at an ugly expanse of chipped paint. (Your dealer will be very careful) Positioning the speakers is made easy by large casters. You just roll them around until you’re satisfied, then jack up each speaker and install spikes. Wilson Audio supplies the snazziest floor jack you’ve ever seen. I had a friend help me assemble the speakers, but left their final positioning to Peter McGrath. Even still on wheels and not on their final marks (though the locations I’d chosen were pretty close to McGrath’s), the Series 2s delivered all I could possibly have hoped for. And much more.

**Cursing, laughing**

Having heard the MAXX Series 2s in many different venues, every one of them larger than my room, I knew what they were capable of achieving. I just didn’t expect to get the full effect in my room. Boy, was I surprised. My usual assortment of listening pals, ranging from casual audiophiles to name-brand mastering engineers, all reacted similarly on hearing the MAXX2s reproduce whatever recording they played first: laughing and cursing, cursing and laughing, expletives not deleted.

First of all, the MAXX Series 2 delivered its full rated low-frequency performance in my room without apology. A 20Hz test tone shook the rafters and rattled the windows—and anything else that wasn’t screwed down or heavy enough to resist. But forget about test tones. The MAXX delivered the deepest, tightest, most pitch-precise bass I’ve ever heard in my room—fast, tight, and nonmechanical, with unlimited dynamic expression and never a hint of overloading the room. No excuses, no caveats, no disappointments. Finally, here was the right-fisted, stomach-crunching bottom-end performance promised by many others but delivered in my room (and elsewhere, as I’d heard for myself) only by the Series 2.

More impressive was the complete lack of excessive midbass overhang or sloppiness. There was deep, believable extension, not heard as “bass” but as the natural extension of the range of the instrument producing it. The difference between what the MAXX2s and every other speaker I’ve auditioned here could produce on the bottom could be heard upstairs, where, instead of complaining about how the whole house was shaking and to please turn it down (way down), my wife claimed to have noticed hardly anything. Meanwhile, downstairs in the listening room, I was being pleasantly assaulted in the most positive of ways. How ideal is that?

I listen to a lot of rock music. In terms of its low-frequency extension, speed, suppleness, freedom from obvious coloration, and ability to play just plain LOUD, the MAXX Series 2 was easily the best rock speaker I’ve ever heard. Nothing in my experience comes close. Drum kit in the room? No problem for the MAXX2s. They created a most convincing drum kit, from the kick to the smallest cymbals, in terms of extension, timbre, texture, dynamics, and spatial perspective. A rock-loving major-label exec who paid a visit to hear the Wilsons concurred.

I heard the same stupendous low-frequency performance in the Audio Research room at CES and at the home of Wilson Audio marketing director John Giolas, but both were much larger rooms than mine. For whatever reasons, the MAXX Series 2 could express its full bottom-octave performance in rooms large or small.

But my friends—audiophile, professional, and novice alike—were reacting to far more than the Series 2’s effortless low-frequency performance, or its ability to play loud, louder, and nauseatingly loudest while maintaining full dynamic expression and composure. There was something almost bizarre about sitting fewer than 8’ from these imposing towers and hearing them produce an absolutely seamless, perfectly integrated picture that allowed them to “disappear” without a trace. That’s what the MAXX2s did every time—even before Peter McGrath had...
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optimized their setup. In this, they performed very similarly to the Rockport Antares.

What was left in the wake of the MAXX2s' grand disappearing act was a sonic picture of vast height, width, and depth. Any fear I'd had that the speaker's relatively high tweeter height would result in a soundstage raised "off the floor," with images floating up near the ceiling—a problem I'd noted with the tall Audio Physic Kronos—was quickly dispelled. Instead, with just a few exceptions—all multimiked rock recordings—images formed that were grounded, properly proportioned, and appropriately tall. Aiding the illusion was that these images appeared literally launched from the cabinets, out of a "blackness" I'd experienced only with the Rockport Antares.

Because of its full low-frequency expression and perhaps other aspects of its design, the MAXX Series 2 was able to express the full size of a concert hall as no other speaker has in my room. The only other speaker I've heard that could reproduce the volume, height, and width of a large space was the Infinity IRS system I heard at Harry Pearson's many years ago.

I listened to Earl Wild and Arthur Fiedler's classic Living Stereo release of Gershwin's Rhapsody in Blue and An American in Paris (LP, RCA LSC-2367), brilliantly produced and engineered by Richard Mohr and Lewis Layton. Though I've played this record throughout the course of my reviewing career and for years before that, for the first time I heard and saw a picture that made the walls and ceilings of my room float away, leaving before me the convincingly illusion of Boston Symphony Hall's shoebox shape—and not as a miniature, but as a huge space. Timpani thwacks—which all by themselves were thrillingly reproduced by the MAXX2s—seemed to travel far greater distances before reverberating off the hall walls. The height of the hall had never been so convincingly expressed.

More important, the size of Wild's piano remained proportional, the image focus believable. The texture and harmonics of the instrument were as good as I've heard them from this record, but Wild's pedal work was delineated with a precision and ease I'd not before experienced.

Yet small ensembles or solo performers recorded in intimate studio settings never sounded bloated or oversized. Mono recordings, such as the Laurindo Almeida's outstanding Capitol series (eg, Duets with the Spanish Guitar, Capitol P8406, LP), were reproduced compactly and solidly between the speakers. In both mono and stereo, between-speaker images and soundstage solidity were as palpable and believable as I've heard from any speaker, including the Sonus Faber Stradivari, that I reviewed last January, which excels in that regard. Whatever I've heard the MAXX2s, it's been evident that they had an uncanny ability to "disappear," to leave between and beyond the speakers themselves a fully enveloped, solid, three-dimensional soundfield—but this was never more evident than in my own room. More than any other, that quality of this speaker is what immediately captivated the experienced and novice listeners who visited my room to hear them. "It's so there," many exclaimed, moving their fingers back and forth between the speakers and pointing at the there there.

After I'd blasted him with high SPLs, my friend the mastering engineer insisted on hearing the Wilsons played very quietly. He was just as impressed by their ability to remain open, supple, and expressive—even in the bass—at very low levels.

I found the MAXX Series 2's overall timbral balance to be nearly ideal in my well-treated but not entirely dead room—though if I had to pick a nit, I'd say the speaker was slightly warm. Not because there was too much bass or midbass—from the mids down, the MAXX2 was as perfectly balanced a loudspeaker as I've heard in this space—but because the top octaves were not quite as airy and well resolved as I've heard from other speakers: the Mätten Design Coltrane, which uses a Thiel and Partner (Accuton in the US) inverted-dome diamond tweeter; and the Aerial 20T, which uses a modified Raven Ribbon.

What price this extra resolution and air? Both of those great speakers can often sound bright and "hyperdetailed" because, unfortunately, too many "real-world" recordings are too bright to begin with, and getting those fast, detailed, articulate tweeters to blend with the rest of the spectrum is extremely difficult to do. And, of course, musical and sonic tastes vary.

THERE WAS NO HINT OF THE BRIGHT "METALLIC" COLORATION SOME LISTENERS FOUND OBJECTIONABLE WITH EARLY AND UNMODIFIED VERSIONS OF THIS FOCAL TWEETER.

The MAXX2's balance and the choice of the modified Focal inverted-dome titanium tweeter is a "real-world" solution that worked for the vast majority of recordings I own and cherish. There was no hint of the bright "metallic" coloration some listeners found objectionable with early and unmodified versions of this tweeter, nor could the balance be described as "soft" or "closed-in." Compared to what I hear at concerts, I found both massed and solo string tone to be as close to ideal as I've heard in my room. Only the Verity Audio Sarastro, which has a Raven tweeter, was as restrained, yet also as
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OnHiFi.com - Wes Phillips
April '04

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detailed and as well balanced on top. Unfortunately, the Sarastro exhibits a host of other problems—at least in my room—that the Series 2 didn’t. My biggest problem with having the Wilsons around was sleep deprivation. I pulled more 3am bedtimes than I have since college.

Comparisons

Wilson Audio Specialties’ MAXX Series 2 is the largest and the second most expensive loudspeaker I’ve ever reviewed, or accommodated in my room. I’ve heard it perform magnificently in large venues, and can now say without question that it can perform equally well in a room of relatively modest size, unlikely as that might seem when you see it in person. The pair of them did not overwhelm my listening room either physically or sonically, and, for the first time, for whatever reason or reasons, my room produced the deepest, tightest, most natural bass response I’ve ever heard here—or anywhere, for that matter.

But bass isn’t everything. With its grilles off, the MAXX2 provided a level of total, seamless musical satisfaction that only a few speakers have in my listening space, including the Rockport Antares and the Sonus Faber Stradivari. The Verity Audio Sarastro offers a unique experience that’s absolutely enthralling in some ways but problematic in others—at least in my room, and especially in the bass—and better suited to acoustic music. The Mürtten Design Coltrane reveals absolutely enthralling in some ways but problematic in others—at least in my room, and especially in the bass—and better suited to acoustic music. The Märtten Design Coltrane reveals

WITH THE MAXX2 WILSON AUDIO SPECIALTIES HAS HIT ONE OUT OF THE PARK.

Conclusions

Peter McGrath’s hunch that the unlikely pairing of this large speaker and my smallish room would work proved correct—beyond, I think, either of our expectations. The MAXX Series 2 produced a fundamentally correct sonic picture on a grand yet intimate scale, with unlimited dynamics, and bass extension and resolve that would be difficult to improve on in any room. If the ultimate in transparency has been sacrificed in the interests of overall coherence and the limitations of real-world software, it was well worth it—and if your room is less well treated than mine, you may have more mid and top-end extension than you need, in which case your dealer can vary the MAXX2’s resistors as needed.

All of my reference recordings, which range from plain old commercial LPs such as Neil Young’s Everybody Knows This Is Nowhere (Reprise RS6349) to David Chesky’s recent Area 31 (SACD, Chesky SACD288), which is among the finest recordings I have ever heard, sounded as vital and alive as I’ve ever heard them, only with the bottom end even more fully revealed. In my space, the Wilson MAXX2 was easily the best overall loudspeaker I have ever heard, though others may have benefited in specific performance parameters.

Slightly more than twice as expensive as the WATT/Puppy 7, the review pair of which I ended up buying, Wilson Audio’s MAXX Series 2 is easily worth the difference, and more. If you’ve got the money—and even if you don’t think your space can accommodate a pair of them—don’t hesitate. But first, go listen for yourself. I have every confidence you’ll agree that, even if it’s not the speaker for you, with the MAXX2 Wilson Audio Specialties has hit one out of the park.

ASSOCIATED EQUIPMENT


DIGITAL SOURCE Musical Fidelity Tri-Vista SACD/CD player, Alesis MasterLink CD-R recorder.

PREAMPLIFICATION Manley Steelhead, Aesthetix Rhea, Musical Fidelity kW phono preamplifiers; Musical Fidelity kWp, Aesthetix Calypso preamplifiers.

POWER AMPLIFIERS Musical Fidelity kW, Audio Valve Baldour.


AC: Shunyata Research, JPS.

ACCESSORIES Sounds of Silence Vibraplane active, Era Audio Harmonizer of Space isolation platforms; Shun Mook Audio LP Record Clamp, Locus DampClamp, Hagerman Audio UFO clamp/strobe; Loricraft, VPI HW-17F record-cleaning machines; Audiodharma Cable Cooker; Finite Elemente Pagode equipment stands; Walker Audio Precision Isolated Power Motor Drive; Shunyata Research Hydra 2 & Hydra 8 power conditioners, APC S15 conditioner with battery backup; ASC Tube Traps, RPG BAD & ABussor panels.

—Michael Fremer
## Phono Preamps

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROJECT Tube Box</td>
<td>Simple to use with either Moving Magnet or Moving Coil cartridges. A very flexible, all-tube design.</td>
<td>$549</td>
</tr>
<tr>
<td>PROJECT Phono Box SE</td>
<td>Same function as Project Phono Box but with premium component parts.</td>
<td>$299, $119</td>
</tr>
<tr>
<td>ACOUSTECH PH-1P Phono Stage</td>
<td>The PH-1P has received a coveted “Class-A” rating in Stereophile’s Recommend Components, plus most of the “Class-A” competition costs several times the AcousTech’s asking price.</td>
<td>$1,500</td>
</tr>
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## Cartridges

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<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
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<tbody>
<tr>
<td>CLEARAUDIO Classic</td>
<td>Full of life and dynamics.</td>
<td>$200</td>
</tr>
<tr>
<td>BENZ Ace</td>
<td>Advanced Cartridge Engineering. Cost/performance breakthrough.</td>
<td>$550</td>
</tr>
<tr>
<td>KOETSU Black</td>
<td>Full line of Koetsu’s available starting at $1,500. Now in stock.</td>
<td>$1,500</td>
</tr>
<tr>
<td>GRADO Gold</td>
<td>Absolute Sound recommended. Other Grado cartridges starting at $40.</td>
<td>$180</td>
</tr>
<tr>
<td>LYRA Argo</td>
<td>World-class performance at an affordable price.</td>
<td>$1,195</td>
</tr>
<tr>
<td>LYRA Helikon</td>
<td>Rated Stereophile Class A.</td>
<td>$1,995</td>
</tr>
<tr>
<td>LYRA Titan</td>
<td>The new flagship model. In stock.</td>
<td>$4,500</td>
</tr>
<tr>
<td>SUMIKO Blackbird</td>
<td>Blackbird is designed for exceedingly-low noise levels and wide dynamic range. In stock.</td>
<td>$749</td>
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## Turntables

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROJECT RM-6SB Turntable</td>
<td>The belt-drive RM-6SB, provides the analog audiophile a well-built aesthetically pleasing and fully featured turntable at a most affordable price. With speed box. In stock.</td>
<td>$899</td>
</tr>
<tr>
<td>MUSIC HALL MMF-5</td>
<td>Comes mounted with a high-quality Goldring G1012 Moving Magnet cartridge (a $175 value). In stock.</td>
<td>$566</td>
</tr>
<tr>
<td>Thorens TD 190</td>
<td>Includes fully automatic switch-off and lift. Comes with an Ortofon OM10 cartridge.</td>
<td>$599</td>
</tr>
<tr>
<td>VPI TNT HR-X</td>
<td>Flagship reference turntable.</td>
<td>$10,000</td>
</tr>
<tr>
<td>VPI Scout</td>
<td>Packaged with a unipivot JMW-9 tonearm, the Scout is an outstanding rig at a very reasonable price. (with tonearm)</td>
<td>$1,650</td>
</tr>
<tr>
<td>VPI Scoutmaster</td>
<td>The Scoutmaster combines key features from several of VPI’s most successful tables. (with JMW-9 tonearm)</td>
<td>$2,500</td>
</tr>
</tbody>
</table>

## Additional Information

- **SUTHERLAND Ph.D. Phono Stage**: Hear the music, not the noise with the battery-powered Sutherland Ph.D. (Call Clark or Stelly at 1-800-756-3553 about trade-ins)
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  - $2,500

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- S MINI-P2 $789 Mini-Pro2 Oak cabinet

**NITTY GRITTY Model 2.5**
- S NG 1.5FI $499 Back vinyl wood-grain cabinet
- S NG 2.5FI $559 Oak cabinet

**Playing Cleaners**

**CLEARAUDIO**
Matrix Record Cleaner
**Cardas Caps**
Cardas Caps fit over unused RCA jacks keeping RFI distortion out. Pack of 12.
- S CCAPS $35.99
**CARDAS Male/Female XLR Cap Cover**
- S CCAPS XLR MALE pkg of 2 $29
- S CCAPS XLR FEMAL pkg of 2 $29

**Vibrapod Isolators**
Vibrapods are used to isolate your components from outside vibration similar to high-end air platform devices.
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- (supports 4-8 LBS) S VP2 $6
- (supports 8-12 LBS) S VP3 $6
- (supports 14-18 LBS) S VP4 $6
- (supports 22-28 LBS) S VP5 $6

**The Vibrapod Cone**
Can be used independently or in conjunction with Vibrapod Isolators.
- S VPCONE $8

**Bright Star Audio IsoNode**
Adhesive backing is included. Set of four.
- S ISONODE LG $19.99 (LG HOLDS 42 LBS)
- S ISONODE SM $12.50 (SM HOLDS 30 LBS)

**KAB Speed Strobe Turntable Speed Tester**
- S KAB STROBE $89.95

**RGPC 400 PRO**
The RGPC 400 MK II comes in a rectangular shaped commercial metal box designed to be placed next to the components needing line enhancement. It features four Hubbell AC outlets, has 12-gauge internal wiring, a surge protection system, a six-foot 14-gauge power cord and has an internal 15 amp IEC Connector and 15 amp slo-blow fuse. In stock.
- S RG 400 PRO $779

**Headphones & Amps**

**NEW AKG Acoustics HEARO 999**
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The transmitter uses AKG's IVA technology to achieve a natural, 3-D listening experience and you can choose between surround and stereo modes. It is also fitted with a Dolby Digital decoder.
- S HEARO999 $999

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- S K501 $179

**NEW AKG Acoustics K240 Headphones**
The Studio version of these classic hi-fi stereo headphones uses XXL speakers with Varimotion diaphragms for higher sensitivity and a wider dynamic range.
- S K240STUDIO $99

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Offering all the same striking good looks and benefits of the larger RGPC 1200S at a more attractive price, the RGPC 600S is perfect for the more budget-conscious audio/video enthusiast with a smaller system. In stock.
- S RG 600 (Black) $1,295
- S RG 600S (Silver) $1,295

**Power Sources**

**RGPC 600S**

**Cardas Caps**

**Clearaudio Matrix Record Cleaner**

**Vibrapod Isolators**

**The Vibrapod Cone**

**Bright Star Audio IsoNode**

**KAB Speed Strobe Turntable Speed Tester**

**RGPC 400 PRO**

**In Stock!**

**NEW AKG Acoustics K501 Headphones**

**NEW AKG Acoustics K240 Headphones**

**Power Sources**

**RGPC 600S**

**Cardas Caps**

**Clearaudio Matrix Record Cleaner**

**Vibrapod Isolators**

**The Vibrapod Cone**

**Bright Star Audio IsoNode**

**KAB Speed Strobe Turntable Speed Tester**

**RGPC 400 PRO**

**In Stock!**

**NEW AKG Acoustics K501 Headphones**

**NEW AKG Acoustics K240 Headphones**

**Power Sources**

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**PROLOGUE ONE** $1095

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**PROLOGUE TWO** $1345

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**PROLOGUE FOUR** $1045

35 wpc Power Amp

**PROLOGUE FIVE** $1295

40 wpc Power Amp

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**Lustily, heartily, and enthusiastically ... recommended.** — Art Dudley

**February 2005**

**How does it sound?**

**Bitchin', that's how it sounds.**

— Jeff Dorgay

**December 2004**

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it occurred to me recently that, after nearly a decade of specializing in reviewing affordable speakers, and with the exceptions of two entry-level Mission models, I’d never taken a look at recent designs from the large mainstream British speaker manufacturers. So with this review I embark on a Bob Reina “British Invasion” tour to seek out the most innovative and value-conscious designs from companies that have been household names in British stereo shops for decades.

Who better to start with than Bowers and Wilkins? Although I’ve been impressed at many a hi-fi show with the realism, tunefulness, and musicality of every B&W speaker I’ve heard—especially the more expensive and staggeringly sexy Nautilus designs—until now, a B&W speaker had never entered my home. B&W has a wide range of designs in their current kit bag, from the entry-level DM303 ($300/pair) to the flagship Nautilus ($40,000/pair). I focused on the affordable 600 series, which comprises six two-channel designs ranging from $350 to $1400/pair. All of the 600-series speakers feature aluminum-dome tweeters derived from the original Nautilus design, with tapered-tube loading behind the tweeter diaphragm that’s designed to soak up the backwave energy from the tweeter to reduce distortion. The midrange and bass/midrange drivers have cones of woven Kevlar with improved mechanical matching between voice-coil and
some things work better together

Audiophile Voice

Reviewed by Nelson Brill

March, 2004

"I would highly recommend these PNF Audio cables as a wonderful synergic companion to a sweet and reasonably priced hi-end listening system."

Chris Martens

"...I was flat out stunned when I discovered how shockingly good these cables actually are."

"When details and textures get this good, you just can't help but be drawn deep inside the music—which is the whole point, isn't it?"

PNF AUDIO

Icon shown with optional jacket
cone. The bass-only drivers have rigid aluminum cones. After several discussions with B&W and their US import division to determine which 600 model would be of most interest to Stereophile readers, I chose the DM603 S3, which retails for $1000/pair.

The DM603 S3 is a so-called “2 1/2-way,” reflex-loaded floorstander sporting the aforementioned 1" aluminum-dome tweeter, 6 1/2" Kevlar bass/midrange driver, and 6 1/2" aluminum woofer. The speaker is drop-dead gorgeous in its Sorrento finish of simulated light oak, with or without its grille in place (a traditional Black Ash finish is also available). The DM603 S3 is also elegant and unimposing, with a footprint of only 8" by 11". Although the B&W is not magnetically shielded, I gave my review pair considerable home-theater duty over the two months I listened to them, and not once did I notice that they created any problems with my video display, even when placed as close as 3’ from the screen. I slightly preferred their sound with their grilles off—there was a bit more detail—but the difference was very subtle.

Sound
This is not one of those “sonic checklist” reviews—it would be a bore to

MEASUREMENTS
The handsome B&W DM603 S3 has higher-than-average voltage sensitivity, at an estimated 89dB(B)/2.83V/m. Though this is slightly lower than the specified 90dB, the difference is not that significant, given the usual experimental error. The speaker’s impedance plot (fig.1), however, indicates that it is a moderately difficult load, at least at very high frequencies, where the magnitude drops to 3.1 ohms at 15kHz. Fortunately, music has very little energy in this region, and at low frequencies the speaker remains above 4 ohms.

There is a very slight discontinuity in the impedance traces at 440Hz, and I did find a moderately high resonant mode in the cabinet sidewalls at this frequency. This frequency is also high enough that it might not degrade sound quality. However, I did find a high-level vibrational mode on the rear panel (fig.2), at 160Hz, a frequency where some lower-midrange congestion might be the result. Though this panel faces away from the listener, minimizing the possible audibility of the mode, I would have preferred not to have found it at all. I did wonder if it was associated with the touch of color BJR noted on Joni Mitchell’s voice.

With its twin ports, a woofer, and a midrange unit, the DM603’s low-frequency behavior is complex. On the left-hand side of fig.3 are shown the nearfield responses of the midrange unit (black trace), the woofer (red), the upper, rear-facing port (blue), and the lower port on the front baffle (green). All four radiators operate in the bass, with both the woofer and the midrange unit showing the expected notch at their port tuning frequencies. The midrange unit is tuned fractionally higher in frequency than the woofer—41Hz re: 38Hz—with the latter acting less as a full-range unit than as a fill-in driver to flesh out the speaker’s upper-bass output.
merely describe the sonic attributes of the B&W DM603 S3. Sure, it exhibited no notable deviation from neutrality across its coherently present frequency spectrum, and it excelled at transient articulation, wide and linear dynamic contrasts, and exemplary detail resolution and soundstaging. But I'd rather talk about music.

With the DM603 S3, I just wanted to play jazz, jazz, and more jazz. On Dizzy Gillespie's *The Ebullient Mr. Gillespie* (LP, Verve MGV 8326), my notes on Diz's trumpet sound read "bite, bloom, and air." The speaker's sophisticated transient articulation and detail resolution, combined with tonal purity from the lower midrange to the highs, portrayed a more natural rendition of a recorded jazz piano than I'd heard before. Ditto for percussion. On Herbie Hancock's *Maiden Voyage* (LP, Blue Note BVP 4195), I was riveted by Tony Williams' stunning and vibrant toms and ride cymbal during "Survival of the Fittest."

I continue to become more and more hooked on all the musicians' performances on "I'm an Old Cowhand," from Sonny Rollins' *Way Out West* (CD, JVC VICJ 60888). When I listened to Rollins' rich, breathy tenor sax through the B&Ws, I could almost see his spit. Moreover, despite the number of times I've listened to Shelly Manne's drum solo on that tune, with the DM603 S3s I felt the drummer in the room with me more than I have with any other speakers.

Classical music also shone through the B&Ws. The solo performances by virtuoso accordionist Guy Klucevsek on *The Heart of the Andes* (CD, Winter & Winter 910074-2) revealed subtle low-level articulations from his Giulietti Free Bass accordion (two chromatic keyboards, each just like a piano), demonstrating why this instrument is the most dynamic of wind instruments. The air and extended partials of the

Higher in frequency, the midrange unit crosses over to the tweeter just below 4kHz, as specified, though its low-pass rollout is marred by a very narrow suckout at 4080Hz. The tweeter's ultrasonic dome resonance lies close to 30kHz, well away from the audioband. Below 300Hz, fig.4 shows how these individual responses sum in the farfield, weighted according to their radiating diameters and taking into account acoustic phase and the relative distance of each radiator from the nominal farfield microphone position. Above 300Hz, this graph shows the true farfield response, averaged across a 30° horizontal window centered on the tweeter axis. Both the bass region and the upper midrange and treble are impressively flat, though the former is shelved up by 3dB or so. Below 150Hz this will be partly due to the nearfield measurement technique; as BJR found in his auditioning, however, this B&W speaker offers excellent bass extension.

The B&W DM603 offers superbly well-controlled horizontal dispersion, as revealed by fig.5. Even with its high crossover frequency to the tweeter, there is very little sign of the usual flare at the bottom of the tweeter passband except at extreme off-axis angles, and the contour lines are impressively evenly spaced, something that correlates both with a neutral perceived in-room balance and stable stereo imaging. In the vertical plane (fig.6), the B&W's balance doesn't change significantly as long as the listener's ears remain within ±5° of the tweeter axis. Much above or below that region and a suckout develops in the upper crossover region that will make the speaker sound a little hollow.

In the time domain, the DM603 S3's step response on the tweeter axis (fig.7) indicates that all three drive-units are connected with positive acoustic polarity, with the tweeter's output slightly leading that of the midrange unit and woofer. However, the return to the time axis of the tweeter's overshoot coincides exactly with the positive-going rise away from the time axis of the midrange/woofer step, correlating with the excellent frequency-domain integration seen between the units in fig.4.
upper register did not deviate from perfection. Listening to Tomiko Kohjiba's Transmigration of the Soul, from Festival (CD, Stereophile STPH007-2), I was fixated on the realism of the cello and the reproduction of the clarinet's lower register. This speaker's transparent window on the lower midrange was perhaps its greatest strength.

On George Crumb's Quest (CD, Bridge 9069), the shimmering, extended upper registers of the percussion instruments, particularly the bells, were uncanny in their realism. From my notes: "layers and layers and layers of detail" and "I've heard guitar passages I never noticed before" and "how many times can I use the word wonderful in this review?" and "don't these speakers do anything wrong?"

Well, that's the point—they didn't do anything wrong. During my listening sessions I could detect no single flaw, but by the time I'd finished I'd concluded that what I enjoyed most about the DM603 S3 was its realistic transient articulation, wide and linear dynamic envelope, and pristine high-frequency extension.

What I haven't yet mentioned is loud, bombastic music with deep bass. Not to worry. My notes on listening to Antal Dorati and the London Symphony's performance of Stravinsky's The Firebird (CD, Mercury Living Presence SR90226) are filled with exclamation points: "The hall sound!! The depth!! The drama!! The timpani!!" The high-level dynamics were staggering—the B&Ws sounded like much larger speakers than they are, and the rapid high-frequency transients were lighting-fast, without harshness but with shimmering, extended highs. Bass was not a problem for the DM603 S3. The midbass was natural, clean, and extended, and the organ pedals on Timothy Seelig and the Turtle Creek Chorale's performance of John Rutter's Requiem (CD, Reference RR-57CD) were as realistic as I've heard from a speaker this inexpensive, says this former church organist.

The DM603 S3's bass and high-level dynamic capabilities made it cook on cranked-up rock music. Ultra High Frequency is a new New York–based band that combines wailing vocals, intricate guitar counterpoints, driving dynamic drama, and loud power-pop blasts (www.uhfmusic.com). After recently

Finally, the DM603's cumulative spectral-decay or waterfall plot (fig.8) is overall very clean, but reveals that the sharp on-axis notch in the woofer's output is associated with a ridge of delayed energy at the same frequency. I might have expected a slight degree of hardness to result from this behavior, but I note that BJR didn't comment on any mid-treble problems.

As is to be expected from the company's investment in research—an investment I witnessed firsthand last fall when I paid a visit to B&W's factory in Worthing and its R&D lab in Steyning, both in that most English of English counties, West Sussex—the DM603 S3 demonstrates impressive speaker engineering at a very affordable price, even with its rather lively cabinet. I am not surprised that BJR (and his wife) liked this speaker as much as they did.

—John Atkinson
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seeing them in concert, I bought their CD, *Sun Never Sets in Dramaville* (Mugshot 0001). I’m obsessed with the opening track, “Movie Theater,” which has the catchiest melodic hook I’ve heard in a rock tune in five years. The CD is superbly recorded, and had me twitching in my living room as I settled into a high-level dynamic vibe with the B&Ws set to Stun. Similarly, the Black Keys’ *Rubber Factory* (CD, Chrysalis 9-379-2) features that duo of distorted blues guitar and drumkit recorded in an abandoned rubber factory in Akron, Ohio. The rich, wet, dynamic drums and wailing, muddy guitar provided an emotive backdrop for the CD’s blues articulation here or a level of detail there that I hadn’t heard from most speakers at this price. At other times I said the hell with it, kicked back, enjoyed music or a movie, and didn’t think about the sound.

I can see why B&W speakers have been a hit in the New York City area. Their sound will appeal to audiophiles, and the wife acceptance factor of their sexy, unobtrusive enclosures is very high. A case in point: When Pd packed up the B&Ws and was installing the speakers that followed them in my reviewing queue, my wife looked at me and, in a tone of “So you’re going to blow the day reviewing speakers instead of helping our son with his social studies project?” asked what I was doing.

“…”

I rest my case. In my 22 years of speaker reviewing, that’s the first time my wife has said that. B&W’s superb DM603 S3 touched me on many fronts. When I felt like being more time than I usually would contemplate the Amphon with the B&W—two very impressive speakers at exactly the same price. I was determined to discover a preference for one of them but was unable to. On “Some People’s Lives,” from Janis Ian’s *Breaking Silence* (CD, Analogue Productions CAPP027), Ian’s seductive vocal presentation and delicate, airy piano sounded identical through the Amphon and B&W. Even with more complex fare, the two speakers’ dynamic envelopes, transient articulation, and lack of coloration were pretty much the same. The Amphon seemed to resolve a bit more detail, but the B&W had greater high-frequency extension, more extended bass, and a greater range of high-level dynamics.

I was splitting hairs. At the end of the day, I thought the Amphon Helium2 a bit more polite and austere, the B&W DM603 S3 a bit more warm. How to choose between the two? Well, one is a floorstander and the other a small bookshelf; at this price point, the shopper will probably have an easier time basing his or her choice on décor than on sound.

The Epos M5’s midrange was as natural as the B&W’s, with super dynamic capabilities but less refined and extended highs. The M5’s low bass was not as extended as the DM603 S3’s, and I felt the B&W resolved a bit more inner detail.

The NHT SB3 was warm, natural, and pleasing, but with much less detail and high-frequency extension than the B&W. The NHT’s high-level dynamic capabilities and bass slam were as good as the B&W’s, but its midbass was less defined.

**Conclusion**

B&W’s superb DM603 S3 touched me on many fronts. When I felt like being an audio geek, I would drag out my audiophile chestnuts and notice an articulation here or a level of detail there that I hadn’t heard from most speakers at this price. At other times I said the hell with it, kicked back, enjoyed music or a movie, and didn’t think about the sound.

The B&Ws are fun to live with, and the DM603 S3s are a bargain at $1000/pair. If you’re a true audiophile and looking for the best of the best, the Amphon Helium2 is your ticket. But if you’re looking for a well-made, good-sounding, affordable loudspeaker, the B&W DM603 S3 is your best bet.
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Tetra Speakers may not be a familiar name to many US audiophiles. Based in Ottawa, Ontario, the company has been around for a decade, but has taken a slow and steady approach to building its visibility in the insanely competitive and trend-conscious world of high-end loudspeakers.

Tetra was the brainchild of cabinetmaker Wayne Prince and musician and speaker designer Adrian Butts. While Butts had determined that the standard rectangular loudspeaker cabinet was absolutely the wrong shape for minimizing internal standing waves, he had not yet been able to figure out how to solve the problem. Meanwhile, Prince was trying to attract interest in his new approach to building speaker enclosures using tetrahedral geometry, to no avail—until a chance meeting with Butts brought all of the necessary elements together. Butts realized that at last he had met a kindred audio spirit looking to solve the same problems he’d been wrestling with, and Prince recognized in Butts a guy whose knowledge of loudspeaker and crossover design would take the best advantage of his cabinetry. That meeting, more than 10 years ago, was the cornerstone of Tetra.

Stylish substance

Though of only moderate size, the 505LTD is Tetra’s largest model, and comes
in two levels of finish. The standard level ($8000/pair) offers satin or high-gloss black with wood accents. The visually snazzier Custom features solid-cherrywood front and rear baffles in a variety of colors. The Custom finishes add $3000/pair, and if looks alone can justify such an expenditure, the 505LTD Customs’ do. The cherry baffles were glowingly finished, and the art deco detailing on the front of the lower box popped vividly into three dimensions even when seen from the listening chair. I can’t imagine what environment the Tetra would not fit into—its moderate footprint, manageable size, and beautiful Custom finishes should sit well in just about any modern décor.

The tetrahedral head unit—think a three-sided equilateral pyramid sitting on a three-sided bottom—is claimed to eliminate standing waves because there are no parallel surfaces to reinforce any frequencies. The head unit is attached to the medium-sized box that provides loading for the woofer, which vents through a large port on the rear. The only parallel surfaces in the entire package are the front and rear of this pedestal. The black grillecloths magnetically adhere to the front of the pyramid—a cool and elegant touch.

The drivers are from highly reputable audiophile suppliers: a 1" treated-fabric-dome tweeter from ScanSpeak and an 8" damped polymer-composite woofer from Morel. Top-quality internal parts feature Châteauroux Fast Caps, Hepta-Litz air-core inductors, and Cardas internal wiring and binding posts. The Tetra is spec’d at 91dB/W/m sensitivity and presents an amplifier-friendly load of 8 ohms that never drops below midrange, with a minimum value of 7.1 ohms at 150Hz. The electrical phase angle is also generally mild. But note the sharp spike at 200Hz in this graph, as well as a series of smaller-amplitude spikes higher in frequency. These indicate the presence of some high-Q (quality factor) resonant modes, either in the cabinet walls or in the enclosed air space.

Despite the benefits claimed for the primary enclosure’s tetrahedral shape, its panels were lively, with strong resonances detectable at the frequencies of the impedance spikes in fig.1. The rectangular pedestal, which acoustically loads the woofer, was also marred by some resonant modes. Fig.2, for example, calculated from the output of a plastic-tape accelerometer fastened to the center of the raised wooden trim on the front panel, reveals a mode at 297Hz, as well as some lower-level modes higher in frequency.

Pausing the noise stimulus used to generate this graph proved interesting, in that a reverberant honk could be heard dying away. The question then becomes: Is this effect due to panel resonances, to internal air-space resonances, or to a combination of both? Shown to the left of fig.3 are the individual outputs of the woofer and port, scaled in the ratio of their radiating diameters. The port’s response peaks as expected at the tuning frequency of
7 ohms. Any respectable amp should be able to drive the 505 to room-filling levels. Each 505 weighs a sturdy and solid 95 lbs; uncrating and setting up the pair of them was a reasonable one-man proposition, particularly when compared to the hulking brutes that have recently dominated my listening room.

Setup surprise
I was a little surprised and skeptical about Tetra’s claim of extension to 29Hz (though no down point is specified), so I initially set up the 505LTDs closer to the front wall than usual, simply assuming that they would need bass reinforcement to make with the satisfying low-end boogity-woogity. They sounded lumpy, buzzy, and bass-heavy; there was also some nasty and very audible doubling of organ pedals. Evidently something was not right, and it turned out to be my assumptions about the speakers. The lower section of the cabinet is quite deep, and its port fires to the rear. There was just too much bass energy being pumped into the corners of my room, so I began moving the speakers nearer to the side-walls and farther out into the room. By the time I’d gotten them 28” from the sidewalls and 40.5” from the front wall (as measured from the tops of the pyramids), things had improved, with plenty of bass, a broad stage, and no unpleasant room interactions.

Pyramid power?
Properly set up, the Tetra 505s were a bit on the unforgiving and aggressive side at first, though what struck me even more was their openness and spaciousness. I suspected that newness was the probable cause of the leanness and

29Hz, which is also the minimum-motion point in the woofer’s response. However, the midrange outputs of both woofer and port are marred by vicious-looking resonances, again at the frequencies of the impedence anomalies. (Both samples of the 505LTD were affected in the same manner.)

These resonances are of high Q, which works against their audibility. (The higher the Q of a resonance, the less likely it is to be excited unless the signal is very close in frequency.) But in the case of the Tetra 505’s midrange resonances, I found them very audible in my own auditioning of the speakers. Male speaking voice—Richard Lehnert’s spoken introductions on my Editor’s Choice CD (Stereophile STPH016-2), for example—acquired a distinct midrange honk; again, if I paused the CD player, the honk could be heard as a reverberant die-away. On instruments with a lot of energy in the region of the resonances, such as the solo clarinet on my Mosaic CD (Stereophile STPH015-2), some notes leapt forward in the same manner.

Higher in frequency in fig.3, the woofer’s output rises through the midrange before peaking in the 1–2kHz region, with a shelved-down output before it crosses over to the tweeter just below 5kHz. This is almost an octave higher than is usual with a relatively large-diameter midrange unit such as the Tetra’s. The crossover appears asymmetrical, with a fast woofer low-pass rollout but a slower roll-in for the tweeter. The latter starts to roll off in the top audio octave, due to the fact that the sloped-back baffle puts the listening position significantly below the main tweeter axis and the 1” soft-dome tweeter is starting to become directional in this region.

Fig.4 shows how the individual low-frequency responses sum at a nominal farfield point level with the tweeter, taking into account acoustic phase and the physical offset of the rear-firing port. Below 150Hz, the response follows a textbook reflex alignment with a ~6dB point at the port tuning frequency. But higher in frequency those resonances again make their presence known, and again the upper midrange is shelved up by 3dB, followed by the entire treble region being suppressed by 3–5dB. In addition, the lack of energy between 3kHz and 8kHz suggests that the crossover is not optimized for this axis, which is 38” from the floor. Certainly in my own auditioning, I found the Tetra to sound mellow.

The 505LTD’s horizontal dispersion, assessed on the tweeter axis (fig.5), is rather more uniform than I was expecting from the woofer’s relatively large diameter, though the speaker is more directional than usual over most of the treble. In the vertical plane (fig.6), the crossover-region suckout fills in above the tweeter axis but

www.Stereophile.com, August 2005
lower-treble forwardness and let them break in for a couple weeks of general, nonevaluative listening. That turned out to be a good idea—they needed some hours to settle in.

Coming to them with renewed focus, I was again caught up in the 505s' big, open soundstaging. They consistently put large spaces in my listening room with ease. The 505s did a wonderful job of "disappearing," and their center-fill was very good. Soundstage breadth was genuinely excellent, and depth retrieval was better than average. "Telegraph Road," Mark Knopfler's epic rumination on the rise and fall of Rust Belt America from *Love Over Gold* (LP, Warner Bros. 23728-1), is a sonic stunner. The 505s let it spread to all the corners of my room and beyond with superior focus. Moreover, they got the song's dark, bitter sense of sadness and loss—even more relevant now, some 20-plus years (!) after its release—with precisely the right touch.

In terms of timbre the Tetra, once broken in, proved itself generally well-balanced. Deep bass, as mentioned, went a lot deeper than I'd expected from a single 8" woofer. Large-scaled electronic bass had ear-opening depth. My all-time favorite insane power-bass workout is ! Cruder & Dorfineister's dub remix of Bomb the Bass's "Bug Powder Dust," from *The KSD Sessions* (EU CD, K7 K7073). Its room-rattling shots pressurized my listening room with surprising force. The monster sampled kick drum on Majestic 12's remix of Kelis' "Milkshake," from *Ultra Trance: 3* (CD, Ultra UL1180-2), was rather loose, as were K&D's fireworks, but low the Tetra did go.

The Tetra wasn't exactly sloppy or underdamped, but there are limits to how much authority an 8" woofer can bring to the game. When it was asked to play a lot of low and midbass frequencies at fairly fervent loudness levels things could get a little ragged. That I am ape-crazy for deep bass made this more apparent to me than it will be to those who don't share my predilections worsens below it, suggesting that a high listening chair—a director's chair rather than a typical easy chair—would give the best mid-treble balance.

As I had set up the Tetra 505LTDs in my listening room to be auditioned, I used pink noise and an AudioControl SA3050A 1/3-octave analyzer to assess the speakers' spatially averaged response in my room. The result is shown in fig.7. The treble and lower midrange are shelved down, while the region covered by the port peaks up. The port output did indeed sound disconnected with the speaker's higher-frequency output. I experimented with room positioning, but, unlike Paul Bolin, I couldn't get the Tetra's low bass to integrate with the rest of the low frequencies.

In the time domain, the 505LTD's step response (fig.8) shows a time-coincident right-angle shape, though there is a slight discontinuity in the step's leading edge and the tail of the step is disturbed by the regular undulations typical of a resonance. Looking at the individual steps of the woofer (fig.9, blue trace) and tweeter (fig.9, red trace), it can be seen that the leading-edge discontinuity in fig.8 is due to the HF unit, connected in inverted acoustic polarity, working against the woofer's positive-going output. This correlates with the on-axis crossover-region suckout noted in fig.4. The low-frequency undulations seen in fig.8 can now be seen to be associated with the woofer's output.

Finally, the Tetra 505LTD's cumulative spectral-decay plot (fig.10) reveals the existence of a strong resonant mode at 1.6kHz. (Note that the speaker was placed on a
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for large-scale techno/chill music. With less extreme bass, the Tetras had good presence and bloominess. The woody, thonking bark of the Fender Precision bass guitar on Ozric Tentacles' "Oolite Groove," from Curious Corn (UK LP, Snapper Music SMALP 502), had the right balance of string and wood, while John Entwistle's majestic rumble on the new vinyl reissue of Who's Next (LP, Track/Classic DC 79182) was well served. Acoustic bass instruments, such as Jimmy Woode's bass on Duke Ellington's Indigos ("six-eye" LP, Columbia CS 8053), sounded naturally expansive, with good pitch definition.

The 505's midrange was generally very good. Give it something like Paul Gonsalves' breathy, honeyed tenor sax on "Where or When," from Indigos, or Ben Webster and "Sweets" Edison (LP, Columbia/Classic CS 8691), and all you'll be doing will be grooving on the music. The 505 had a wonderful affinity for voices. Pete Seeger has seldom sounded better on "Guantanamera," from The Weavers' Reunion at Carnegie Hall (LP, Vanguard VSD 2150), and Eleanor McAvoy was a palpable presence on Small Hours (UK SACD, Market Square MSM51SACD128). Frank Sinatra's sibilants on Only for the Lonely (LP, Mobile Fidelity MFSL 1-137) were spot on, neither blunted nor unduly emphasized. The sense of space around both Sinatra and the orchestra contributed nicely to the music's melancholy.

Once the tweeter had some time on it, the aggressiveness faded away and the Tetra's top octaves sounded relaxed and atmospheric. Only a hint—just a hint—of lower-treble emphasis remained. It wasn't quite a "glamor bump," but it did add a bit of liveliness to flatter-sounding recordings and made the top end sound somewhat laid back. There was admirable resolution of internal orchestral voices and the little things buried deep in pop and rock mixes. Listening to various tracks from the Beach Boys' Good Vibrations boxed set was a gas. The Tetra let me hear deeply into Brian Wilson's still-remarkable vocal arrangements. They sounded their best with Cardas Golden Reference biwires and Harmonic Technology's new Magic Reference.

The magic of a good two-way speaker lies in its coherence—it's so much easier to preserve the essence of music when it doesn't have to be routed in three, four, or more directions. That's where the Tetra delivered the biggest. A densely layered, atmospheric piece such as "Unfinished," from Can's Landed (UK LP, Virgin V 2041), which ranges from industrial chaos to music that sounds like a haunted ballroom and concludes with an upward spiral of keyboards and guitar that cannot but remind me of Messiaen, had a great sense of what I think of as sonic "scenery."

Different pieces of music bring different pictures into my head—not necessarily transcriptions of the music itself, but more mental atmospheres. The concluding guitar solo of Mark Knopfler's "Telegraph Road" is a good example. To me it has always called to mind a burst of the kind of controlled

The Magic Reference incorporates Magic Woofer and Magic Tweeter cables into one very chunky biwire cable.

measurments, continued

While Paul Bolin apparently managed to work around this speaker's limitations to some extent, its disappointing measured performance precludes any recommendation for the Tetra 505LTD from this magazine, its stunning appearance notwithstanding. From my own auditioning, I feel this speaker is unacceptably colored in the midrange and, in my opinion, suboptimally engineered.

—John Atkinson

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Fig.9 Tetra 505LTD, step response of tweeter (red) and woofer (blue) on tweeter axis at 50° (5ms time window, 30kHz bandwidth).

<table>
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<tr>
<th>Log Frequency (Hz)</th>
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Fig.10 Tetra 505LTD, cumulative spectral-decay plot at 50° (0.15ms mettime).
anger that comes only from disenfran-
chisement. The Tetras let Knopfler
communicate that sense directly. The
stark and appalling bleakness of Air’s
soundtrack to The Virgin Suicides (CD,
Astralwerks ASW 48848-2) was
almost too much to take. This music
makes Roger Waters at his most pes-
simistic sound like Hilary Duff.

Compared to the brutes that have
lived in my listening room for most of
the last three years, the Tetra definitely
had less ultimate range at the edge of
the macrodynamic envelope. It could
play very loud, but there came a point
at very high SPLs where things
stopped getting bigger and just got
louder. Its relative shortcomings
against larger, more expensive speak-
ers were most evident on great orches-
tral material, such as Fritz Reiner and
the Chicago Symphony’s Rapsodie
Espagnol (LP, RCA Living
Stereo/Classic LSC-2183) and the
titanic performance by Eiji Oue and
the Minnesota Orchestra of Copland’s
Fanfare for the Common Man (CD, Re-
ference RR-93CD).

The Tetra handled microdynamics
well. Gentle inflections of voices and
instruments never eluded it, and it
was a joy to listen to at moderate vol-
ume levels. Turning down the gain
never turned down the detail and full-
ness. Listening to Artur Rubinstein
play the Grieg Piano Concerto (LP,
RCA Victor LSC-2566), I could relax
and enjoy all of the nuanced refine-
ment of his playing—was there ever a
better interpreter of the romantic
piano literature? Well-recorded
acoustic jazz suited the Tetras excep-
tionally well—their speed and spa-
ciousness were a perfect match of
their virtues with the music.

Neon Tetra

A concise summary of the Tetra
505LTDs is easy: they were a lot of fun
to listen to. Their big, open sound-
stage, liveliness, and outstanding
coherence might have been expect-
ed, but their surprisingly deep bass
response was a pleasant shock. I’ve
spent the last few years with huge,
heavy behemoths: the Focal-JMlab
Nova Utopia Be, the Calix Phoenix
Grand Signature, the Eggleston-
Works Andra II, and the Legacy
Audio Focus 20/20 and Whisper.

The Tetra 505s opened my eyes and
ears to the fact that it’s not only the
Andre the Giant—sized speakers that
can provide an enjoyable listening
experience.

The 505LTD does have limits—an
8” woofer can do only so much, even
when packaged as cleverly as is the
505’s—but the speaker’s compromises
were chosen sensibly, and it spread
plenty of musical happiness around
my house. As I write this on a Friday
night, I’m sitting in my office, which
is directly behind my listening room,
the door between the two rooms
wide open. Russell Malone’s Heart-
strings is spinning in the CD player,
and I’m thoroughly enjoying myself.

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where there are strong alternatives,
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MONOBLOCK POWER AMPLIFIER

Art Dudley

Tube monoblock power amplifier. Tube complement: two EF86, two KT66, one GZ34. Output power: 15W (11.8dBW into 8 ohms). Frequency response: 10Hz-20kHz, ±0.2dB. Input sensitivity: 570mV for rated power. Rated load impedance: 8 ohms. Damping function: 11.75 at 700Hz, equivalent to 0.68 ohms into 8 ohms. THD: 0.08% at 12W/700Hz. Residual hum and noise: better than —90dB (no reference level quoted).

Dimensions: 12.25" (315mm) W by 6.5" (165mm) H by 4.75" (120mm) D. Weight: 18.25 lbs (8.3kg).

Serial numbers of units reviewed: Q2C0117, Q2C0118.


Quad II Classic monoblock power amplifier

"The realistic reproduction of orchestral music in an average room requires peak power capabilities of the order of 15 to 20W when the electro-acoustic transducer is a baffle-loaded moving-coil loudspeaker of normal efficiency."
—Peter Walker and D.T.N. Williamson, writing in the Journal of the Audio Engineering Society in 1954

According to evolutionist Richard Dawkins, the most important variable determining a person's religion is the accident of birth. Man of faith though I am, I agree—and I'll risk further sacrilege by suggesting that Dawkins' rule can be applied with equal success to our little corner of the world. Which is to say, the most important variable determining a person's taste in music playback is the accident of adolescent revelation: The sound that your music was dressed in the first time you fell for it is the sound you'll love forever. For some, that would be a car radio: fair enough. For others it's a Steinway, or the sound of a fiddle on a summer evening. And for some it's our best friend's father's hi-fi: Levinsons and Maggies, a Dynaco amp and a pair of Klipschorns, Bose 901s and some nothing receiver. Or maybe a single Quad speaker and a Quad II amp from 1957 or thereabouts.

That last one continues to outshine its contemporaries, partly because of the Quad II's status as the first great amplifier, and partly because Quad's reputation as a company of integrity and influence stretches well beyond its customer base.
For those reasons, Quad is the only audio company I know—the only company—that could put a 50-year-old product back into production, virtually unchanged, with any hope for success.

Make no mistake: The brand-new Quad II Classic doesn't just approximate its forebear. Quad didn't set out to improve on or update the original, but rather to manufacture it again, the way it was. The circuit remains precisely as Peter Walker designed it more than half a century ago, and details of its construction have changed only where certain physical types of parts are virtually extinct (old capacitor shapes and their associated clamps, cloth insulation, and so forth) or where a change is required by law (eg, the new Classic has a cage to protect people and hot tubes from one another, an IEC-style AC cord socket with an integral power switch, and contemporary, CE-approved gold-plated speaker terminals). In every other way, the Quad II Classic is a Quad II.

**Quadliness**

A Quad II, original or Classic, is a class-A push-pull monophonic amp with only two active stages. The input stage contains two EF86 miniature pentode tubes, each of which is capacitor-coupled to its own output tetrode tube, but only one of which (call it input tube No.1) gets the original input signal. From there, in addition to driving its corresponding output tube, input tube No.1 drives input tube No.2 with a portion of its reverse-phase output, attenuated by some 6dB. Thus the output of the second EF86 is equal to but out of phase with the output of the first, and this balance is maintained through the output trans-

**MEASUREMENTS**

It was difficult to resist nostalgia as I set one of the Quad II Classic monoblocks up on my test bench; the original Quad II, made by what was then called the Acoustical Manufacturing Company, was the amplifier to lust over when I first became aware of hi-fi in the early 1960s. But I am a trained professional—I can't let such feelings interfere with the task at hand.

The Quad II's voltage gain into 8 ohms was typical of modern designs, at 26.55dB. Its input impedance was not typical, however, at more than 1megohm across the audio band. The amplifier maintained absolute signal polarity (ie, was noninverting), and its source impedance was a high 1.86 ohms at 1kHz, this increasing very slightly at very low and very high frequencies. As a result, its frequency response into our standard simulated loudspeaker load (fig.1, top trace at 2kHz) varied by ±1dB and its output dropped significantly with decreasing load impedance. Even into 2 ohms (fig.1, bottom trace), however, the Quad's output is down by just 0.2dB at 20kHz and 0.5dB at 20Hz.

What can also be seen in fig.1 is that a small ultrasonic peak develops at 52.5kHz into loads greater than 4 ohms. This correlates with the slight degree of overshoot and ringing seen in the amplifier's reproduction of 1kHz (fig.2) and 10kHz (fig.3) squarewaves into an 8 ohm load. But note the flat tops of the waveform in fig.2, confirming the amplifier's excellent low-frequency extension.

The Quad II seemed relatively uncritical regarding the grounding arrangements between it and my Audio Precision test set. Its A-weighted signal/noise ratio when optimally grounded was a moderately good 75.2dB ref. 1W into 8 ohms, this worsening to 67.2dB with a wideband, unweighted measurement.

The Quad's single output-transformer tap is optimized for an 8 ohm load impedance. Fig.4 shows how the measured THD+noise percentage in the amplifier's output

![Fig.1] Quad II Classic, frequency response at 2.83V dB vs Freq (Hz)

![Fig.2] Quad II Classic, small-signal 1kHz squarewave into 8 ohms.

![Fig.3] Quad II Classic, small-signal 10kHz squarewave into 8 ohms.

![Fig.4] Quad II Classic, THD+noise percentage in the amplifier's output.
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former's primary, where the full music wave is put back together. This design, called a paraphase circuit, used to be quite popular, arguably because it accomplished phase inversion and voltage gain in one stroke—and so allowed the designer to keep both distortion and parts cost to a minimum.  

The output stage uses a pair of KT66 tetrodes in a "cathode-coupled" arrangement: The cathodes and anodes of the KT66s are both connected to the output transformer's primary. The windings ratio between these two points is critical, and has to be carried out precisely—Peter Walker put tremendous work into designing and making his trannies—but the rewards are great: Walker and others observed that, with a cathode-coupled design such as Quad’s, feedback is applied in a more linear fashion than with other push-pull variants. The Ultrace linear circuit of Hailer and Keroes. Ultimately, then, the Quad II offers the low distortion of class-A triode operation with a large measure of the efficiency of class-B tetrode operation.

The Quad II's power supply is simple enough to make today's single-ended-triode amps look positively rococo by comparison. The rectifier tube is a GZ34 (as opposed to the GZ32 of the original, the latter being the ivory-bill to the former's pileated woodpecker). The anodes of the output tubes are fed from the reservoir, while the supply to the KT66 screen grids and EF86 anodes is smoothed by a choke and a smallish capacitor. Meanwhile, back at the mains transformer, a separate secondary provides 6.3V AC for the audio tubes, and 5V AC for the rectifier. And that's all she wrote.

My review samples were made at Quad's new factory in China. I'm told that, during the time they were setting up the assembly line for the Quad II, the company flew almost all of their UK production staff to the new facility to make sure they got it right—that the younger people building these amps would do precisely as Quad's founder would have wanted them to. (Four members of the visiting team have more than 30 years' experience at Quad, so for them, doing things the P.J. Walker way is more than an abstract concept.) Their efforts have paid off handsomely. Arguably like the design itself, the Quad II's construction is a product of postwar English frugality and common sense: The

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**measurements, continued**

varies with power into loads ranging from 2 to 16 ohms. Taking our usual definition of “clipping” as being 1% THD+N, the amplifier gives out the most power into 16 ohms (fig.4, bottom trace), 16W or 15.05dBW. However, relaxing the definition to 3% THD+N indicates that the Quad gives its maximum output into 8 ohms, at 27W (14.3dBW), compared with 24W into 16 ohms. However, this graph reveals that loads below 8 ohms are to be avoided, the Quad II delivering a maximum of 12W into 4 ohms and just 5W into 2 ohms, again at 3% THD+N.

Fig.5, which plots the THD+N percentage against frequency at 2.83V into 2, 4, 8, and 16 ohms, also reveals that the amplifier is less happy with the lower impedances. Note, however, that the THD percentage doesn't rise by much at the top of the audioband, suggesting good open-loop performance. Even into 16 ohms, the midband distortion figure is about twice as high as that

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Stereophile Quad II Classic, THD+N (%) vs Output Power (W) into 16/8/4/2 ohms

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Stereophile Quad II Classic, THD+N (%) vs Frequency (Hz) at 2.83V into 16/8/4/2 ohms

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Fig.5 Quad II Classic, THD+N (%) vs frequency at 2.83V into (from bottom to top): 16, 8, 4, and 2 ohms.

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Stereophile Quad II Classic, THD+N (%) vs Output Power (W) into 16/8/4/2 ohms

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Fig.4 Quad II Classic, distortion (%) vs 1kHz continuous output power into (from bottom to top): 16, 8, 4, and 2 ohms.

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Stereophile Quad II Classic, THD+N (%) vs Frequency (Hz) at 2.83V into 16/8/4/2 ohms

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Fig.6 Quad II Classic, 1kHz waveform at 1W into 8 ohms (top), 0.34% THD+N; distortion and noise waveform with fundamental notched out (bottom, not to scale).
original Quad II was a minimalist amp long before such a thing became fashionable, and the Classic carries on that tradition. There are six capacitors, 13 resistors, and not a single circuit-board trace inside—although the Classic does contain a "tag" board for lacing up 10 of those resistors, just like the original II. The hand-wiring has been neatly done, and dabs of enamel on all the solder joins add a fine finishing touch.

And the metalwork is superb. Ken Kessler’s luxuriant book Quad: The Closest Approach mentions the "tropicalisation" of the original chassis—a delightful concept—and the new amp seems equally ready to withstand any climate. My first reaction on unboxing the Quads was to wonder, Where did they get that paint? It's exactly right. The 2005 Quad II has the same thick, wetly metallic shade of gray—with just the faintest touch of olive drab mixed in—as its predecessors, and I think that Quad made the right decision in not trying to ape the way older samples have darkened over the years: If you buy a new pair today, UV light will do that for you over time. My main complaint is that they left off the old-style nameplate3 and chose instead to silk-screen the model designation and company logo onto the chassis and the mains trance cover. I like the Quad logo, and the silk-screening was done in a classy shade of blue—but I’d still much rather they weren’t there.


3 In true Quad fashion, the original nameplate wasn’t just a decoration: Its mounting screws served the additional function of fastening the mounting clamp for an old-style reservoir cap.

Godliness
I intended to borrow a pair of early Quad II amps, to use as a basis of comparison for this review—but I made the mistake of waiting until the last minute, and the loan fell through. Although it hasn’t been too long since the last time I listened to the original, all I have to go on is a memory, albeit a good one.

The Quad II Classics were easier to install than the average modern tube amp, given their lightish weight and all-around good behavior: Not once during their time in my system did

Specified. However, the content of the distortion is primarily the subjectively innocuous second harmonic (fig.6). At low frequencies and high levels, the second harmonic was joined by the third (fig.7), presumably due to the transformer core starting to saturate, and some higher-order harmonics begin to poke their heads above the –80dB line.

The Quad was only a moderate performer when it came to the HF intermodulation test. Asked to reproduce an equal mix of 19kHz and 20kHz tones just below visible waveform clipping into 8 ohms—10.5W—the amplifier produced a 1kHz difference tone at –44dB (0.6%), as well as some higher-level, higher-order products (fig.8). It is this behavior that will probably set a limit on the maximum loudness the amplifier will produce, rather than harmonic distortion per se (except at low frequencies).

Despite its design vintage, the Quad II Classic offered quite respectable measured performance.

— John Atkinson
they exhibit the slightest hum, crackle, or other untoward noise, and they run warm but not excessively so. Of course, the Ils contain no relays or delay circuits of any kind, so their tubes begin warming up at once—although the amps sounded their best only after 15 minutes or so. As to running them in, I thought the Hs seemed a bit uninteresting at first, but after about a week of steady use they really blossomed, their sound taking on a great deal more texture and nuance.

I began my serious listening with Classic Records' LP reissue of Fritz Reiner and the Chicago Symphony playing Strauss's *Ein Heldenleben* (RCA Living Stereo LSC-1807), one of those rare classical recordings that leaves me wondering why anyone would want to hear a different version when this one is so deeply thought-out, well played, and very well recorded and mastered. I was rewarded at once by a quality of sound that would become the Quads' hallmark during their stay, and which Quad II aficionados before me have confirmed many times over: There isn't a sweeter-sounding amplifier on earth. In particular, the Quads offered up volumes and volumes of beautiful, richly textured string sound, even going so far as to make Reiner's Chicago strings sound like the Boston Symphony strings of the same era: more burnished and bronzy, and absolutely gorgeous.

The same could be said of the Quad II's almost peerless tone while playing the famous Juilliard String Quartet recording of Schubert's Quartet in d, D.810, "Death and the Maiden" (RCA Living Stereo LSC-2378)—or even Paul Goodwin and English Chamber Orchestra's recording of Elgar's bittersweet*Elegy* (CD, Harmonia Mundi HMU 907258). On those and other works like them, the Quad amplifiers consistently reached the highest level of timbral beauty, of solid believability in a spatial sense, and of deep emotional involvement overall. If that's your music, you needn't look much further.

Of course, if rock 'n' roll accounts for more than a little of your listening pleasure, you may want to think twice. Mott the Hoople's great "Jerkin' Crocus" (from *All the Young Dudes*, Columbia 65184) sounded a bit bogged down, the electric bass line robbed of the snap that otherwise enables it to drive the song. (On the other hand, Verden Allen's unique Hammond organ style never came across better.) The same thing happened with Steely Dan's "Reelin' in the Years" (Can't Buy a Thrill, ABC ABCX758): While I

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**ASSOCIATED EQUIPMENT**

**ANALOG SOURCES**
- Linn LP12 turntable with Linn Lingo power supply
- Linn Ekos tonearm
- Linn Akiva & Miyabi 47 cartridges
- Rega Planar 3 turntable
- Lyra Helikon Mono cartridge

**DIGITAL SOURCE**
- Naim CD5x CD player

**PREAMPLIFIERS**
- Linn Linto phono preamplifier, Fi, Lamm LL2 Deluxe preamplifiers

**POWER AMPLIFIERS**
- Lamm ML2.1 monoblocks, EAR 890

**LOUDSPEAKERS**
- Quad ESL-989

**CABLES**
- Interconnect: Audio Note AN-V. Nordost Valhalla, Linn. Speaker:
- Audio Note AN-SPx. Nordost Valhalla

**ACCESSORIES**
- Mana Reference Table Reference Wall Shelf under turntables, Loricraft PRC4 record-cleaning machine

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4 I like the one recorded in 1959 by members of the Vienna Octet, which the violin maestro himself recorded in King Records recut from the original Decca a few years ago and issued as KIJC 9111.

"Quad II's construction is a product of postwar English frugality and common sense."—Art Dudley
enjoyed basking in the fullness of the sustained bass note at the end of every verse, there was too much sustain throughout the song to prevent that repeated line from tripping over itself, especially in the chorus.

TO LIVE WITH THE QUAD II AMPS FOR A WHILE IS TO KNOW WHY SOME ADULTS MOVE BACK TO THEIR CHILDHOOD NEIGHBORHOODS.

But the slow bass was just that: slow bass—and there were no temporal problems I could hear throughout the rest of the spectrum. The version of Jimmy Martin's "Hit Parade of Love" on the recent LP Don't Cry to Me (Thrill Jockey THRILL145), where the sound verse, there was too much sustain problems I could hear throughout the song to prevent that repeated line from tripping over itself, especially in the chorus.

Conclusions

Have you ever had a dream that you could fly—or that your old sports car was right there in your garage all along, or that you still had all your hair? I've had all of them, but whatever pleasure they bring is more than canceled out when I wake up and find it isn't so. (I guess that's unbalanced push-pull.) The nice thing about the Quad II Classic—the lovely and almost giddy thing about it—is that the experience doesn't seem to require waking up. To live with these amps for a while is to know why some adults move back to their childhood neighborhoods, or why we think of certain foods—grilled-cheese sandwiches, mashed potatoes and gravy? comfort foods: For all their faults in the context of here and now, the Quad II is the angel we do know. It's beautiful, it's true to the original, and it has more than a little soul.

I don't know if you remember or not, but back in 1996, Quad released a limited-edition Anniversary version of the Quad II—a vastly more expensive thing that differed from the original in some ways that couldn't have been helped, and a few that could. The Quad II Anniversary was a quality product, but it was like consoling a pop music lover who missed the Beatles the first time around by giving him a brand-new XTC album: very nice in its own right, but not really the same thing. For its part, the new Quad II Classic is like finding a wormhole in the time-space continuum and going back to the Cavern Club of 1962. Or, to paraphrase Ken Kessler paraphrasing Quad themselves, this is the closest approach to the closest approach. Go buy a pair of these, use a bit of nail-polish remover on a cotton ball to remove the silk-screening, and live it up, because life is brief, and second chances are thin on the ground.
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D-100
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Wes Phillips


DIMENSIONS 6.25" (160mm) W by 5.5" (140mm) H by 8.0" (205mm)

D. Weight: 15 lbs (6.8kg).

SERIAL NUMBERS OF UNITS REVIEWED DM1616, DM1617.

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"You're reviewing a class-D amplifier?" whined John Atkinson. "I hate measuring those."

"Because they measure badly? Dusty Vawter assures me this one measures pretty well."

"It's not that they measure badly, it's because I have to be extremely careful to ensure that I don't end up measuring my test equipment's limitations."

"Does that mean class-D actually measures better than other amps?"

"Let's just say the D stands for different."

Yes, let's. And Channel Islands' D-100 monoblock is more different than most. It's small (6.25" wide by 5.5" high by 8.0" deep), relatively light (15 lbs), and reasonably inexpensive ($1599/pair). It's pretty, too, in that munchkin macho Tonka Toy sort of way. Look, Ma, it's built tough, just like the one Dad drives!

Actually, as I discovered once I'd connected a pair of them to a pair of Thiel CS1.6 speakers, the D-100 is built tough, just like the ones Dad drives—or should I say the one that drive Dad's speakers? Oh yes, indeedy. The D-100 is different.

The difference between ordinary and extraordinary is that little extra
The D-100 is the first Channel Islands Audio product to be reviewed in Stereophile, but
many readers will be familiar with CIA's Dusty Vawter from his many years as Audio Alchemy's technical service advisor. When AA went out of business, Vawter continued to offer upgrades and power-supply mods for AA products, and branched out with Monolithic Sound's Greg Schug, with whom he still works. (Schug is Vawter's partner in CIA, while Vawter is Schug's partner in Monolithic.) Vawter wanted to try his hand at some of his own projects, however, so he started CIA, where he designed an assortment of passive preamps, power supplies, small power amplifiers, and the VHP-1 headphone amp, which I wrote about in the March Stereophile eNewsletter (www.stereophile.com/images/newsletter/305stphltml). Channel Islands products are available direct from www.ciaudio.com and www.amusicdirect.com.

Instead of a power switch, the D-100 has a small pushbutton that toggles between Standby (amber LED) and On (blue LED). The rear panel has an IEC power socket, one high-quality RCA input, and two high-quality five-way binding posts. If your speaker wire is particularly thick or rigid, or if your spades are oversized, you might have a slight problem fitting your cables onto the posts because of the D-100's low ground clearance and the overhang of that \( \frac{3}{16} \) -thick heatsink of a rear panel. On the other hand, if you're using a speaker cable that costs less than a pair of D-100s, you probably won't have any problems in this regard.

The amp comes in two versions. If you want to use a passive preamplifier, such as CIA's VPC-1, you can get a pair of D-100s with gain of 32dB; if you use an active preamp, you can get 'em with 26dB. The pair I auditioned were set with the 26dB option.

## Measurements

as Phillips mentioned at the start of this review that I dislike measuring amplifiers with a class-D output stage. This is because such designs can throw out enough ultrasonic noise that you can never be quite sure that what you're actually measuring is the input stage of your analyzer being driven into slew-rate limiting. (For more on this subject, see the measurements sidebar accompanying Michael Fremer's review in April of the class-D Yamaha MX-D1, www.stereophile.com/amplificationreviews/405yamaha/index4.html.) What I do, therefore, is to insert, when appropriate, a sixth-order low-pass filter set to 20kHz or 30kHz between the output of the amplifier and the analyzer.

Our sample of the D-100 had a voltage gain into 8 ohms of 26.36dB. It preserved absolute polarity (ie, was noninverting), and its input impedance measured 95k ohms over most of the audioband, dropping inconsequentially to 78k ohms at 20kHz. The amplifier's output impedance was a moderately low 0.16 ohm in the bass and midrange, rising slightly to 0.19 ohm at 20kHz. As a result, the modification of the amplifier's frequency response, due to the Ohm's Law interaction between this source impedance and that of the loudspeaker, will be very mild. With our standard simulated speaker load, this modification remained within ±0.1dB limits (fig.1, top trace at 2kHz), and the D-100's output doesn't drop by much into lower impedances. But you can see from this graph how the amplifier's ultrasonic output rolls off rapidly, presumably due to the low-pass filter necessary to minimize the HF noise produced by the switching output stage.

Even so, a relatively high level of this noise is still present in the D-100's output, as can be seen in fig.2, which shows the amplifier's reproduction of a 10kHz squarewave. The tops of the waveform are overlaid by what appears to be ringing; with no signal present it is actually a pure tone at 412kHz that has an amplitude of 263mV. This is presumably the residue of the output-stage switching frequency and affects the measured signal/noise ratio. The unweighted wideband figure, ref. 1W into 8 ohms, was compromised by the ultrasonic content to just 21.9dB. Restricting the measurement bandwidth to the audioband increased the ratio to a respectable 76.3dB, while switching in an A-weighting filter further improved it to 80.5dB.

This VHF noise was present during my measurements of the D-100's clipping power, as my active low-pass filter will not handle the high signal voltages concerned. The results of this test are shown in fig.3. The downward slope to the right of each trace up to 20W or so indicates that...
It don’t make much difference what you study, so long as you don’t like it

"Class-D does not mean digital," Dusty Vawter groused. "Class-D is basically an analog switching amplifier, unless a digital input is used to modulate the output, which we don’t do. Class-D amplification uses a comparator/modulator scheme to look at the input signal and switch output devices on or off at a very high frequency to replicate the input signal. That’s where the differences in class-D amplifiers come from—everybody does that slightly differently.

"Usually, the switching is done from a single rail of the power supply, which means that if the amplifier’s circuit runs off 60V, it will have +30V at each speaker terminal—in reference to ground, not to each other. That’s a shock hazard, and it won’t pass CE or UL safety tests, which is why amps with that topology use Speakon connectors to get around that.

"There’s another problem: The amps all have frequency-response fluctuations that are relative to the speaker load. If the amp was designed for flat response into a 6 ohm load, the high frequencies would rise into an 8 ohm load and roll off into a 4 ohm load.

"But Bruno Putzeys [formerly chief engineer for class-D audio at Philips DSL, now chief R&D engineer at Hypex] came up with a better way to implement class-D. Putzeys’ UcD [Universal class-D] technology addressed both of those issues. Most class-D amps place the sensors that turn the output devices on and off before an output filter; UcD can do it right at the speaker terminals, which is why it can have flat frequency response, since there is no circuit

The THD+noise percentage is dominated by the ultrasonic noise. However, the traces above that power indicate that the amplifier is running out of headroom into each load, these ranging from 2 to 16 ohms. Taking clipping as being our usual 1% THD+N, the D-100 clips at 59W into 16 ohms (20.7dBW), 118W into 8 ohms (20.7dBW), 105.5W into 4 ohms (17.2dBW), and 55W into 2 ohms (11.4dBW). While it exceeds its specified power into 8 ohms by a useful 0.7dB, the D-100 apparently fails to meet its 4 ohm power spec by 2.2dB.

I examined the manner in which the amplifier’s small-signal THD+N percentage changed with frequency using the 30kHz low-pass filter. The results are shown in fig.4, which is of necessity restricted to a 10kHz upper limit. (The distortion harmonics for frequencies higher than this increasingly fall above the filter’s passband.) The bottom trace was taken into 8 ohms; it shows a distortion figure of around 0.07% in the bass through the low treble, which is respectable. The THD increases into low loads, however, with the 2 ohm figure exceeding 0.1%. (This measurement was taken after the amplifier had been running at 1/3-power for 60 minutes. When first turned on, the D-100’s measured THD+N was around half this figure. The D-100 ran cold, by the way, even after the preconditioning period.)

Of more subjective importance than the level of THD is its spectrum, and here again the ultrasonic switching noise raised its head. The lower trace in fig.5 shows the waveform of the distortion and noise at 1.2W into 8 ohms. The measured percentage figure of 0.085% is obviously invalid because of the switching noise visible in this graph. Repeating the measurement with the bandwidth ahead of the analyzer restricted to 20kHz reduced this fig-
between that and the load. The frequency response is therefore ruler-flat no matter the load connected to it.

"When Philips licensed the UcD technology to Hype; I began talking to Jan-Peter Amerongen there and obtained some modules to test. There were some things we loved about the design, but we wanted it to have higher performance in some areas, so we began working with them to produce a better stock module—and we also had some ideas we wanted to keep to ourselves. After a year or so of work, we developed the design that became the D-100 we're manufacturing now. We're using a modified version of the UcD 180.

When I opened a D-100, I was shocked at how much transformer was in there and how little of everything else there was. The D-100 boasts one huge toroid attached to the \(\frac{3}{16}\)"-thick front panel. There's also a small, high-quality circuit board that contains eight capacitors and the power-supply electronics, and a small module, presumably the customized UcD-180, attached to the \(\frac{3}{16}\)"-thick rear panel, which serves as a heatsink.

The D-100 looks as though it's mostly power supply, I said to Vawter.

"Well, I guess that depends on how you look at it. The majority of the circuitry is power supply—the D-100 has a big transformer and a large power-supply board. The actual amplifier module itself is a 2"-square circuit board, but the parts count for that real estate is tremendous. However, the quality of the power supply has a huge effect on the sound quality of the amplifier, which is really true of all amplifiers—basically, you're just modulating what you're taking from the wall, so the better the DC is that's running the amplifier, the better the output signal is going to be.

"Some of the other class-D amplifiers use switching power supplies, but I just don't think they sound good enough yet to use in audiophile amplifiers use switching power supplies, but I just don't think they sound good enough yet to use in audiophile amplifiers."

This can also be seen in fig.7, which shows the spectrum of the amplifier's output signal driving a low-frequency tone at 12W into 4 ohms, with the bandwidth ahead of the analyzer restricted to 30kHz. Increasing the power level to 66W, which necessitated removing the low-pass filter, brings up the higher-order harmonics more than it does the second and third harmonics (not shown), which each remain around 70dB in level (0.03%). In general, the D-100 seems happier driving 8 ohms than 4 or 2 ohms.

Finally, the Channel Islands amplifier's performance on the high-level, high-frequency intermodulation test (fig.8) is okay without being outstanding. The 1kHz difference tone, resulting from an equal mix of 19kHz and 20kHz tones driven at 50W peak into 8 ohms, lies at 70dB (0.006%)—respectably low—but the higher-order products at 18kHz and 21kHz reach 70dB (0.03%), which is less good.

Considering its relatively affordable price, the Channel Islands Audio D-100 offers good measured performance, though I would not use it with speakers whose impedance dipped below 4 ohms. —John Atkinson
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to create an amplifier that was easy to build. We wouldn’t have to think about that if we were designing an expensive high-end amplifier, but we consciously designed a high-end amplifier that offered the maximum performance for the dollar. We couldn’t charge $1599/pair for amplifiers that took a whole day to assemble. On the other hand, one of the benefits of using a simple circuit is that we can

The power supply dominates the D-100’s interior real estate.

fiers—they’re probably all right for subwoofers, but I still think a linear supply is the best thing for an audio amplifier.

“I don’t pretend there’s anything especially sophisticated about the D-100’s power supply. It uses a custom 300VA toroid, and it uses discrete Schottke diodes in the bridge rectifier. We use eight parallel capacitors—we like paralleling caps rather than just using two with large values because that tends to lower the overall ESR (Equivalent Series Resistance) and gives you more legs to charge. It also makes them more reliable because you have a lot more circuit-board area supporting the weight of the capacitors. One of the problems common to a lot of amplifiers that use large caps is that the weight of the caps breaks them lose from the circuit board when they are shipped.

“A lot of the things I do when I design products concern factors other than sound quality. Sound is always my priority, but we do a lot of things that don’t directly affect the sound in order to ensure greater reliability. This comes from my background in customer service: It’s really important to offer a good response to problems, but it’s better to look ahead so the customer doesn’t have the problem in the first place. Using multiple capacitors does give you better sound quality and it improves reliability—it just takes longer for us to build.”

So building a reliable product was one of your design goals?

“Well, sure. I like to tinker, but I also want my stuff to work when I want to listen to music. In addition to reliability, my other consideration was

use high-quality parts. A switching power supply takes about 100 parts, while an equivalent linear supply takes about 15.”

The difference between a rut and a grave is the depth

The D-100 is so small and manageable that I fantasized about placing the pair of them on small stands directly behind the speakers and connecting the speakers’ binding posts to the amps’ posts with Deltron plugs alone. No wire. “Isn’t that easy, as it turned out—different binding posts have different spacings, so I’d have to put a hold on that idea until I get the right speaker. Or more gumption. Besides, I reasoned, that’s not how most people would be using them, nor was it a system that allowed me to make comparisons to other amps. Still, I’m tempted to give it a go. It would be different.

THERE WAS SUPERB SEPARATION BETWEEN THE CHANNELS (AS ONE WOULD EXPECT FROM MONOBLOCKS), DEEP TAUT BASS, AND LOTS OF AIRY DETAIL.

There was superb separation between the channels (as one would expect from monoblocks), deep taut bass, and lots of airy detail.

ASSOCIATED EQUIPMENT

DIGITAL SOURCE Ayre C-5xe universal player.
PREAMPLIFIERS Ayre K-5xe, Conrad-Johnson ACT2.
POWER AMPLIFIERS Coda Technologies S5.
LOUDSPEAKERS Dynaudio Special 25, Thiel CS1.6, Peak Consult Empress.
ACCESSORIES Shunyata Research Hydra AC power-distribution system; Solid-Tech Rack of Silence equipment stand, Feet of Silence, Discs of Silence equipment supports; Ayre Myrtle Wood Blocks. Room treatments: tribal rug, poncho, pussy willows. —Wes Phillips

Their small size meant that I could put the D-100s very close to my speakers, however, so I used a long interconnect and my shortest speaker cables. I was able to put the D-100s under the speaker stands supporting the Dynaudio Special 25s and directly behind the Thiel CS1.6s and Peak Consult Empresses. I initially used Cardas Golden Reference speaker cable, but it was so stiff and the spades were so large that I had problems dressing the cables. Stereovox’s banana-terminated Studio HDLS cables and Shunyata Research’s Lyra proved more manageable (although at $1250/pair, the Lyras seem an unlikely mate for the D-100s; I primarily focused on the $599/pair HDLS). A quartet of Golden Sound DH Squares under each D-100 got them off the floor.

There is little difference in people, but that little difference makes a big difference

I got the blue LEDs glowing, began to listen, and... And not much, actually. For a product that looks so different and employs such different technology, I didn’t notice much of a difference. There was superb separation between the channels (as one would expect from monoblocks), deep taut bass,
SIMAUDIO MOON W-8 AMPLIFIER.

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and lots of airy detail—and that was with the Thiel CS1.6s, which, while quite efficient, do "suck more than twice as much current as an 8 ohm speaker from the amplifier to achieve that high sensitivity," in JA’s memorable assessment in his review of the speaker in the September 2002 Stereophile (Vol.25 No.9).

In other words, the D-100s stepped right up to the plate and performed as if they’d been in the big league forever. At the Home Entertainment 2005 Show in May, I fell in love with Art Dudley’s copy of the Del McCoury Band’s Der and the Boys (CD, Cell 2006), especially “1952 Vincent Black Lightning,” so I wasted no time acquiring a copy of my own. The motorcycle ballad was one of the first things I listened to through the D-100s and they absolutely nailed it, from Del McCoury’s high lonesome vocal to the zingy banjo overtones of Rob McCoury’s Osborne Chief and the solid bottom of Mike Bub’s acoustic bass.

Wait a minute! These little thangs are producing sound like this? Now that’s different.

Over time, I substituted the Dynaudio Special 25s for the Thiels, and then I received the Peak Consult Empresses fresh from their appearance at HE2005. Each speaker has its own personality, of course, and through the D-100s each sounded quite different from the others—always a sign that the system upstream isn’t imposing its sonic signature on the whole shebang. The Thiels were coherent and clear, if not particularly extended on the bottom end, while the Dynaudios were warm and extremely listenable, if a tad forward on top. And the Empresses? Big and open and—no, I’ll be talking about those in October. Let’s just say they sounded distinctly different from the others. Good, though.

One thing remained constant, however: The D-100s sounded big and spacious. If a recording had a big soundstage, they gave me big. A good example was Chesky’s Rockin’ the Spirit: Piano Blues, Boogie & Spirituals, recorded live with a single-point microphone midway between two grand pianos (SACD, Chesky SACD296). Some of the solo pianists chose the Steinway on the left, others chose the Baldwin on the right, and the duets were played on both, obviously.

We audiophiles get so used to hearing performers smack dab in the middle of our soundstage that a recording like Rockin’ the Spirit is a welcome tonic. Sure, you get the piano at stage left or stage right, depending on which one is being played, but if your system is up to it—and the D-100s were—the acoustic remains big and enveloping no matter where the instrument is. And then there’s the crowd response, which the D-100s placed in the room with such believability that I jumped every time someone shouted encouragement. Not just the first time, but in every late-night session.

THE BIGGEST SURPRISE WAS HOW WELL THE CHANNEL ISLANDS D-100s ACQUITTED THEMSELVES GOING HEAD TO HEAD WITH AN AMP AS GOOD AS THE CODA S5.

I could babble on about microdynamics and suchlike, but let’s skip to the chase: I was so there.

In theory there is no difference between theory and practice. In practice there is.

After testing a new sample of the Coda Technologies SS stereo power amplifier (May 2005, Vol.28 No.5), JA left it at my house for additional listening. Even though, at $3750, the SS is more than twice the price of a pair of D-100s, it seemed a likely subject for a level-matched comparison.

I began with the Hilliard Ensemble’s CD of Guillaume de Machaut’s Motets (ECM New Series 1823), and the Coda and the CIAs sounded pretty darn close. Both captured the big acoustic of Propstei St. Gerold, and both placed the tenor lead quite distinctly nearer the listener than the other vocalists—and the decay on the individual parts was rendered with delicacy and precision. With the motets, I was hard-pressed to choose between the amps, which was pretty good going for the D-100s.

Things were less equivalent with Pierino Gamba and London Symphony’s Rossini Overtures (CD, JVC JVCXR 0229-2). The D-100s presented a large soundstage and lots of dynamic resolution, but the SS captured those snare-drum rolls in La Gazza Ladra with a tighter bind. The snares sounded looser and flabbier with the D-100s. The Coda also kept the lid on the fortissimo passages better, having them with more ease—the D-100s sounded as though they were teetering ever so slightly at the edge of control. Exciting, but not, I suspect, an accurate reflection of the LSQ’s performance.

On Rockin’ the Spirit, the amps were again very close. Both the CIAs and the Coda gave me a big soundstage with lots of enveloping spatial cues, but I felt the SS better conveyed the body of the pianos, especially in regard to the strong left-hand work of the four stride pianists. This wasn’t entirely an issue of bass response, though I did feel the SS’s bottom end was ever so slightly tauter. It was, rather, more that the bass lines were better integrated with the middle and upper keyboard lines. I have no idea why I was aware of this with well-recorded solo piano—and piano four-hands, of course—and not with the Rossini overtures, but there you go. Comparisons can be full of surprises.

The biggest surprise, of course, was how well the Channel Islands D-100s acquitted themselves going head to head with an amp as good as the Coda SS. It’s easy to make a buck. It’s a lot tougher to make a difference.

Difference. That’s what high-end audio is all about, after all. All things are seldom equal—we all have different preferences, priorities, and, yes, budgets.

Channel Islands Audio’s nifty little D-100 amplifier is extremely well built—the fit and finish are superb. I kept having to remind myself that a pair of them costs less than $2000. A lot less.

And that was just looking at them—I really had to keep pinching myself as I auditioned them. In performance, the D-100s might be giants; the fact that they’re so small is just icing on the cake. It means you can put them just about anywhere. I think I’ll keep a pair around as a reminder of just how good affordable high-end can be.

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INTERCONNECTS

When no one’s watching, it’s easy to express your opinion. When tens of thousands of people are reading over your shoulder, it becomes more difficult. In fact, it can be downright creepy—especially when what you’re thinking sounds like one of those grand, all-encompassing (over)statements you yourself tend to distrust. You don’t want to be wrong; on the other hand, if you’re too much of a wuss to express what you really think just because someone might take it as grandiose, then it’s time to give up.

Having watched other audio writers descend into hyperbole hell when revolutionary new technologies such as the transistor and the compact disc were introduced to high-performance audio, for a few months now I’ve sat on my opinion of Harmonic Technology’s new laser-driven, fiber-optic analog and digital cables.

I’m not yet ready to give up, but I am prepared to risk jumping into hyperbole hell. I believe that what I think now, and have thought almost since I first installed Harmonic Tech’s new CyberLight Wave and P2A LAM cables in my system, is true: The CyberLights represent one of the greatest technological breakthroughs in high-performance audio that I have experienced in my audiophile lifetime. Gulp.
What it is and isn’t

Basically, Harmonic Technology’s Light Analog Module (LAM) Photon Transducer is a tiny module built into the cable right at the RCA or XLR plugs. The LAM converts voltage to laser light, which is then transmitted via audio-grade glass fiber to a receiver in line with the RAC or XLR plug at the other end of the line, which converts the light back to voltage. Once the conversion to light has taken place, the light moves at, of course, the speed of light (ca 186,000 miles per second), with no resistance, capacitance, “skin effect,” inductance, RFI or EMI reception, etc. You needn’t worry about crossed power cords or static electricity, dressing cables to prevent induced hum or keeping them off the floor become nonissues. In fact, Harmonic Tech claims no signal loss of any kind in cable runs of up to 200 meters. And with no conductive wires between components, all potential ground loops are eliminated.

There is no digital conversion, nor is amplitude or frequency modulation involved. The process is purely analog. Because the signal is unidirectional, there is no back-reflectivity of the signal. The system bears no relationship to LED-based TosLink transmitters. Instead, true telecom/broadcast-quality analog laser technology is used at an invisible wavelength. According to Harmonic Technology, every electron that enters a Light Analog Module is converted to a photon, then back to an electron at the receiver end. The cables are available with either single-ended RCA or balanced XLR terminations. Imagine the advantages of this stuff used as balanced microphone cables.

Both sinewaves (analog) and squarewaves (digital) can be transmitted. The

MEASUREMENTS

Stereophile doesn’t routinely publish cable measurements. However, because the Harmonic Technology CyberLight Wave and P2A cables include active voltage/light and light/voltage transducers, it cannot be taken for granted that they will behave in the expected linear manner. I therefore asked Harmonic Technology to send me a balanced set of CyberLight interconnects, both for me to try out between my Mark Levinson D/A processor and preamplifier, and to be measured.

For the measurements, I hooked up the cables between the balanced outputs and inputs of my Audio Precision System One test set. The latter had its output impedance set to 50 ohms and its load impedance set to 100k ohms, these typical of the conditions the cable would see in a real-world system. The cables were powered from the supplied Cyber Power Pack battery box, which, after the recommended 18-hour charging period, was supplying a steady 12.73V DC.

My first test was to send a 1kHz tone at 1V through the cables. I expected some insertion loss, but what I did not expect was to see the voltage at the cable’s outputs slowly change with time. With a 1V input to the left-channel cable, its output was initially 830mV; ie, a drop of 1.6dB. However, over the next five minutes, the level declined to 781.5mV (~2.14dB), where it stabilized. The right channel behaved slightly differently, ending up with a steady-state level 0.71dB higher at 847.9mV. In direct comparisons with conventional cables, these level differences will be audible.

The source transducer’s input impedance was a moderate 6k ohms, which is on the low side for some tubed preamps and source components. These may sound lean as a result. The output transducer’s source impedance varied between 1 and 2 ohms over most of the audiband, rising to 24 ohms at 20Hz. However, the absolute value depended to a slight extent on the signal level.

To my surprise, though the CyberLight’s frequency response was flat in the midrange and treble, it featured a small bass boost, the exact degree of which depended on the load impedance. Peaking by 1dB below 20Hz into 100k ohms, this decreased to +0.5dB into 600 ohms (fig.1). And again note the 0.71dB channel imbalance in this graph, which was taken with a 100mV input signal. At 1V, the imbalance worsened slightly, to 0.76dB. The CyberLight’s unweighted, wideband signal/noise ratio was modest, at 72.8dB (ref. 1V). Switching in an A-weighting filter improved this figure to a good 87.9dB, but this cable actually has less dynamic range than, for example, the CD medium. As MF noted, you may hear a slight hiss coming from your speakers with this cable, depending on the sensitivity of your loudspeakers.

The measured behavior so far described concerns line-
input/output impedance of the CyberLight Digital Datalink is 75 ohms (the balanced XLR is 110 ohms). The analog cable’s input impedance is a high 30k ohms, the output impedance a low 75 ohms, thus making it component-friendly at both ends.

The key issue is how accurately Harmonic Tech’s miniature LAM Photon Transducer converts the signal to light and how effectively the receiver reconverts it. That I couldn’t measure. I could go only by what I heard, though HT claims a bandwidth that’s flat from 5Hz to 30MHz.

Logistics, setup, use
There are three varieties of CyberLight Wave cables: CyberLight Wave for source to preamp, CyberLight P2A for preamp to amp and source direct to amp, and CyberLight Digital Datalink for digital source to D/A converter. The standard versions accept ±2.5V signals; ±4.25V and ±6V versions are available as special orders. I used a pair of 20’ P2As between my preamp and amp, and 1.5m pairs of Waves from CD player to preamp and phono preamp to preamp.

The LAMs are powered cables, so wall-watt power is standard; each set of cables comes with its own wart. Far more preferable is the Cyber Power Pack ($399), a rechargeable battery that remains plugged in at all times. Power

ear errors. How about nonlinear behavior? In its literature, Harmonic Technology claims that the “Uniformity Density Modulation” technology used in the CyberLight’s Light Analog Module produces light photons in exact proportion to the number of electrons representing the analog signal. However, it cannot be taken for granted that an optical transducer will respond in a linear manner to the input stimulus. Fig.2 plots the percentage of harmonic distortion and noise present in the CyberLight’s output as I changed the signal level from 10mV to 10V, with load impedances of 100k and 600 ohms. The rising trend with decreasing level below 30mV indicates that distortion products are buried beneath the cable transducers’ noise floor. However, the increase in the measured percentage above 30mV into 600 ohms and 60mV into 100k ohms is due to the introduction of non-linear distortion.

The change in distortion with level is complex, but there is no doubt that the cable’s optical transducers both have a bent transfer function and are clipping for signal levels much above 1V RMS. This graph shows the left-channel cable’s behavior; plotting both cables’ THD+noise percentage against frequency (fig.3) at a moderate 100mV signal level reveals that the right-channel cable was worse in this respect.

In a typical system with CD sources, the CyberLight cable will have to handle maximum voltages of up to 2V. Fig.4 shows a spectral analysis of the cables’ output driving a 1kHz tone at 1V into 100k ohms. (For reference, the Audio Precision’s signal generator, measured using 6’ of balanced AudioQuest Cheetah, introduces just 0.0004% distortion at this level, primarily the second harmonic at -108dB.) A regular succession of distortion harmonics can be seen in fig.4, though the fact that their amplitudes

![Graph](https://via.placeholder.com/150)

![Graph](https://via.placeholder.com/150)
HARMONIC TECHNOLOGY CYBERLIGHT

connection is via “pigtails” that extend from near the transmitter end of each P2A and from the receiver end of each CyberLight Wave. The power source connections for both thus remain close to the source jacks.

To use the CyberLights, charge up the battery for at least 18 hours (preferably 24), then shut your system down, install the cables, and connect the power—Harmonic supplies power Y-connectors so that one line from the Power Pack can control two cables. Then switch the Pack from Charge to DC, fire up your system, and you’re ready to play for up to maybe eight hours, until the Pack needs a recharge. When you’re finished listening, shut off your amp and flip the Pack’s switch back to Charge. The downside is that you can’t leave your solid-state amp on continually. And don’t ever unplug or plug in the power to the cables with the amplifier turned on or you’ll send a horrendous THUMP through your system.

Once it’s up and running, using the CyberLight cable system is easy, as long as you remember to shut off your amp and flip the Power Pack’s switch to Charge; otherwise, you’ll have no sound for your next listening session and will have to switch to the wall warts. If you’re listening when the battery is almost drained, you’ll know it. The sound will become most foul, distorted, and anemic.

The most fabulous sound

When you’re powered up and ready to play music, you’ll hear a very slight hiss—decrease with increasing order might make the distortion’s sonic signature more acceptable. A similar picture can be seen at lower levels (fig.5), where the limited dynamic range can be seen, and with intermodulation distortion (fig.6). The distortion introduced by the CyberLight cables never drops below the level where it will be inaudible, in my opinion.

Following the measurements, I spent some time auditioning the CyberLight cables both in my system and in Michael Fremer’s. Even with me knowing how they measured, the cables surprised me with the general acceptability of their sound. There was a coherence to the stereo image, a nice three-dimensionality to the sonic objects within the soundstage, and a vivid overall presentation. Against those, there was a “hummy” quality to the sound of bass guitar, with the tonal emphasis shifted away from the fundamental to the harmonics, and closely miked voices, such as Willie Nelson’s on “Stardust,” took on a bit of a bark. Dynamics seemed exaggerated, with climaxes sounding louder than I was expecting. In the long term, I found the CyberLight’s presentation rather relentless.

I think that what the listener perceives with this cable is that at low levels, the sound is fattened and made more coherent-sounding by the dominant second-harmonic distortion. In addition, the presence of background noise cannot be dismissed, as there is some evidence that introducing small amounts of random noise results in a sound that is preferred by listeners. At higher signal levels, transients are accompanied by bursts of higher harmonics. However, these subside as quickly as they appeared. The overall effect is to render the system sound as being more vivid, I believe. However, the inevitable intermodulation products that are generated by the cable’s bent transfer function leads, I conjecture, to the relentless quality I noted in my own auditioning.

If this review were of a conventional product, I would dismiss it as being broken. Ultimately, no matter what someone might think of its sound—and Michael Fremer is one of the most skilled listeners I know of—I really don’t see how the CyberLight P2A and Wave cables can be recommended. I am puzzled that Harmonic Technology, which makes good-sounding, reasonably priced conventional cables, would risk their reputation with something as technically flawed as the CyberLight.

—John Atkinson

**measurements, continued**

Fig.6 Harmonic Technology CyberLight, HF intermodulation spectrum, DC–24kHz, 19+20kHz at 1V into 100k ohms (linear frequency scale).
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If you hear what I heard, for the first time in your life you'll hear no cables whatsoever. When you switch back to any brand of metal conductors, you'll know you're hearing cables—because what's transmitted via CyberLight will be the most gloriously open, coherent, delicate, extended, transparent, pristine sound you've ever heard from your system—at least if you hear what I heard.

There was a delicacy and purity to high-frequency transients that was immediate and unmistakable. By comparison, going back to regular cables made everything sound bright or dull or spotlit or hard, depending. The CyberLights produced an effortlessness and a pulse-like coherence that was more "musical" than anything else I've experienced while listening to recorded music. The bass was ultratight and "right," and the harmonic balance and overall musical decay were more natural and believable than I'd ever heard from any stereo system.

The LAM technology might—I say might—have had a particular character or sonic signature that could be described as a slightly glassy smoothness, but I think it was just the absence of grunge and metal cables' well-known problems—the problems that all cable designers tout their cables as having eliminated. Harmonic Tech has eliminated those problems for real by eliminating the cables themselves. If there was a slight tradeoff—and I'm still not saying there was—whatever was lost was more than made up for by what the CyberLights provided.

A number of serious cable skeptics within the high-end industry have visited me in the past few months. After listening sessions in which we made many cable swaps and A/B comparisons, they came to the same conclusions I have about the clear superiority of naturally musical presentation the LAM technology provides.

Summing Up
Having spent several months with the CyberLight analog interconnects (I haven't yet checked out the Digital Datalinks): 1) I would not want to be in the business of making expensive standard cables right now; 2) Harmonic Technology's Light Analog Module Photon Transducer is the most significant single technological breakthrough I have experienced in my career as an audio reviewer. It is immediately superior in every way.

Might measurements show signal degradation? Might someone come up with a way of "proving" that the LAM process induces a serious coloration even as it removes many others caused by conventional signal transmission? Perhaps—and I'm sure every other cable maker will be looking for those proofs.

Me? I'm prepared to eat crow. No matter how I try to deny it, after many months of listening to these cables with a wide range of associated gear, their superiority to anything else out there that I've heard is undeniable. This superiority comes at a fairly stiff price, but if you can afford it, I don't think you'll be disappointed.
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In 1998, it looked for a time as if one of America's finest singing and songwriting voices might be silenced. Fortunately, John Prine, a solo-guitar-and-voice dynamo and the composer of such wry folk-rock hymns as "Dear Abby," "Illegal Smile," and "The Oldest Baby in the World," beat the illness that nearly laid him low and has now released *Fair & Square*, his first studio album of all new material in nine years.

The Chicago native (and pal of the late Steve Goodman) contracted what he calls "neck cancer" just after he'd turned 50, married for the third time, and become a father for the first. Near-death experiences have a way of reordering earthly priorities, and Prine's experience was no different.

"It just confirmed what I'd been suspectin' all along," he said in a recent interview from his home in Nashville: "that life is real sweet and remember to enjoy it."

Another change wrought by Prine's illness was less philosophical and more physical. Either the surgery itself or the follow-up radiation changed his voice, making it raspier and lowering it an octave. He says there's been a silver lining to this—singing his old songs in lower keys has made them feel new again.

One thing that hasn't changed is Prine's ability to write enchanting melodies and alternately funny and poignant lyrics. If there were any doubts about whether he could return to full strength after his illness, they are effectively blown to bits by the first song on *Fair & Square*, "Glory of True Love," which ranks with "Man of Constant Sorrow" as one of Prine's bona fide anthems.

"I wrote it as an album opener, a show opener, so I could walk out on stage, start strummin' the guitar and singing something at that tempo. I wanted something that bounced along that was a pretty good idea, something that said 'Welcome, now sit down and get ready, 'cause here comes the rest.'"

Prine, has always been a political songwriter to some degree, but "Some Humans Ain't Human," one of his patented song-song message numbers, has become *Fair & Square*'s most talked-about track. The opening verse likens hearts to neglected refrigerators and contains what is one of his most hilariously vivid images, "ice cubes with hair"—"It's not something you want to lay on your date," he says with a chuckle—and the chorus plainly states Prine's feelings about mankind's less savory qualities: "Jealousy and stupidity / Don't equal harmony." It continues with a spoken word interlude that ends with "Or you're feeling your freedom / And the world's off your back / Some cowboy from Texas / Starts his own war in Iraq."

The controversy the song has generated has given the 58-year-old Prine "mixed feelings" about it. On one hand, he says, he doesn't like anything "that's even close to a cheap shot." But on the other, "Politics are different these days. Really different. When you think back on how cut-and-dried the people that were either for our presence in Vietnam or against it, and today you take a group of five people and you don't know. You can be talking and the subject will go to politics and you don't know who you are talking to. That same person you agreed with on music, agreed on the time of day, agreed on this and that, will turn around and go, 'What's the matter with George Bush?' Look ya dead in the eyes and say it."

"I didn't write that song to be a political song, I wanted to say it and get out of it as fast as I could and not make a big deal out of it. People are writing me letters—this is the part I don't get—saying, 'I've been a fan for 30 years, 35 years, and I don't come to your shows to hear politics.' Well, what in the hell did they think I've been talking about? That's the political climate. They applied their own set of rules to 'Sam Stone.'"

Prine says the pastoral "Taking a Walk"—which he says, has been wrongly interpreted as a statement of how his cancer scare has imbued him with a new appreciation for life's simple pleasures—is the album's true political song. "The girl in 'Taking a Walk' is Liberty, and she's a mess. She's hardly recognizable."

"My Darlin' Hometown" features Jerry Douglas on a dobro-like Weissenborn guitar, and Alison Krauss and Dan Tyminski (the voice of "Man of Constant Sorrow") on harmony vocals. On "Morning Train," Prine and guitarist Pat McLaughlin, who plays and sings on most of the album and cowrote two of its songs, take a successful if laid-back stab at the blues.

Finally, the man shows his generosity by including two wonderful covers: A.P. Carter's "Bear Creek Blues" and the late Blaze Foley's "Clay Pigeons." A semilegendary character and sometime singer-songwriter, Foley may be most famous as the subject of Lucinda Williams' song "Drunken Angel." Prine was drawn to find out about Foley after he heard Merle Haggard's cover of another Foley tune, "If I Could Only Fly."

"The name seemed vaguely familiar. Well, it turns out we knew each other, and I guess the times we spent together were probably...pretty...ah, well, Austin in the Seventies, you could hang out with somebody for a week and not know their name. [laughs]"

While it's tempting to say that cancer made *Fair & Square* quieter, more thoughtful than it otherwise might have been, the album is as vital, playful, and edgy as Prine's 1971 debut album, *John Prine*. Happily, *Fair & Square* sounds much better than that milestone, possessing what Stereophile editor John Atkinson calls "a glorious sound" as warm and full of life as its irreplaceable creator.

—Robert Baird
classical

DONIZETTI
Elvira and Francesca di Foix

Elvira
Pietro Spagnoli, Amur; Jennifer Larmore, Zeidar; Annick Massis, Elvida; Bruce Ford, Alfonso; others
Opera Rara ORC29. TT: 65:47
Performance *****
Sonics *****

Francesca di Foix
Pietro Spagnoli, King; Bruce Ford, Duke; Annick Massis, Francesca (Countess); Jennifer Larmore, Page; Alfonso Antonizzi, Count
Opera Rara ORC28. TT: 76:42
Performance *****
Sonics *****

Both: Antonello Allemandi, London Philharmonic Orchestra; Geoffrey Mitchell Choir

Donizetti, with 15 operas under his belt, was a burgeoning star when he composed Elvira in 1826. By the time he wrote his 33rd opera, Francesca di Foix, just five years later, Anna Bolena, presented the year before, had made him famous. The world of early-19th-century opera tended to be fickle: Elvira was given four performances and sank like a stone; Francesca made it to only seven.

Other than the fact that both are one-act works, both were flops, and both contain terrifically singable, enjoyable, and not altogether memorable music, what these operas also now have in common is that Opera Rara recorded them both in March 2004, in the same recording sessions, in the same venue, with the same musicians. And they’re both just about perfect performances in glorious, rich sound.

Elvira was first given in Naples for the birthday of the queen. It was just a portion of a gala evening, and despite the spectacular soloists—Méric-Lalande, Rubini, Lablache—Donizetti was pretty sure it would receive little attention, and he was right. He also didn’t think much of it, and he was close to right there, too. The unimpressive plot involves Elvira (soprano), a “noble Castilian maiden” who is taken captive by a Moorish big shot, Amur (bass), whose son, Zeidar (mezzo; a travesty role), desires her. Elvira’s fiancé, Alfonso (tenor), comes to her rescue, and when Amur tries to kill Elvida, Zeidar stops him. The two Moors are allowed to go free as tenor and soprano rejoice.

Donizetti hoped that Alfonso’s aria (as sung by Rubini) and a quartet near the opera’s close would impress the audience, and, along with the final duet with chorus—a series of ever-more-difficult vocal variations—they are the strongest numbers in the score, though bel canto fans will also relish the mezzo-soprano duet early on. These aren’t great, original moments, but they’re tuneful, and can’t help but have a positive impact when the singing is as good as it is here.

Tenor Bruce Ford proves again that his sparkling high notes, agility, superb diction, and virile tone are remarkable. Mezzo-soprano Jennifer Larmore uses a strong, manly tone as Zeidar to menace and woo Elvida, and Pietro Spagnoli’s confident, flowing bass is just right as Amur; he can express anger while keeping the sound unexaggerated. At the opera’s center is soprano Annick Massis, whose singing is an example of the possibility of beautiful tone throughout the entire range, at every dynamic level and in languid as well as highly decorated music. She and Ford knock several out of the park with their final theme and variations. The Geoffrey Mitchell Choir and London Philharmonic Orchestra are excellent, and conductor Antonello Allemandi leads as if this were a masterpiece. In short, this is one of those operas that lovers of great singing will find irresistible, while detractors of bel canto can argue that the music and text seem not to have much to do with one another. Big deal—not everything is Otello.

Francesca di Foix is a better work, though in no way a “forgotten masterpiece.” (Donizetti re-used some of its music for Lédir d’amore.) This odd work is referred to as an “opera semiseria,” though it seems more a comedy. Its silly, if direct plot concerns the lovely Francesca, whose jealous husband, the Count, keeps her away from court, explaining that she is too ugly to be seen in public. The suspicious King gets a Duke and his Page to lure Francesca to court veiled and under an assumed name; the Count first suspects, then knows that the woman is his wife, but refuses to admit it. When the King promises the “stranger” in marriage to the winner of a tournament, the Count gives in, is reprimanded, and apologizes. Everyone rejoices.

Light stuff, but charming: a nice entrance aria and rondo-finale for Francesca, a good tenor solo, a swell duet or two, a terzett and some good give-and-take in the work’s recognition-apotheosis scene. As Francesca, Massis is luscious—her tone, always glorious, is used here good-humorously—tossing off perfect trills and coloratura. Larmore brings real character and a nice, darkish tone to the Page’s music, while Ford as the Duke is, as usual, manly and graceful at once. Alfonso Antonizzi manages to keep his dignity as the foolish, fooled Count by singing with velvet tone and genuinely caring about the role, and Spagnoli brings a handsome legato to the King. The Mitchell Choir and LPO, again under Allemandi, are sprightly, singing and playing the work with such perkiness that it whizzes by. And, as with Elvira, Opera Rara’s booklet—filled with informative, coherent essays, histories, texts, and translations—it’s something other labels ought to imitate. A terrific little Donizetian cream puff.

—Robert Levine

rock/pop

AT THE DRIVE IN
Anthology: This Station Is Non-Operational

Performance ***½
Sonics **½
Open Season is an amiable follow-up to British Sea Power's acclaimed 2003 debut, The Decline of British Sea Power. Sonically scrubbed to squeaky-clean perfection by ace mixer Bill Price (Sex Pistols, Clash, Libertines), the record goes down smooth as a honeyslide and leaves a warm glow in the tummy. It will no doubt charm all the same Anglophilic pop critics, including well-placed ones at Spin, Rolling Stone, and Entertainment Weekly, who embraced its predecessor. For that matter, no less than David Bowie is a dead ringer for the Smiths, you say? But for those who prefer tameness to British Sea Power's acclaimed 2003 debut, The Decline of British Sea Power. Sonically scrubbed to squeaky-clean perfection by ace mixer Bill Price (Sex Pistols, Clash, Libertines), the record goes down smooth as a honeyslide and leaves a warm glow in the tummy. It will no doubt charm all the same Anglophilic pop critics, including well-placed ones at Spin, Rolling Stone, and Entertainment Weekly, who embraced its predecessor. For that matter, no less than David Bowie is a dead ringer for the Smiths, you say? But for those who prefer tameness to British Sea Power's acclaimed 2003 debut, The Decline of British Sea Power. Sonically scrubbed to squeaky-clean perfection by ace mixer Bill Price (Sex Pistols, Clash, Libertines), the record goes down smooth as a honeyslide and leaves a warm glow in the tummy. It will no doubt charm all the same Anglophilic pop critics, including well-placed ones at Spin, Rolling Stone, and Entertainment Weekly, who embraced its predecessor. For that matter, no less than David Bowie is a dead ringer for the Smiths, you say? But for those who prefer tameness to...
You hear it for technology, and the record business finally using it to come up with inventive, market-based solutions to its mostly self-created problems. But if the erratic nature of Bruce Springsteen’s Devils & Dust DualDisc is what we can expect from this new double-sided format (CD music on one side, DVD-Audio/Video content on the other), then it’s another example of the industry shooting blanks, or shooting itself in the foot.

Since its release, the Devils & Dust DualDisc has sent waves of irate fans to Internet message boards, where they’ve detailed myriad problems with getting one or both sides to play. DualDiscs are not up to the Compact Disc’s “Red Book” specs, and so are not compatible with all players, even of the universal variety. Worst still, the sonics of this disc are shockingly compressed and limited. (For more on DualDisc, see Jon Iverson’s “As We See It” in the January 2005 issue, and Kal Rubinson’s “Music in the Round” for May 2005.)

It’s too bad the controversy over hardware has overshadowed the music on a record—a Springsteen record, no less—because, like all Springsteen albums, Devils & Dust is yet another powerful musical statement. Of Springsteen’s three acoustic albums—Nebraska and The Ghost of Tom Joad are the others—Devils & Dust is the weakest. There’s no “Atlantic City” here, no “Sinaloa Cowboys,” even if several of the songs—“The Hitter,” for example—date from the time of Tom Joad (1995).

But Devils & Dust is not a look backward. The album opens and closes with songs that hook directly into today’s headlines. The first and title cut revisits Springsteen’s eternal subject, salvation and the rocky road to it. Set in a desert and filled with such touchstone Springsteen words as faith, heart, survive, and blood, “Devils & Dust” is clearly an anti-war tune. As he does on every song here, he does on every song here, Springsteen sings it with great conviction and studied nuance.

The album closes with a tragic farewell, “Matamoros Banks,” an elegiac return to a subject he’s written about before: the struggle of immigrants to cross the southern border of the United States.

Then there’s the strange tale of an encounter with a hooker in “Reno,” the most lyrically graphic tune he’s ever written, thanks to such lines as “two hundred straight in / two-fifty up the ass.” As flavorful as this nasty little vignette of despair is, it’s one of the few Springsteen tunes that’s genuinely weird and hard to listen to, not to mention already notorious for evoking puzzled looks even from longtime fans.

One irresolvable argument revolves around Springsteen’s urge to universalize his music—that is,
whether stretching his horizons from "Jungleland" to the Great Plains has watered down his lyrics and allowed him to intellectually noodle rather than express genuine emotion. This impulse to be an all-American poet who works in miniatures can take this master songwriter places where he is suddenly less sure of himself and his subject. "Black Cowboys" takes place in four different states but is one of the album's less memorable tracks. "Silver Palomino," a tale of prickly pear and serrania (mountains) makes little impact.

But with Devils & Dust, as with any Springsteen record, there's no denying that the man is a very rare song craftsman. On this, his thirteenth album, the details of his arrangements continually amaze: the guitar figure behind "All the Way Home," the tasteful pedal steel and fiddle in "Long Time Comin'," the trumpet solos and the soft vocal chant of the chorus of "Leah."

Also as with any Springsteen album, the songs that put this one over the top are the gorgeous ones like "Leah," and anthems such as "Long Time Comin'" and "All I'm Thinkin' About"—both of which could roar into full voice in the hands of the E Street Band. Overall, a beat off his best work but still striking and essential Bruce. —Robert Baird

**Various Artists**

**Cameo Parkway 1957-1967**


Performance **** Sonics ****

While it's understandable that casual listeners might assume that any rock-era music of any consequence must already have been tapped for reissue on CD, serious fans know that this is not the case. Witness the fact that the bulk of the 115 tracks on *Cameo Parkway 1957-1967*—many of them chart hits in their original release—have never before been officially released on CD. That alone would make noteworthy this much-anticipated four-disc boxed set—a comprehensive survey of Philadelphia's influential Cameo label and its Parkway subsidiary, whose catalog legendary music mogul Allen Klein has been sitting on since the late 1960s. But *Cameo Parkway 1957-1967*...
appeal extends far beyond its archival value.

In its early-'60s heyday, Cameo-Parkway was America's most successful indie, encompassing Chubby Checker's dance-craze hits, Bobby Rydell's suave teen-idol pop, the Orlons' girl-group grit, the Tymes' smooth post-doo-wop, and the Dovells' hyperactive party anthems, along with a wild assortment of oddball one-offs and left-field novelties. The lack of a consistent sound or style keeps this collection from having much of a musical focus, but the package's all-over-the-place diversity is also its strength, making it a compelling reflection of the anything-goes eclecticism of the Top 40 radio format that ruled America's pop consciousness during Cameo-Parkway's golden age.

From the upbeat opening salvo of Charlie Gracie's pop-rockabilly hit "Butterfly" to the scruffy parting shot of the pre-stardom Bob Seger's "Sock It to Me Santa," the chronologically arranged set doubles as a mini-history of the pre-FM rock'n'roll biz. The company's fortunes rise with the rising influence of teen culture in the late '50s and early '60s, lose steam in the wake of the British Invasion (represented here by non-hit UK pickups by the pre-fame Kinks and castoff ex-Beatle Pete Best), and are ultimately overwhelmed by the advent of album-oriented hard rock (the early stirrings of which can be detected in punchy Michigan garage-rock and the Mysterians and the Rationals).

In between are all manner of familiar basics and unsung winners, all of them sounding terrific thanks to pristine remastering. Virtually all of the hits, many long dismissed as lightweight fluff by rock historians, have aged exceedingly well, maintaining an unselfconscious exuberance that transcends their original commercial context. But it's the quirkier oddities—local TV horror host John Zacherle's flamboyantly loony "Dinner with Drac Part 1," Senator Bobby's RFK-influenced "Wild Thing," Clint Eastwood's Rawhide cash-in "Rowdy," and Bobby the Poet's nutty Dylan spoof of "White Christmas"—that give the box its bite. Even the throwaway instrumentals by label founder Bernie Lowe and house arranger Dave Appell maintain levels of spirit and craft that belie their ephemeral origins.

Beyond the sheer joy contained in its snazzy-looking black plastic discs, Cameo Parkway 1957-1967 is a handy reminder that the rich and often profound vein of vintage pop music has yet to be exhausted.

—Scott Schinder

M. WARD
Transistor Radio
Performance ****

spot impressions, as we all know, are not always accurate. Case in point: Portland's M. Ward—to Ma Ward, just "Matt"—who, on his 2000 debut, Duet for Guitars #2, came off as a gifted but terminally introverted folkie, the kind of guy who'd blush and avert his eyes if you barely glanced at him. Not long after Duet appeared, however, Ward dropped by the record store where I worked. Against all odds, the dude was as talkative and outgoing as his album suggested he might not be. Good thing, too. In a few years he'd need those social skills in order to deal with the sudden surge in media scrutiny over his celebrated third album, Transfiguration of Vincent (2003). And now Transistor Radio is receiving rave reviews from both the indie and the mainstream press.

It's not really a folk album, not in the Pete Seeger sense or in the contemporary "freak folk" sense (Devendra Banhart, et al). Granted, random cueing of the CD might convey that impression: there's Ward's finger-picked, John Faheyesque reading of the Beach Boys' "You Still Believe in Me," his folkadelic shuffle through the Carter Family's "Oh Take Me Home," and his delicately droning original, "I'll Be Yr Bird." You could almost call it a blues album, given such tracks as the bawdy piano boogie-woogie of "Big Boat" and the twisted, Jack-Johnson-meets-Tom-Waits "Hi Fi." But then you'd also encounter assorted red herrings and culs-de-sac, ranging from a countrypolitan pedal-steel number to a surf-tango instrumental to several lithesome slices of sunny-strummy indielop. The only real connecting thread is Ward's signature nicotine rasp, a not-so-guilty pleasure that's at once idiosyncratic and intoxicating. What'll you hear his falsetto.

Listening to Transistor Radio is indeed like spinning up and down the AM radio dial back in the day, long before the loathsome term "Clear Channel" had currency. Each time you zero in on

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a Ward bandwidth you'll hear something different. It might be sweet, it might be strange, and it might even seem as if it's in an alien musical language, bouncing willy-nilly off the atmosphere. But it will always be heartfelt and fascinating. — Fred Mills

jazz

CHARLES LLOYD
Jumping the Creek

Charles Lloyd, tenor & alto sax, taragato; Geri Allen, piano; Robert Hurst, bass; E.J. Strickland, drums, percussion
Performance *** Itch/2 Sonics ****

To say you're "jumping the creek" suggests a bit of dramatic derring-do, a kind of Superman move. There may be safer, more pedestrian routes to the same goal, but who has time for that? It's a funny title for a Charles Lloyd record, though. The great tenor saxophonist is the Zen Daddy of contemporary jazz, with one foot in the Memphis underground that spawned him and the other kicked back in the Big Sur aerie he calls home. In a mellow tone? Lloyd floats in the slipstream.

"Ne Me Quitte Pas (If You Go Away)," the 13-minute opener of this, Lloyd's 11th and latest album for ECM, is a perfect illustration. It's a languid excursion, cued by pianist Geri Allen's gentle introductory reverie, that never really catches fire until its final few minutes, when the saxophonist goes matador, attacking the Spanish-flavored theme with dramatic flourishes. What was melancholy and poetic and drizzled with rain suddenly begins to smoke.

This album is like that. It's also an occasion for Lloyd to revel in the chemistry of his stellar quartet, with whom he enjoys a spirited looseness. "Ken Katta Ma Om (Bright Sun Upon You)" has Lloyd flexing with his rhythm section for a couple of minutes before Allen comes in, playing sharp, inventive lines. (Allen, brilliant throughout the session, thrives on a freedom here that makes her own solo work seem a tad modest.) And you can hear how finely attuned drummer E.J. Strickland and bassist Robert Hurst are on "Canon Perdido," a brief episode midway through the disc. The piece offsets Lloyd's clean, easygoing horn line and brief, boppy flour-
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World Radio History
ishes with Strickland’s speedy percolations and Hurst’s arched-brow low notes. The tune barely seems like a tune at all, more a snippet from a bandstand elaboration, but one so crisp and unstudied that it refreshes. Lloyd fetches his taragato (a double-reed instrument from Hungary, favored by the Gypsies) for the Middle Eastern–themed “The Sufi’s Tears,” visits Ellington (“Come Sunday”), and goes back to his own book for the vintage “Georgia Bright Suite,” which finds the sage at his fleet and fiery peak, burning over the bustle. Maybe he’s jumping that creek after all.

—Steve Dollar

**Bang on a Can All-Stars**

Bang on a Can Meets Kyaw Kyaw Naing

Kyaw Kyaw Naing, pat waing, gongs, six-drums set, pat ma; Ma Aye Myint, Maung Maung Myint, Si wa; Evan Ziporyn, clarinet; Todd Reynolds, violin; Wendy Sutter, cello; Mark Stewart, guitar; Lisa Moore, piano; Marc Kerfman, keyboard; Robert Black, bass; David Cossin, drums


Performance **** Sonics ★★★½

B

**urma, aka Myanmar, the Southeast Asian state known best for its jade and heroin trade, military dictatorship, and Nobel Peace Prize laureate Aung San Suu Kyi, isn’t just a neglected point on the Axis of Evil. It’s also home to an intriguing crossover musical culture, begun when an Italian ambassador gave the King of Mandalay a piano in the late 1800s and updated by Drum Circle (pat waing) virtuoso Kyaw Kyaw Naing’s collaboration with the maverick Bang on a Can All-Stars, a New York City chamber troupe. The pat waing comprises 21 tuned hand-drums set in a gold-leaved semicircle, and Naing, a 40-year-old composer-improvisor whose father and grandfather were also pat waing adepts, sits at its center, swiftly tapping out complex, often syncopated and polyrhythmic runs. Sometimes a si wa bell-clapper holds a metronomic pulse, but, like Indonesian gamelan music or a Chinese opera score, the Burmese pieces here may start as courtly processionals, assert floating melodies, then swoop toward riotous celebration and abrupt stops; tempos shift suddenly, and some passages are rubato. The drums’ tones range from bamboo-slat flatness through a resonant balafon’s to a water drum’s rubbery depths. Tiny gongs are used as grace notes. Though Naing’s seven-minute solo is one of the most arresting of the nine tracks, the pat waing is usually at the core of a septet or larger ensemble, and the All-Stars acquit parts written for indigenous instruments with admirable precision, clarity, and spirit. The music is exotic, yes, but they embrace it as akin to the postmodern repertoire of Philip Glass, Terry Riley, Louis Andriessen, and their other favorites. Kudos to clarinetist Ziporyn, guitarist Stewart, and violinist Reynolds, especially, for personal statements blending downtown and Southeast Asian flavors.

The slightly trebly mix has a transparency that keeps all the instruments distinct during tutti movements, with the pat waing half a step out front. If only the package had photos and notes about Naing, who is famous in his homeland. There’s more to hear—idiosyncratic slide guitar and detuned piano traditions—beyond Burma’s shroud of geographic remoteness and politically enforced isolation. Keep listening.

—Howard Mandel

140 www.Stereophile.com, August 2005
Bud Fried
Editor:
We appreciate Wes Phillips' mention of Bud Fried's life and work in the June issue of Stereophile. His products had pushed the envelope of audio performance for over 40 years and been acclaimed as among the finest worldwide. It was very important for him that his belief in truth as the central tenet of audio reproduction continue; and it was an honor to have known him for so many years as he pursued this goal.

As Mr. Phillips noted, "His eye and ear for classic audio products alone would have established Fried's name among audio luminaries, but it was his advocacy of the series-crossover and transmission-line loudspeaker that marked him as legendary."

Fried Products Corporation was founded in 2004 by a group of audiophiles, including Mr. Fried, to preserve, protect, and advance the art and science of loudspeaker technology. We wish to assure the readers of Stereophile that this endeavor will continue. COO and EVP Design and Quality Control David E. Finley has more than 30 years' knowledge of Bud's work, and actively designed with him for over two decades.

As Bud once said about his beliefs, "The answer, or answers, lie in physics and acoustics, those immutable laws which govern the propagation of sound." He loved the authority of live music, whether symphonic or solo; he understood acoustic space—ambience—from the spaciousness of a great hall to the warmth of a small acoustic venue. That was his absolute reference: the original, pure tone at a particular frequency. And you hear these resonances only with a warm acoustic space—ambience— from the original, warm bass from relatively small enclosures, and an engaging midrange and high frequencies.

While I'm at it, I'll mention the growing number of enthusiastic musicians and engineers embracing our products. Visit our News page for choice photos of our road trips. Big names, big fun!

Entirely by coincidence, our next speaker is a well-braced three-way that's been in the works for a while. I'll be less like a musical instrument than the 505LTD, you might say. We look forward to having Stereophile take a look at other Tetra speakers in the future.

Thanks for the time and effort.
Adrian Butts
President, Tetra Speakers
www.tetraspeakers.com

Cyrus 6vs
Editor:
Many thanks to Art Dudley for his review of the Cyrus 6vs [May 2005].

Although new to America, Cyrus is well known to audiophiles around the world, but many may not be aware of its recent history or know that the company is now owned by the audio enthusiasts who run it. Back in 1998, when the Board of NXT plc (erstwhile owners of Mission, Roxanne, Quad, Premier Percussion, and Wharfedale) decided to sell the group's audio brands to concentrate on flat-panel speakers, Cyrus was separated into an independent company for the first time. A new management team was assembled to develop Cyrus as a specialist audio business. In 2003, having made considerable progress with the company, the management bought the assets from NXT and formed a new company, Cyrus Audio Limited. The last seven years have been enormously rewarding for us as we reinvested in R&D, focused on performance, and developed new models that allowed us to expand our famous upgrade path, helping our consumers to grow their systems over time.

Since exhibiting at the 2000 Consumer Electronics Show, we have received many offers promising quick success in the US. However, our experience in Europe has proved that when we take our time discovering who the quality retailers are, we eventually gain the trust of consumers and trade alike. Of course, this takes more time, but people who are looking for a sophisticated product will appreciate this approach, and eventually we build retailer networks enthusiastic about supporting our customers in the longer term.

The Cyrus 6vs is, as Art correctly states, a marvelous introduction to the world of music and, as we say in the UK, punches well above its weight. The reference amplifiers that Art mentions cost a lot, lot more; to be in that company is praise indeed.

Pete Bartlett
Managing Director, Cyrus Audio Limited

Tetra Speakers 505LTD
Editor:
Your review of our 505LTD two-way was very much appreciated. I consider speaker building a science but, more important for me, an art. Of course, I knew about the test-tone resonances. René St. Denis of the NRC was kind enough to lend us their chamber to isolate these nodes and design appropriate bracing. But I decided not to add the bracing after all.

As John points out and René agrees, you hear these resonances only with a pure tone at a particular frequency. And I'd already achieved a balance of sound that was pleasing to my ears and those of our customers. René also noted distortion products 10dB down across the audio spectrum—effectively inmeasurable. So I left the design as is.

Paul Bolin did a great job of describing how they sound: "a lot of fun to listen to. Their big, open soundstage, liveliness, and outstanding coherence might have been expected, but their surprisingly deep bass response was a pleasant shock." That's the Tetra story: a big, wide soundstage to fill a room, great bass from relatively small enclosures, and an engaging midrange and high frequencies.

While I'm at it, I'll mention the growing number of enthusiastic musicians and engineers embracing our products. Visit our News page for choice photos of our road trips. Big names, big fun!

Entirely by coincidence, our next speaker is a well-braced three-way that's been in the works for a while. I'll be less like a musical instrument than the 505LTD, you might say. We look forward to having Stereophile take a look at other Tetra speakers in the future.

Thanks for the time and effort.

Adrian Butts
President, Tetra Speakers
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Channel Islands Audio D-100
Editor:
Thank you for your nice review of the CIAudio D-100 monoblock. We're pleased you found it to be a great value. With the continuing progress of class-D technology, our products are constantly being updated and improved to reflect the state of the art in performance and reliability.

In reference to John Atkinson's measurements, the low figures shown at 2 and 4 ohms are not due to lack of headroom, but are a result of premature current limiting. This has been addressed in our current production model, and the D-100 is very comfortable driving difficult loads. As JA mentioned, making distortion measurements on switching amplifiers can be difficult. The use of an Audio Precision System 2 with AES17 filter will yield more realistic results. Samples of the latest version D-100 have been submitted to Stereophile for retesting.

Our new D-200 (200W at 8 ohms, 325W at 4 ohms) is now available, and both the D-100 and the D-200 have the...
options of 26dB or 32dB gain, and single-ended or balanced input at no extra charge (at time of order). Dusty Vawter
Channel Islands Audio

Harmonic Technology CyberLight
Editor:
We want to thank Michael Fremer for his stunning subjective description of the CyberLight cables in his system. We deeply appreciate his willingness to express so deeply what he has heard. We also want to thank John Atkinson's willingness to take our product into the lab. JA's measurements have put our engineers under stress; they can't understand how they differ so much from their own. We will examine our cable carefully and, if we may, ask Mr. Atkinson a few questions about his test setup so we can duplicate conditions. It is an honor for us to have a review in Stereophile, no matter how controversial. Thank you.
Jim Wang
Harmonic Technology

I got word of bad measurements from these cables from independent sources before JA did, and I could have lobbied for the review's withdrawal in order to avoid embarrassment and possible damage to my reputation. However, I chose to let it go, whatever the consequences. I stand by what I heard, and I still like what I hear. If I chose sources based on measurements, I'd have checked my LPs and switched to CDs a long time ago. I'm glad I didn't, and I stand by my belief that LPs sound much more like real music than do CDs. However, just as I wouldn't use LP test records as measurement tools when we have CDs that do a better job, I will continue to use the CyberLight cables, though mostly only for pleasure listening. When reviewing equipment, I will rely more on conventional cables, just as I listen to both LPs and CDs when reviewing nonsource components. If readers lose trust in my listening abilities because of the disparity between what I heard and what JA measured, those are the breaks.

—Michael Fremer

My test setup was the simplest possible: Audio Precision System One signal generator set to a source impedance of 50 or 600 ohms driving the balanced interconnect, which was looped back into the System One's input, this set first to a 100k ohm load, then to 600 ohms. So disturbed was I by the measurements of the balanced samples HT had sent me that I measured one of the unbalanced sets that MF had been using. The result was no different. I then repeated the tests on the unbalanced samples using a completely different set of test equipment, the Miller Audio Research QC Suite, which is based on a National Instruments generator/ analyzer PC card. The results were again identical.

—John Atkinson

Eben loudspeaker
Editor:
Thanks to Stereophile for Robert Deutsch's comment on the Eben loudspeaker in his June 2005 coverage of the Montreal Festival Son&Image show. I very much appreciate Bob's favorable comment on the lower right of p.20. However, the name of the speaker was misspelled as "Eban" and not set in bold typeface. The correct spelling is Eben X-Baby, and the price is $4800/pair.

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-Galen Carol

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Wayne's World

I f I lived in Alaska, where I couldn't see live music, where I was safe from the buzz of Jack and Meg or the slumbers of Ozzfest and smooth jazz, perhaps I'd have had more interest in music DVDs before now.

Oh, sure, I've dipped into bootleg "pro-shot" (yeah, right!) discs of the Rolling Stones in 1972, Springsteen in 1978, or Tom Waits anytime, to name just a few. But most music DVDs have left me cold: too many close-ups of Bono squinting—or, emoting—or of Jeff Tweedy gloating about how hordes of record labels were leasing after Wilco's next record.

Thanks, however, to a new handful of DVD titles led by The Fearless Freaks, my heretofore latent sensitivity to music DVDs has broken out in a brain rash. I can now be found in front of a TV immersed in skip, pause, and search.

To be fair, The Fearless Freaks, which debuted at South By Southwest 2005, ain't your mama's DVD. A 110-minute feature film, more akin to Boogie Nights than the usual concert DVD, details the improbable rise of the unknowable, ever-burning Flaming Lips. Directed by Bradley Beesley, a former neighbor of Wayne Coyne, the Lips' driving force and chief creative strategist, Freaks tells the story of the 22-year-old band, whose music is described throughout the film in humorous but ultimately flattering epigrams such as "freaky art rock," "Neil Young on some kind of gas," and Coyne's own—"a no-talent derivative of a hillbillies-gone-punk version of the Who."

Gibby Haynes of the Butthole Surfers, calls it "an audio-visual psychedelic folk rock extravaganza."

Singer-frontman Coyne, drummer-keyboardist-guitarist Steven Drozd, and bassist Michael Ivins are the stars of The Fearless Freaks which takes a mostly honest look at the band's gritty but triumphant history, complete with heroin addiction, white-trash homesteads, and assorted square-peg family members who've committed suicide or been in prison. The title comes from a team that the five Coyne brothers organized while growing up in Oklahoma City that combined tackle football with getting stoned.

The evolution of the Flaming Lips into one of this era's most essential rock bands gives the film its fizzy but potent jolt. The moral seems to be that being a musician is an alternate reality, that to create lasting, important music you cannot be like everyone else, that you have to be gifted—or at least obsessed—from the start. Hey, I'm buying; rather than judge it, I admire this altered state and have spent my life writing about it.

Mozart, Beethoven, Chuck Berry, John and Paul—they all fit the model.

Even musicians, however, eventually grow up. By the end of The Fearless Freaks, even Lips fanatics will find themselves marveling at how normal and well-spoken the bandmembers, now middle-aged, have become. The long clips of their spectacular stage shows however—which feature light shows, storms of confetti, extras in plushie animal suits, handheld fog machines, and a fake blood-spattered Coyne encased in a giant bubble—gloriously make the point that the Flaming Lips will never quite, thank God, grow up. A rare rock film worth seeing, The Fearless Freaks is a documentary whose integrity mirrors that of its uniquely spirited subject.

More music DVDs worth a look and a listen:

Lucinda Williams: Live from Austin TX (New West)—This is one of an excellent-sounding, striking-looking, and distinctively packaged series of DVDs from up-and-coming indie label New West Records. Taken from the December 5, 1998 installment of the Austin City Limits TV show, Live from Austin TX catches the turbulent Williams—whose latest live album is mediocre at best—at her peak. The 16 performances here span her career until that point, but focus mainly on songs from Car Wheels on a Gravel Road ("Metal Firecracker," "Drunken Angel"). The sound, surprisingly good for live TV, is available in both stereo and 5.1 surround mixes. Other excellent volumes in this series include performances by Son Volt, Richard Thompson, the Flatlanders, and Steve Earle.

Billie Holiday: The Ultimate Collection (Hip-O)—The vagaries of SACD and DualDisc aside, classy DVD/CD packages such as this seem like one way the record business could move some product and revive itself. The first cross-licensed Holiday collection, this three-disc set features 42 audio tracks from the Columbia, Decca, and Verve labels, who among them own the majority of Holiday's recordings. The DVD presents most of the filmed Holiday still extant, capped by the wonderful Sound of Jazz clip from 1957, which features Holiday backed by Lester Young, Coleman Hawkins, and others. The DVD also has radio airchecks, Holiday's 1956 TV interview with Mike Wallace, and a complete recording history, among other things. A killer package for both aficionados and novices.

Brian Wilson Presents SMiLE (Rhino)—Enough already. The never-ending SMiLE wave continues with these two discs, which provide more than even Brian Wilson fanatics may desire. A feature-length documentary on the remaking of SMiLE, a feature-length live performance, innumerable interviews with the incommunicative Wilson himself, "featurettes" of a post-concert scene and the SMiLE recording sessions, the theatrical trailer, etc. For those in need of gimmicks, everything comes in both 5.1-channel surround and 2.0 stereo mixes.
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