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The keyboard player looked at his watch. It was midnight. "Time for my break," he said. My heart sank.

Thirty years ago this month, I was playing bass guitar at a "gentlemen's club" in London's Charing Cross Road. Our trio provided second-rate music for third-rate strippers and fourth-rate comics to an audience drinking fifth-rate wine at first-rate prices, six days a week from 9 pm to 3 am, with two 30-minute breaks. The money was okay, and the work hadn't sounded too arduous when I'd responded to the classified ad in Melody Maker (now, sadly, defunct). But, as I was to find out, only one player in the trio was allowed to take his break at a time.

All three of us sang, so things weren't too bad when the drummer took his break, even in those days before drum machines. When it was my time to head for the bar, the keyboard player could fill in on his Hammond's bass pedals. (Thankfully, he dared to hit only tonics and the occasional dominant, so I didn't worry about my job security.) But when the keyboard player left the stage to the drummer and me... well, 30 minutes can seem an extraordinarily long time, especially when there's a nervous lady offstage, muttering, "Hi, my name's Mandy. Can you play something by Santana?"

The drummer would play a roll and I would step up to the mike. "Gentlemen! The Twilight Club proudly presents... Mandy!" As I explored the solo possibilities and harmonic intricacies of "Black Magic Woman" on my Fender Precision Bass, on would come Mandy, and off would come Mandy's clothes.

I hadn't thought about this diversionary episode in my chosen career path in years—until I heard ace interviewer Terry Gross talking in April on NPR's Fresh Air, to songwriter Burt Bacharach, who was celebrating his 75th birthday. The connection between the Mandys of 1973 London and Bacharach—apart from his having written perhaps that most lascivious of modern songs, "What's New, Pussyfoot?"—for the equally lascivious Tom Jones to sing—was that when I wasn't desperately trying to time the musical climaxes of "something by Santana" for (first) the surfeititious slipping off of the bra, (second) the brazen shedding of the panties, and (third) the joyous discarding of the G-string. I was working my solo way through Bacharach's songs. The sinuous melody of "Do You Know the Way to San Jose?" for example, is interesting enough in itself that an ensemble of vocal, bass, and drums can sound almost complete—nude, as it were, rather than naked (which, of course, is the effect a talented striptease artist aims for).

Put down this magazine and fire up your Web surfer to visit Amazon.com, or run down to Borders or Tower Records, and buy The Look of Love: The Burt Bacharach Collection (Rhino R2 75339). It doesn't matter where you start in this three-CD set—every one of its 75 songs is a masterful example of the 20th-century songwriter's art, with not only a beginning, a middle, and an end, but a hook to snag the tune in the listener's brain. And Burt Bacharach's arrangements are an object lesson in the use of sounds to define the edges of emptiness. (In my clip-joint drums'n'bass renditions of Bacharach's songs, there was, of course, plenty of empty space.)

Put on Dionne Warwick's "Walk On By" (disc 2, track 1). It opens with piano painting the minor-key stage, punctuated by ticking hi-hat cymbals and up-stroke guitar chords. Warwick comes in, answered by a staccato flugelhorn and vacuum vibes. The empty mix echoes the lyric's sense of isolation—even the drums drop out in the chorus—and when block-chording strings appear at the end of the verse, they don't disturb the feeling of aching emptiness that has been established. Art Dudley may have dismissed Dusty Springfield's "The Look of Love" (disc 3, track 1) in his March "Listening" column as "nice but hardly worth the price of an average CD," but he was uncharacteristically wrong. With this arrangement, Bacharach develops the art he showed in "Walk On By" into a true "three-minute symphony," to appropriate the phrase usually used to describe Phil Spector's productions. Ronnie Scott's tenor sax expands beyond Herb Alpert's flugelhorn to goose-bump-raising effect. This is the work of a master craftsman.

As I've written before in this space, giants walked the world of recording half a century ago. Read Tom Conrad's review of Harold Chapman's live Miles Davis at the Blackhawk recordings, which rounds out this month's "Record Reviews" (p.103). Can you imagine anyone working today, whether musicians or engineers, producing something as historically important, as musically valid, as these 40-year-old sessions?

The science of audio engineering is very much better understood these days. That science, however, gets you only so far. Back in the mid-1990s, speaker designer Ken Kantor (then with NHT) gave a talk to San Diego's Music and Arts Guild. "What's all the fuss about these compression schemes like AC3?" Stereophile's Lonnie Brownell reported Ken as saying, "Recording is an act of compression, where you take a roomful of sound and try to capture it in this tiny microphone diaphragm." Elsewhere in this issue (p.43) you can read about my own attempts over the past decade to squeeze roomful of sound into tiny microphone diaphragms. That experience convinces me that relying on science alone is not enough. You may put up a pair of mikes and press Record, but you get sound that may be honest but is also naked. The art of recording occurs in taking that nakedness and transforming it into nudity.

The recording engineers of the 1950s were craftsmen using the limited tools at their disposal—analogue tape machines with background noise that would be laughed at today, microphones that were more colored than a good 21st-century speaker—but they still managed to produce recordings that put to shame much of what's being churned out by modern production mills with the highest of hi-rez digital. Pick up one of the Pentatone SACD reissues of the early 1970s Philips classical catalog, for example, or one of JVC's XRCD reissues of the RCA Living Stereo recordings, and marvel at what those craftsmen could wrangle from their unsophisticated gear.

Those tools had gotten better by 1973, when Pink Floyd's classic Dark Side of the Moon was released, but a heavy hand in a 2003 mastering room can still reduce nudity to nakedness, as shown by the CD layer of the SACD release (Capitol CDP 582136 2, see www.stereophile.com/shownews.cgi?1649). But when a 2003 engineer uses the best modern technology to practice his craft in the tradition of those long-gone giants, you get this issue's "Recording of the Month": violinist Rachel Podger superbly captured in Vivaldi by Channel Classics' C. Jared Sacks.
Editor’s Choice
John Atkinson offers a track-by-track breakdown of Stereophile’s new Sampler & Test CD.

The Tender Trap
Can two jolly musical personas make a marriage work? It may sound like the premise of a 50's sitcom, but for Anne-Sophie Mutter and Andre Previn it’s a real life romance.

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High-end news, including dealer-promoted seminars, plus: New recording of Robert Silverman performing Liszt’s piano sonata, Artemis Records buys Vanguard Classics’ catalog, Gemini Industries saves Re spotlight from bankruptcy, DEM Holdings purchases assets of ReplayTV and Rio, Musical Fidelity’s new Tri-Vista kW, the passing of Wharton Tri-Planar tonearm designer Herb Papier, TAG’s latest room equalization technology, another nail in the record industry’s coffin?, the next new wave in on-line music’s future, new stats on downloaders’ buying habits, and Wharfrend speaker news. Want to know more? Go to the “News Desk” at www.stereophile.com for up-to-the-minute info.

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103 Record Reviews
July’s “Recording of the Month” is Rachel Podger and Arte di Suonatori’s collection of Vivaldi violin concerti, La Stravaganza. In classical this month is a new recording of the music of Alan Hovhaness. In Rock/Pop there are new releases by Doyle Bramhall, Massive Attack, and Tom Russell. In Jazz, a new reissue of Miles Davis’ landmark live Blackjack recordings set is featured.

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“On the Web”
Join Stereophile webmaster Jon Iverson as he brings you all the latest in industry insights, audiophile viewpoints, and magazine highlights. If it’s not in print it’s on the site...well, you get the idea.
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Stereophile, July 2003
“... the *Servo-15* rules ... will do things that no other subwoofer I’ve heard will ...”


www.paradigm.com
Letters

Can't cut
Editor:
Your Cantus recording, Let Your Voice Be Heard, is a superb job of recording, mixing, and mastering. The music jumps out of the speakers!

Gene Frohbieter
May 89

Thank you Mr. Frohbieter. A cut from this album, "Danny Boy," is featured on our new Editor's Choice CD, featured in this issue. All the Stereophile recordings can be purchased from www.stereophile.com.

-JA

Class A+
Editor:
Having Class A+ in Stereophile's "Recommended Components" is like having an amplifier so loud it goes to 11.

Howard Fischer
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Complaints?
Editor:
Normally I complain about the current version of Stereophile magazine. As a long-time reader who's saved all his back issues, the decline in content from the early 1990s and its move toward a mass-market readership has been apparent. At least for the March 2003 issue, I have some praise: Art Dudley is a definite writer of quality. Also, Michael Fremer's articles on the Aston Martin and SME turntable were good. Michael does well in the technical description of the turntables he reviews. All of your writers could improve by following his approach. (John Atkinson is also good with technical descriptions of products.) I even enjoyed Sam Tellig's March column. He dropped his usual vernacular language and frequent references to his spouse and acquaintances. Those references normally detract from his writing. Robert Baird and John Marks also deserve credit for their original, no-nonsense writing.

One thing that is a constant bother to me is the typical value judgment a writer applies to any product. Only an individual customer can make a personal choice as to the value of spending an amount of money on a given product. It is ridiculous for someone with a completely different personal, financial situation to tell the reader that this product is worth the price. That's an error that the record-review magazines also make when they write things like "this recording would be worth it at twice the price." Only an individual can make that decision.

I do have one complaint about Michael Fremer's SME turntable review, which is a symptom of a common problem with Stereophile. For Michael to repeat what SME claims to be a tolerance of less than 1µm on a bearing of mean diameter of ¾" is ludicrous. I worked in the IC industry for a time, and we used photolithography techniques on a 10µm mean size with slightly better than 1µm tolerance. But that took a lot of skill and process development. Maybe SME polishes their bearings with a grit size that is less than 1µm, but it seems impossible to machine a bearing of that size to that kind of tolerance. This is a failure of the Stereophile editing process. Please try to critique the reviews before publishing.

Russell DeAnna
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Compressed audio
Editor:
I've read Stereophile for over 10 years and I see it utterly squandering some fine opportunities to be forward-looking, to embrace and recruit a new kind of audiophile. I've read one editorial after another complaining of the demise of the high-end industry and how "kids today" just don't understand the glory and majesty of tubes, vinyl, and realistic playback of an acoustic event. I suggest that this attitude, combined with your backward-looking content, is self-sabotaging. Allow me to illustrate.

Suggestion 1: Embrace new technology.
Nobody can deny the appeal of compressed digital music, of having instant access to 400 CDs in the palm of your hand. Free and subscription content available online allow instant deep-catalog access. (Try RealNetworks/Listen.com's Rhapsody service to see subscription-based music done right.) Yet Stereophile largely ignores or mocks this trend.

As a music enthusiast who cares about sound, I want to learn more about these things. I trust your ears to lead me in the right direction. How about an audiophile-approved comparison of the latest audio codecs out there? How does RealAudio 8 with Atrac3 compare to Windows Media 9, or to Ogg Vorbis? Newer codecs such as AAC, AAC plus, and MP3-pro now produce very listenable results compared to MP3. Apple's new iPod plays back decent-sounding AAC audio (finally), and can store your whole collection in the palm of your hand.

Suggestion 2: Lower the price of the equipment you review. I'm tired of the excuse that readers want to see the Ferraris of the world in your pages. Sure we do, but car magazines also review Civics and Jettas, which normal people buy, and new drivers buy as first cars. The average price of the nine items tested in your May 2003 issue? $4900! There wasn't a single item under $2000! Quit making excuses. You need to review gear costing $350-$1500 if you want to turn on a new breed of audiophiles. They need to know you can get great sound for less. Have the +$5k gear be the exception, not the rule.

I strongly encourage you to embrace (or at least explore critically) new trends in technology and lifestyle. Do that, and lower the price point of most of your reviews, and you'll turn on more new audiophiles to this great and rewarding hobby.

Brandon Milner
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Col. Potter
Editor:
Concerning your defense of review choices: to paraphrase Col. Potter, of M*A*S*H fame, "Horse hockey." All of the audiophiles I know are tired of reviews of every product permutation that Musical Fidelity has to offer. Enough already of every speaker Triangle has to offer. Your persistent defense of your bias toward advertisers undercuts any credibility to an intelligent and discerning reader.
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Mr. Atkinson, stop insulting your readership, for to do so just reinforces the idea that the emperor has no clothes.

Robert J. Halpern, MD
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Compelled
Editor:
With so many Stereophile readers choosing sides, I feel compelled to join in the fun.

First, I like Art Dudley’s work. I don’t agree with his political views, and as for his love of cats—let’s just say I would rather be surrounded by liberals. Art’s unique and occasionally offbeat views are often different from my own. However, his articles make me think, and he accomplishes this with civility and professionalism. I will choose that method anytime, regardless of content.

Second, why are so many people tired of reading about Musical Fidelity? It is rare when a company can offer such a high level of performance for such a relatively low price. Does this disgruntled group want to read about overpriced products that do not reproduce music accurately? Stereophile has an obligation to tell the Musical Fidelity story. We, as readers, should be asking why other manufacturers are not offering us the same value.

Finally, in an equipment review, measurements are just as important as subjective opinions. They validate each other and often shed light on otherwise hidden characteristics of a component. Furthermore, reviews should be considered as a guide, not as the absolute truth. Room acoustics and component compatibility are just a few of the factors that make relying solely on reviews a foolish exercise.

Stereophile is not perfect; nothing in this world is. It is, however, an excellent source of information, and I look forward to reading it each month.

Hartwell K. Smith
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Comments
Editor:
Every month, I start reading Stereophile at the front cover. One of the first things I come to is a letter from someone voicing their criticisms and threatening to not renew their subscription.

Let’s get real, folks. Where else are you going to get an audiophile publication as authoritative and credible as Stereophile? It doesn’t exist. Sure, there are other magazines devoted to audio, but take a close, critical look. As an engineer, I can write a subjective and convincing review of a component that doesn’t even exist! A truly accurate review hinges on technical competence. Stop and appreciate the enormous effort John Atkinson puts into every issue. Consider his expertise in the field of music. How many magazines have that kind of talent on their staff?

So before anyone else starts complaining about how little they’re getting for their measly dollar a month in subscription fees, just think about what we’ll have lost if Stereophile goes away. Every issue is a small treasure, and it’s time the writers and staff get credit for the huge service they do for the audio industry.

Steve Armand
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Thanks, Mr. Armand and Mr. Smith. Appreciate your comments. Be assured that Stereophile isn’t going away anytime soon! —JA

Caring
Editor:
DVD-Audio or SACD? Puh-leeze! The way I see it, the major record labels have fomented a youth market that doesn’t give a damn about sound quality, and thanks to the digital revolution, they’re using to get music for free. So the question is, as they mature, will they develop a taste for anything better than lo-fi crap?

Based on what I see outside our tiny audiophile market, no one cares about sound quality. Yes, the average Joe Sixpack may want volume capability and oodles of bass, but he couldn’t give a damn about the sound itself. Even among the affluent, the situation isn’t much better. Most (say, 80%) of the folks here in New York City who live in million-dollar-plus apartments with any sort of music system have, at best, a Bose system, or maybe a $300 Sony shelf thang. The majority of the other households with systems have questionable custom-installation systems.

Gee, when I first moved out of my parent’s house, at 17, I owned an $800 Garrard-Kenwood-Goodman system. I supported myself with a $12.50/hour job in a supermarket, but music was the most important thing in my life. Most of my music-oriented friends were likewise impoverished, weren’t remotely audiophiles, but all had decent systems. And it wasn’t just my pals — look in any issue of Rolling Stone in the late 1960s/early ‘70s, and you’ll see lots of audio-related advertising. People who were into music bought audio gear.

Look at Rolling Stone now and you won’t see a single ad (other than Bose) for a speaker or receiver. Just doesn’t happen anymore. There might be an ad or two in Downbeat, but not many. I don’t mean high-end ads — I haven’t seen a Pioneer, Denon, or Onkyo ad in these magazines in decades. Apparently selling sound or sound quality to music-buyers is out of style.

Steve Guttenberg
Brooklyn, NY

Country of origin?
Editor:
I would like to ask Stereophile to include the country of origin in every equipment report. In my opinion, knowing where a component was manufactured is of paramount importance. I am interested in purchasing primarily stuff made in the US.

Daniel
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Cantus redux
Editor:
I’ve read the articles in Stereophile about Cantus, and, as with many Stereophile music recommendations, I decided to follow up to see if they were my cup o’ tea. A search of the Web for Cantus sample tracks yielded even a search of Kazaa’s network, yielded nothing. Amazon.com and others sell Cantus CDs online, but they provide no sample tracks. So, after noticing on Cantus’ website that they were going to perform in Michigan, I figured that seeing them live would be a nice introduction to their music, and certainly better than a RealAudio or MP3 sample.

Hoping it’d be worth it, my wife and I drove almost two hours to Frankenmuth, Michigan, at around rush hour. Was it worthwhile? It was one of the most fun, moving, charged, virtuosic live performances of any type that we’ve ever been to; and one look around at the other audience members during the performance made it very obvious to us that we were not alone in that sentiment. That we’re bombarded daily by musical mediocrity (and, all too often, utter crap) that is rewarded and awarded far too dang much made our time spent live with the truly talented Cantus all the more special and important.

After the concert, we purchased Let Your Voice Be Heard and ... Against the Dying of the Light (and, of course, a souvenir T-shirt). Listening to these albums on the way home, the return trip seemed to go by much too quickly — of course, we sat in our driveway to let the song they were singing when we pulled in (“Dilaman”) reach its rightful end before we went inside the house. Yeah, it was worthwhile.

I can see why John Atkinson is on a mission to get the word out on these extraordinarily gifted young gentlemen. I can see why it is that you want to personally use the skills you have for recording and editing to ensure that the magic these cats exude in their performances stays as intact as possible — so that we can experience them as close as we can get to the real thing, on demand, in our own homes (and offices, cars, etc.). You’ve done a phenomenal job, John, of preserving as much of the magic of a live Cantus performance as current technology allows, and for that, my wife and I would like to sincerely thank you.

If you haven’t figured it out by now, JA, they were most definitely our cup o’ tea. As the admin of a website and forum that serves headphone hi-fi enthusiasts and lovers of music, I will be sure to make an effort to spread the word about Cantus, too.

Jude Mansilla
jude@head-fi.org

Stereophile, July 2003
More configurations than Mr. Potato Head™.
CANADA
John Atkinson

"Rarely, if ever, can this densely written sonata have been presented so lucidly with each note precisely in place...the dramatic and lyrical aspects were never slighted or taken for granted." — Peter G. Davis, writing in the New York Times about Robert Silverman's New York debut in 1978, when he performed the Liszt Piano Sonata in B Minor in Alice Tully Hall.

Franz Liszt wrote only one piano sonata that has survived, and this heroic work — it lasts for more than half an hour — was written in 1853 to celebrate the virtuoso pianist's metamorphosis into a conductor. The sonata has played a major role in Canadian pianist Robert Silverman's performing career, so it was fitting that he performed the sonata at the concert he gave on January 19, 2003, to celebrate a major transition in his life: the end of his full-time tenure at the University of British Columbia, where he was Director of the School of Music in the 1990s, and the culmination of a richly satisfying 30-year career in teaching. The concert was recorded in true-to-life sound by Don Harder and has just been released as a new CD, Orpheum Masters KSP880.

Silverman's recorded catalog numbers 25 albums, released by Orpheum Masters, EM1, Stereophile, Marquis Classics, and CBC Records, and he is perhaps best known for his complete set of Beethoven's sonatas, which he recorded in 2000. Silverman received a Grand Prix du Disque from the Liszt Society of Budapest for his Liszt recordings, and he has recorded the B-Minor Sonata before, in 1993, for a Stereophile CD. (It is also available on an LP mastered from the 20-bit digital tape.) The new performance clocks in at 33:58 compared with the earlier version's 33:11. Does this reflect the emergence of a more contemplative approach in the intervening decade? Perhaps, but there is also deeper fire in the belly.

Silverman's Stereophile CD was an all-Liszt program; his new CD surrounds the sonata with Robert Schumann's symphonic-scaled Fantasy in C Major, Liszt's arrangement of the Beethoven song that Schumann quotes in the Fantasy, and a contemplative Nocturne by Frédéric Chopin. It can be purchased for $16.95 plus S&H from the secure "Recordings" page at www.stereophile.com. It is also available as a special-offer "twofer" package with Silverman's 1993 Stereophile performance for $24.95.

US: YOUR LOCAL MEDIA OUTLET
Barry Willis

Artemis Records has acquired the Vanguard Classics catalog of more than 1000 titles, and has formed a new label, to be known as Artemis Classics. Re-issues will include many recordings long out of print, such as Bach Guild recordings and other historical performances. Some titles will be remastered in the Super Audio CD and DVD-Audio formats, according to a May announcement, with most to appear as budget-priced CDs with "demonstration-quality sound." More than 200 Vanguard titles have never been available as CDs.

One of the last century's legendary classical, jazz, and folk labels, Vanguard was founded in 1950 by brothers Seymour and Maynard Solomon. In the 1980s, the Welk Music Group bought Vanguard, but Seymour Solomon reacquired the classical catalog and reissued it on the Omega Classics and Vanguard Classics labels. Solomon died in 2002.

Artemis reportedly paid between $300,000 and $500,000 for Vanguard Classics. Artemis Classics' CEO is music-industry veteran Danny Goldberg, and former London/Decca vice-president Greg Barbero serves as president. Koch Entertainment Distribution will handle distribution chores.

US: NEW YORK
Jon Iverson

On April 8, Recoton Corporation announced that it and all of its US-based subsidiaries had filed for bankruptcy protection in the United States Bankruptcy Court for the Southern District of New York under Chapter 11 of the

Maryland

* Elite Audio carries products from Wisdom Audio, Accuphase, Alon, Analysis Plus, Edge Electronics, and Symposium. For more information, please call (410) 518-6809 or visit www.eliteaudio.biz.

* In the May 2003 Stereophile, we listed Elite Audio's May 10 open house, celebrating their appointment as the exclusive Baltimore-Washington dealer for Tom Evans Audio Design products. Wilson Audio was mistakenly listed as an Elite Audio client, in place of Wisdom Audio, who should have been included. The mistake was entirely mine; I want to make clear that Elite Audio intended neither to misrepresent themselves nor to use Wilson Audio's name for their benefit. I apologize for any inconvenience and confusion this error may have caused. — Stephen Mejias, Editorial Assistant

North Carolina

* The Carolina Audiophile Society will meet July 13. For more information, contact Danny at dannyb@carolina.rr.com, call
United States Bankruptcy Code. Founded in 1936, Recoton develops, manufactures, and markets several brands of home and mobile audio products, video and computer game accessories, and other consumer-electronics accessories. The company claims it offers more than 3000 products, including those by such brands as Advent, Ambico, Acoustic Research, Discwasher, InterAct, Jensen, Linear Research, Recoton, Road Gear, Spike-master, and Sprint.

In December 2002, Recoton sold its interest in its AAMP subsidiary to an affiliate of IVC Capital Partners, and dealt audiophile favorite NHT to Rockford Corporation for a total sum said to amount to $35 million. Recoton had announced in 2002 that it would implement and substantially complete restructuring of operations to reduce overall debt structure, enhance cash flows, and restore the company to profitability. This plan clearly fell short of expectations.

One week later, Gemini Industries tossed the beleaguered company a rope, announcing that it had reached an agreement to acquire Recoton’s consumer-electronics accessories business. In support of this transaction and Gemini’s growth plan, the company raised new funding from Boston-based Parthenon Capital. As part of the new deal, Gemini and Recoton say they have also entered into a transition agreement that, among other things, will provide Recoton’s customer base with a continuity of timely delivery of products, though we have no information on the availability of the AR HT130 Pro interconnect that Sam Tellig recommended so highly in his April column.

This isn’t the first acquisition for Gemini, which picked up Zenith’s accessories business back in July 2001. With Recoton on board, Gemini says it is now one of the largest manufacturers and distributors of consumer-electronics accessories in the world. Before the buyout of Recoton, Gemini’s portfolio of consumer brand names for accessories included Philips, Zenith, Magnavox, Southwestern Bell, and For Dummies.

JAPAN
Jon Iverson
The streak of acquisitions by Japanese company D&M Holdings continues. March saw the company pick up its third major consumer-electronics brand when McIntosh Laboratory was brought into the D&M fold, which already housed Denon and Marantz. April saw D&M announcing first that it had been successful in a bid to acquire the digital video recorder and MP3 business units of troubled SONICblue, then that it had acquired the assets of US-based OpenGlobe and Escient Convergence, both subsidiaries of Escient Technologies, developer of the FireBall digital music-management system.

D&M Holdings says it will purchase SONICblue’s inventory, receivables, intellectual property, and capital equipment, and will also take over selected contractual relationships and liabilities, all for $36.2 million. D&M intends to keep all ReplayTV customers and says it will continue to design, manufacture, and distribute a line of ReplayTV and Rio products. The largest part of SONICblue’s business was its Rio audio products, which reported revenues of approximately $62 million in the last 12 months. In the same time period, ReplayTV had revenues of approximately $22 million.

The agreement to purchase assets of ReplayTV and Rio represents D&M’s second investment in technology to create entertainment-based digital home networking products. Last year the company made an investment in Mediabolic, a San Francisco–based company that provides an embedded software platform for entertainment devices. D&M says Denon will use the Mediabolic platform in new products that will be launched later this year.

Escient will join ReplayTV and Rio in D&M’s Digital Networks North America (DNNA) group. The company says that DNNA will be expanded to further develop “core technologies” for the emerging entertainment-based home networking market.

UNITED KINGDOM
Paul Messenger
Musical Fidelity’s Antony Michaelson strongly believes that the very best hi-fi systems need a massive surplus of headroom in order to ensure that they always sound natural and relaxed. That’s why, a few years ago, he made a range of high-efficiency speakers under the Kelly Transducers brand.

But high speaker sensitivity is only one route to huge headroom. An alternative just as valid is to supply massive reserves of amplifier power. And amplification has always lain at the core of MPF’s expertise and business.

Enter the kW — or the Tri-Vista kW Laboratory Reference Power Amplifier, to give its full name — to be manufactured in a limited edition of 75 units at £15,000 each. The kW is designed to supply up to 90V, with fine load tolerance to boot, and is rated at just over 1000W into 8 ohms, about 1800W into 4 ohms, and 3000W into 2 ohms. Dynamic power is quoted as "somewhere in the 5kW area," the speaker using multiple hybrid output stages backed by a huge choke-regulated supply. This stage is fed from driver transistors normally used as output-power devices, and which, in the kW, operate from their own discrete supply.

This enormous amplifier is normally manufactured as two monoblocks sharing a single separate outboard power supply. Each amplifier weighs around 130 lbs; the shared supply adds another 90 lbs. Two separate supplies can be made for customers who prefer to site their power amps near their loudspeakers; otherwise, the kW comes with special ultra-low-resistance speaker cables.

Antony Michaelson recently installed...
An offer that is music to your ears. $1000 of free SACDs.

To celebrate the release of the dm38 stereo power amplifier, Halcro has this special offer for the months of July, August and September.

Now you can get all the best features of our monoblocks in a single stereo unit. No other amplifiers on the market deliver such low levels of distortion, with clarity throughout even the most harmonically complex pieces. Signal interference is virtually eliminated, unearthing ambient inner detail on your favourite recordings. A lower noise floor brings you more dynamic range and improved soundstaging. Top-end, mid-range and bass are life-like and uncolored. The result is pure music, completely natural and non-fatiguing. The dm38 stereo power amplifier brings you closer to pure stereo than ever before.

And if you order any dm38, 58 or 68 power amplifier between July and September, you will receive a voucher for $1000 of SACDs of your choice redeemable at www.acousticsounds.com. This offer is for USA and Canada retail customers only and is limited to one voucher per customer.
Industry Update

a kW in his home system in place of a standard 350W Tri-Vista, and says he was astonished by the subjective improvement into his Sonus Faber speakers, even though he doesn't play music particularly loud. He also believes that the kW avoids the sonic difficulties often associated with very-high-power designs, while giving measured performance superior to that of any previous MF amplifier. Michaelson is hardly an independent observer, but hearing all this nonetheless whetted my appetite.

Partnering the kW power amp is a matching £7500 Tri-Vista kW Preamp, which again places the emphasis firmly on headroom, with a full-bandwidth maximum output of 60V. Overload margins are better than 40dB on all inputs, and an output impedance of 0.1 ohm means the preamp will drive any length of interconnect. A state-of-the-art phono stage with selectable loadings, included as standard, caters to both moving-magnets and moving-coils.

For best stereo imaging, the whole thing is constructed in dual-mono form, the two main PCBs housed in separate metal boxes within the main casework.

Only time will tell whether the new Tri-Vista kW lives up to the promise of its ingredients. One thing's for sure — it's a fine way to celebrate Musical Fidelity's 20th anniversary.

US: MARYLAND
Jon Iverson
Stereophile was saddened in April to learn of the death of Herb Papier, who was 86. A musician — he was an amateur trumpeter — music-lover, and inventor, Papier was best known in the audiophile community as the designer and original manufacturer of the Wheaton Tri-Planar tonearm.

During World War II, Papier worked at the Naval Observatory repairing marine chronometers. He perfected fine machinist's skills during this stint and became a watchmaker after the war. He eventually opened a music store in Wheaton, Maryland. In the late 1970s, after reading an article about modifying Rabco tonearms, he designed his own unipivot model, made of balsa wood. With the encouragement of Steve McCormack and the folks at Oracle turntables, he switched the material to aluminum. After much trial and error, he developed the first non-unipivot model of the Wheaton Tri-Planar arm. During the years it was marketed, he constantly updated and improved the arm, which is still considered one of the best.

A classic hobbyist businessman, Papier's manufacturing plant was always his basement workshop. The last model he sold was the Model VI Ultimate. Because of his failing health, he eventually sold the company. The Wheaton Tri-Planar tonearm is still being manufactured and sold by Tri-Planar, 1121 NE Jackson St.#400, Minneapolis, MN 55413. Tel: (612) 623-0922. Fax: (612) 623-0923. Web: www.triplanar.com. Our thanks to Tom Ostrow for the information.

With this legal victory, the RIAA hopes to discourage other students from similar activities.

UNITED KINGDOM
Paul Messenger
TAG McLaren's activities are increasingly focused on video and multi-channel audio, a sector of the market in which there's plenty of opportunity for TAG's particular talents in digital audio and video signal processing. During a recent press tour of the TAG McLaren factory in England, I and other audio journalists were briefed on TAG's latest technologies for enhancing video images and improving sound quality, all included in the new, versatile, and upgradeable AV191 processor.

The sonic improvements are all about digital room equalization, specifically enabling the "nulling" of the main low-frequency room modes — something that many companies are introducing in one form or another this year. The promise is that careful application of such EQ will lead to much smoother, more evenly balanced, and more tuneful bass delivery — something I haven't yet had a chance to confirm, although the demonstration at the factory did seem notably clean.

TAG's TMREQ system includes very powerful and precise processing, with 32-bit implementation of some 40 different parametric filters across the various channels. However, TAG is still working on its auto-setup software (à la Bang & Olufsen, as reported last month in "Industry Update"). In the meantime, they recommend you download ETF software from www.etfacoustic.com to measure the frequencies and Qs of the various room modes, then set up the appropriate inverse filters in the AV191 manually. Apparently, relying on geometric calculations is less accurate than using actual measurements, and accuracy is vital here.

Indeed, according to TAG engineer John Mulcaby, it's absolutely essential to match the filters to the modes with a high degree of accuracy — to the nearest hertz, no less. Room modes not only boost the output at a particular frequency, they also "hold on" to a particular frequency in the time domain, creating unwanted "overhang." If the mode is "tuned out" accurately enough, both boost and overhang effects can be eliminated.

US: YOUR LOCAL COURTHOUSE
Barry Willis
College students are often described as people with more time than money. For the four students accused by the recording industry of being "nodes" for file-sharing, the lack of money will almost certainly extend well beyond graduation day.

At the beginning of May, four students charged with massive copyright infringement settled out of court, agreeing to pay between $12,000 and $175,000 each to the Recording Industries Association of America. The terms of the deal, in which the students admitted no wrongdoing, specify that payments will be made in installments through 2006. The lawsuit was launched in April after RIAA investigators found that Jesse Jordan and Aaron Sherman, at Rensselaer Polytechnic Institute in Troy, New York; Daniel Peng, at Princeton University, in New Jersey; and Joseph Nievelt, at Michigan Technological University, were running file-sharing operations that enabled hundreds of thousands of downloads. Had the defendants chosen to fight the charges rather than cave in, they might have faced damages of as much as $100 million. The suits were settled despite a federal judge's recent ruling that the corporate backers of file-sharing services Grokster and Morpheus couldn't be held liable for copyright infringements performed using their systems.

With this legal victory, the RIAA hopes to discourage other students from similar activities. "The message is clearly getting through that distributing copyrighted works without permission is illegal, can have consequences, and that we will move quickly and aggressively to enforce our rights," said
INTOXICATED

A rush of amazing music
It's in my veins

Listen and you'll see.

www.listenandyoullsee.com

To hear B&W loudspeakers and find your nearest dealer call (978) 664-2870 or visit our website.
For more than 30 years, Mark Levinson® amplifiers have impressed music lovers worldwide with their precise balance of power, finesse and beauty. The new No400 Series Multi-Mono Amplifiers carry on that tradition with better sound, more muscle, and flexibility than the 300 Series amplifiers they replace.

Rated at 200 and 400 watts per channel respectively, the No431, and No432 dual-mono amplifiers benefit from massive independent power supplies and balanced voltage gain circuitry that allows them to generate a more precise signal with less noise. Both possess a bottom end authority that takes command of the music with astounding confidence, dynamics and ease while critical midrange performance is improved with more body and dimensionality.

The introduction of the No433, triple-mono amplifier later this year adds multi-channel system capability to this impressive series. All three models carry the refined, sculptural look that sets Mark Levinson apart from all others.

Visit your Mark Levinson dealer soon to experience the difference a balanced approach to design can make.
Matthew Oppenheim, the RIAA's general counsel and senior vice-president of business and legal affairs.

The pursuit of the students is evidence that the RIAA will make good on its threat to go after businesses or individuals found to be blatantly disrupting its business model. It's also evidence of the music industry's desperation to regain some control over its ever-declining revenues—a move that could blow up in the industry's face. Students have always been the most ardent music fans, willing to spend a disproportionate amount of their meager income on their favorite artists. The settlement may temporarily discourage file-sharing, but could prove to be a Pyrrhic victory for the music industry, increasing the already widespread public resentment against it.

Soing your customers is never a wise business move. It hints of selling "insurance" at gunpoint. In that context, a comment made in passing by Michael S. Malone in a May 2 ABC News cheerleading piece on Apple Computer's new subscription music service—see next story—bears repeating: "There is no little irony to the fact that the music industry, which has made billions celebrating the outlaw life, based in a town founded on movies idolizing Prohibition-era gangsters, is now in the business of suing...children for bootlegging," Malone wrote. Such efforts, he believes, will hasten the "development of new technologies that will eventually kill the record industry."

**US: SILICON VALLEY**

**Barry Willis**

Online music is inching its way toward commercial viability. Just a few days before Apple Computer launched its own subscription music service, Seattle-based RealNetworks purchased San Francisco's Listen.com for $36 million. The acquisition gave RealNetworks control of subscription service Rhapsody and doubled the company's stake in Internet music services. RealNetworks already owns 40% of MusicNet, a service begun last year with the backing of major record labels.

The purchase follows an initial investment in Listen.com made in February. The deal announced Monday, April 21, includes a cash payment of $173 million and 4.1 million shares of RealNetworks stock, valued at $4.61 on that day. Listen.com was founded in fall 1998 during the dot-com boom. Its Rhapsody service costs subscribers $10 per month, and its playlist has always been licensed from copyright owners.

Almost all of Listen.com's 53 employees are expected to keep their jobs, with CEO Sean Ryan becoming vice-president of music services for RealOne, a division of RealNetworks with approximately 900,000 subscribers. RealNetworks is undeterred by Listen.com's projected losses of more than $1 million in 2003. "We really believe in the future of online music services," said RealNetworks CEO Rob Glaser.

Launched May 2, Apple's iTunes sold more than a million individual songs in its first week of operation, vastly exceeding the projections of Apple executives and their counterparts in the music industry. It boosted the value of Apple's stock by approximately 50%—the share price closed at $18.30 on May 9, a huge jump from its 52-week low of $12.72 on April 17. It also caused a surge in demand for Apple's sleek iPod portable music player. The Cupertino, California-based company sold 20,000 third-generation iPods during the first weekend of its subscription music service and took orders for 110,000 more.

Although offered in the beginning only to Macintosh computer users, who are estimated at constituting less than 3% of the total market, the service's huge catalog, ease of downloading, liberal usage policies, and friendly pricing appear to be the right formula for similar services to follow. Because of their overly restrictive controls over how music fans can use the tunes they have paid for, music-industry-backed subscription services pressplay and MusicNet have attracted few customers. With those services, downloaded songs expire after a month, or are deleted from users' computers once their subscriptions lapse. iTunes subscribers keep the music they buy, just as if they had purchased it from traditional retailers.

Apple has stated that it plans to expand the service to Windows computer users later this year. Meanwhile, existing music services are rushing to adopt Apple's business model, including its $99c/song and $10/album plan. (With licensing deals signed with all the major record labels, Apple reportedly keeps 35¢ for each track sold, the remainder going to the label.) San Francisco's Listen.com said it would begin offering per-song and per-album pricing in addition to its monthly music-streaming fee. Echo, a download service backed by electronics retailer Best Buy, bookstore operator Borders Group, and Virgin Entertainment Group, will likely adhere to a similar plan. America Online, Microsoft MSN, and Amazon.com are all "exploring the possibility" of launching music services on the iTunes model, according to a May report in the Wall Street Journal. "We intend to be a major player in that market," said Jeff Sonics, an Amazon music manager.

It's perhaps too early to make predictions, but the proliferation of services could lead to a price war, increasing the availability and variety of online music and reducing costs for consumers. Unlike cable television services, which are allocated to specific geographical areas and are under no competitive price controls, online music services are available to all computer users everywhere. Barring some sort of price-fixing agreement among online services—which is unlikely and blatantly illegal—consumers will benefit from this scramble for their attention, just as they do when taking out magazine subscriptions. Traditional music retailers will continue to lose ground to online services, and will have to make it up with other offerings, such as value-added packages like combo CD/DVD deals not available online. In 2002, music retailers did a better business in audio/video hardware than they did in actual music.

One thing is abundantly clear from the iTunes launch: Legitimate online music services are here to stay. Like home copying, illegitimate downloading will never be totally eliminated, but heavily-handed legal assaults by the music industry on egregious violators may keep it contained to an acceptable level.

**US: YOUR DESKTOP**

**Jon Iverson**

The music industry repeatedly points to online file-trading to explain its declining market. But annual sales are still well ahead of 1998's figures, and several analysts note that when you take into account the economic downturn, in-

*Stereophile*, July 2003
increased competition for entertainment dollars, high CD pricing, uninspiring new music, and consumer resistance to copy-protection, those negative numbers should really be far worse.

Several studies also suggest that, in light of the deterioration of radio in the US, unauthorized online trading of music files may be one of the few promotional avenues that actually lead to authorized purchases. New research from Nielsen//NetRatings reinforces this idea, finding that for several key youth-oriented music genres, file-traders purchase a higher percentage of music than do other Internet users.

The audience measurement and analysis company reports that rap music is the most popular genre purchased by Internet users downloading music. According to their latest data, Nielsen//NetRatings estimates that online music-swappers were 111% more likely to purchase rap music than the average Internet user over the past three months.

Dance and club music held the second spot, with downloaders 106% more likely to have purchased dance and club music than the average Internet surfer, and 77% more likely to have purchased alternative rock, R&B/soul music and rock round out the top five.

Next came Pop/Top 40 music and Soundtracks, whose fans were 41% more likely to have purchased music than non-downloaders, and alternative-country and world-music enthusiast groups, who were each 39% more likely to purchase a disc if they were also downloading. Blues took the No.10 spot, the numbers showing that file-traders were 25% more likely to purchase a disc or pay for a download than were average Internet users.

Nielsen//NetRatings also reveals that nearly 31 million active Internet users, or 22% of the active Internet population aged 18 and up, downloaded music in the past 30 days, and that 71% of this audience purchased music in the past three months.

Nielsen//NetRatings' Greg Bloom explains that, while the perfect online selling formula is still being sought by Apple and others, "The de facto standard may be a few years away. But understanding the genres of music that sell well online and offline will be crucial to generating revenue along the way."

According to Nielsen//NetRatings, online surfers in Los Angeles have the highest propensity for downloading music, compared to Internet users in other cities across the country: L.A. surfers are 23% more likely to have downloaded music in the last 30 days than the average Internet user. New York and Dallas–Ft. Worth followed as the second- and third-highest-ranked cities. Boston and Houston rounded out the top five regions where music/MP3 downloading occurs. "The cities in the top five, like L.A. and New York, are not only epicenters for music development in the country, but are some of the most wired cities in the nation," adds Bloom.

Rap music is the most popular genre purchased by Internet users downloading music.

UNITED KINGDOM
Paul Messenger
The BBC is one of the better reasons for living in Britain, and that's particularly true of its radio services. Recently, while listening to the Beeb, I came across the serialization of an interesting new book from successful British writer Nick Hornby.

The fortysomething author of About a Boy, How to Be Good, and Fever Pitch seems particularly good at tapping into the zeitgeist of his generation, with a fine wit and a sharp eye for the icons of popular culture. In an earlier novel, High Fidelity (all about software rather than hardware), which was set in and around a London record shop (transposed to Chicago for the US film starring John Cusack), Hornby made clear his love for and appreciation of popular music.

Hornby's new book, the slim and lightweight Songbook (McSweeney's Books, $26.00; published in the UK as 31 Songs), is a more personal affair—the eclectic selection of songs he discusses are those that have meant the most to him. If this sounds self-indulgent, it is—but Hornby really knows how to write, in an unpretentious and conversational way, and obviously cares very deeply about his relationship with pop music.

Although only a handful of the chosen tracks were familiar to me, I found Songbook a fascinating and highly entertaining read. One can accuse Hornby of being flip, oblique, and
occasionally obdurantist, but his unbridled enthusiasm and cheerful irreverence are infectious. He has some wicked throwaway lines, with neat and often surprising perspectives, but perhaps protests the artistic validity of pop music a little too stridently.

Songbook isn’t a book of music criticism. Rather, it tackles head-on the much more difficult and interesting task of self-examination, exploring the author’s personal, subjective reactions in a sincere attempt to come to grips with the mystery and ineffability of the musical experience. It doesn’t always succeed, but the effort is nearly always worthwhile.

UNITED KINGDOM
Paul Messenger

Wharfedale is the one British speaker brand name that the apocryphal “man on the Clapham omnibus” is likely to recognize. As part of the Rank Organisation conglomerate, Wharfedale so dominated the budget sector throughout the 1970s boom years that it’s easy to overlook the company’s more illustrious earlier history and many innovations under the leadership of Gilbert Briggs.

Wharfedale celebrates its 70th anniversary this year, and while one might argue that the company’s current incarnation is very different from its roots on the edge of the Yorkshire Dales—today it’s under Chinese ownership and part of the International Audio Group, with the bulk of its production coming out of Shenzhen in Southeast China—there’s still continuity through the British design staff, and a determination to make the most of the firm’s impressive heritage.

Accordingly, as part of a strategy to strengthen its image, particularly in Japan, Wharfedale has given its leading designer, Steve Hewlett, carte blanche to develop a flagship loudspeaker appropriate to the company’s exceptional and essentially British traditions.

The result is the Airedale Heritage. The speaker has already been launched in Japan, where it picked up a prestigious Grand Prix and four other industry awards, and has thus tied up production for at least the next six months. Ultimately, the Airedale Heritage will be made available in Europe and the US, but for the moment Japan takes priority.

The Heritage recaptures a good deal of the heritage of the original Airedale. My 1964 Hi-Fi Year Book describes the Airedale Reflex as a three-way omni-directional design combining 3” treble, 8” midrange, and 15” bass drive-units—which is not too different from the Airedale Heritage’s lineup. The new speaker’s shape, too, is familiar, its front panel forming a triptych: the drivers are mounted on the wider central portion and flanked by two narrower panels, these angled back.

The Airedale Heritage is actually a five-driver, four-way design. It has two 25mm fabric-dome tweeters working from 3.5kHz up to 40kHz, –3dB, one facing forward, the other (switchable) upward; a 3” midrange fabric dome operating from 700Hz to 3.5kHz; an 8” Kevlar/paper midbass unit handling the 180–700Hz range; and a 15” lowbass driver with glass/carbon/glass-fiber cone in a 6ft reflex ported enclosure. Alnico magnets are used for the low- and midbass drivers and the forward-facing tweeter. The whole enclosure has a slight back tilt of 5°, and is hand-finished in luxury hand-oiled walnut with traditional styling embellishments. Each speaker weighs 80kg; a pair costs $20,000.

Acoustic Zen

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They Laughed when Dennis Had introduced the Cary CAD-805 in 1993.

"If either of these amplifiers is RIGHT...the other must be WRONG."
~ Stereophile, January 1994

When Dennis Had introduced the Cary Audio CAD-805 in 1993, some hi-fi writers puzzled...scoffed...measured...and laughed. But those who listened, loved it—like Sam Tellig in his March 1998 Stereophile column:

"The palpable presence of the musicians. The exquisite low-level detail. The perfect timing of the attack and decay of each note.

The truth of timbre and sheer beauty of the music."

In a 1994 cover story, Stereophile put the CAD-805 up against a highly regarded, solid-state amplifier. "These are very fine test-bench results," wrote Thomas J. Norton—not about us, but the other amp.

Fast-forward to November 2002, John Atkinson chose the CAD-805 (now the Cary CAD-805C Anniversary Edition) as one of the 100 products he feels to have been "the most important since 1962." He called the amplifier "gorgeous-looking and sounding."

Who has the last laugh? Maybe you! Audition the Cary Audio CAD-805C Anniversary Edition at your Cary dealer now. Bring your favorite recordings and your own ears.

By the way, how many amplifier models are still in production after ten years? How many may still be in production ten years from now? Count on a Cary Audio Design!
“My wife called me an anarchist the other day,” Antony Michaelson declared. Antony is managing director of Musical Fidelity Ltd.

“I suppose I am a capitalist anarchist,” Antony reflected.

“That’s nothing,” I one-upped. “Richard Lehnert once called me The Audio Antichrist.”

For 21 years, Antony has disregarded conventional hi-fi wisdom and “what everyone else is doing.” He introduced the Digilog, one of the first outboard DACs. He produced the X series of hi-fi products, including an outboard tone control, each housed in a neat-looking cylinder. But how’s this for anarchy? Having introduced Musical Fidelity’s first SACD player, Antony is now manufacturing his first turntable, in-house, with a specially made tonearm from SME and a moving-magnet cartridge from Grado.

Mikey Fremer reviewed the Tri-Vista SACD player ($6495) in May. Meanwhile, I’d received both the player and the matching Tri-Vista 300 integrated amplifier ($6000).

The Tri-Vista series is a far cry from the first Musical Fidelity product I encountered: the Synthesis integrated amplifier, introduced in 1984. Rated at 70Wpc, the Synthesis looked as if it were made in Antony’s garage. It nearly was — only months before, Antony had moved his operation from his garage into a proper workshop. One might laugh at its looks, but the sound of the Synthesis commanded immediate respect. A transistor amplifier, it didn’t sound solid-state at all, at a time when most solid-state gear did. While certain other British manufacturers were making much ado about listening to tunes and tapping one’s feet, Antony seemed to concentrate on hitting the harmonics just right. When you do that, other things tend to fall into place.

Over the years, Antony became a believer in high power and equipment that doesn’t look garage-made. Today’s least powerful Musical Fidelity amplifier is the A3.2 integrated, with 115Wpc into 8 ohms. Bob Reina reviewed it in April.

The Tri-Vista 300 integrated amplifier was introduced at the end of last year, to commemorate Musical Fidelity’s 20th anniversary. Only 500 units will be sold, worldwide. The amplifier is rated to deliver 350W into 8 ohms. Antony estimated that it will deliver about 600W into 4 ohms and close to 1000W into 2 ohms. (With this kind of power, a dedicated line might be appropriate.) According to Antony, the 300 draws only about 40W with no music playing, so one could leave it powered most of the time for better sound. Even during warm weather, without air-conditioning, the amp ran cool.

“Who needs 350Wpc?” I asked Antony.

“Everybody! Well, let’s put it this way — almost everyone could use it, even with fairly sensitive speakers.

“It has to do with dynamic range,” he explained. “Remember, all speaker-sensitivity measurements are taken at a distance of 1m from the speaker. But you probably listen at 3–4m distance from the speakers. Between 1m and 2m, you lose about 6dB of sensitivity; over the next meter, you lose somewhere between 3dB and 6dB. So whatever the sensitivity rating of a loudspeaker, you can take off at least 10dB for your listening position.” If your loudspeakers are rated at 88dB sensitivity, now you have 78dB.

“Let’s say you want to reproduce a dynamic peak of 103dB. You deduct the effective loudspeaker sensitivity, which is 78, and you get 25dB, which is roughly 600W or 700W.”

“So 350W isn’t enough?”

“It may not be. That’s why our Tri-Vista Series power amp, the kW, delivers 1000W into 8 ohms.”

“But there are those who go in the opposite direction, with flea-powered single-ended triode amps.”

“I think that’s ridiculous,” Antony de-


2 This is true in an anechoic chamber. In a room, the reverberant field adds an unpredictable element to the discussion.

—JA
know you're all warmed up. The feet do not let you know when the amplifier has been fully run-in, a process that seemed to take 200 hours or more, with music playing.

My daughter, who has spent most of her life around hi-fi products and is not easily impressed, riveted her eyes on the 300, waiting for the feet to change color.

"How much for a pair of these?" (Meaning the Tri-Vista SACD player and the Tri-Vista 300.)

"Twelve-and-a-half thou, my child."

"Drat!" she replied, imitating the old man.

The 300 looks and feels beautifully made. As with the matching SACD player, the 300's faceplate sports a lustrous, silver "moonstone" finish with a platinum-plated trim. There are no gaudy touches of gold, as there were in the earlier NuVista series. The feel of the massive selector knob is at once solid and seductive—it slides into position securely yet effortlessly.

As Mikey noted in May, the Tri-Vista series consists of the integrated amplifier, the SACD player, the kWP separate preamp, and the kW monoblock power amps, which are rated to deliver 1kW into 8 ohms.

The series is named after the "trivistor" tube—which, actually, Antony named himself. Officially, there is no such nomenclature, but Antony thought that "trivistor" would follow nicely from his previous series of NuVista products, which used a tube called, properly, the nuvisor.

Like the nuvisor, the so-called trivistor tube comes from the world of military surplus. Properly known as the 5703, the tube was made in the US by Raytheon up until the mid-1980s or so, for use in guided missiles and combat aircraft. Unlike the nuvisor, which was encased in metal, this is a proper glass tube—rather small, like a Christmas tree light. Each tube is hardened to the circuit board. The Tri-Vista 300 has but four 5703s—two per channel, in the preamp stage only.

"This tough little tube was designed in response to the discovery of the effects of a nuclear explosion on solid-state electronics," Antony explained. "A nuclear blast gives off a huge electromagnetic pulse, which disables any solid-state electronics within its range. In the event of a nuclear conflict, solid-state-equipped missiles wouldn't work."

I mentioned to my wife, Marina, that these tubes were invented to help nuke Russians. She was not amused. I bet the Soviets had something similar.

Antony said he chose the 5703 for its robustness, reliability, and long life. How long?

"We estimate that each set should be good for about 100,000 hours," Antony declared. "We've had several months of experience with the 5703 tube by now, and we've not had a single tube failure." He said he has purchased enough spares.

"And does the tube impart something of its own character to the Tri-Vista 300?"

"You touch on a bit of controversy," Antony observed. "You really can't measure the presence of the 5703 tube. One might say that they don't make a 'sound' at all. But they do seem to have some effect, and some of the sound of the Tri-Vista 300 seems attributable to the tube. There is some level of coloration, perhaps. But as soon as you mention that word, you start getting contentious, because our whole pitch is that the amplifier is uncolored."

A contradiction?

"The trivistor tube is very, very slightly less etched than transistors. That's my preference, based on my experience as a musician. You have to remember that nothing is perfect. Hi-fi is nowhere near the real thing."

The Tri-Vista 300's construction is dual-mono in both the power amp and preamp sections, both of which are choke-regulated. (Chokes are passive devices—large, iron-cored coils whose purpose is to remove mains-borne noise, unwanted audio signals, and interference from power supplies.) I asked Antony why he's keen on choke regulation.

"It has to do with what I was talking about earlier—dynamic range," he said. "If your residual noise is very low and your power is great, you have the maximum dynamic range between the two. The quieter the amplifier is, the more dynamic range you get, because dynamic range is relative to residual noise."

The Tri-Vista 300 was quiet. With my ear close to the speaker drivers and the volume at normal listening levels, I couldn't tell whether or not the amplifier was on mute.

The circuits are low-feedback. "There are many different ways to implement feedback," Antony explained. "You can do it globally, where the output is delivered back to the input; or you can do it locally, at different places in the circuit. It's all in the execution."

Four pairs of bipolar output transistors per channel provide the muscle. Antony described these as "very big transistors."

Listening

I used the Tri-Vista 300 first in our living room, with the matching Tri-Vista SACD player and the Triangle Magellan speakers. The turntable was my Rega P25, with Goldring G1042 moving-magnet cartridge. The Magellans are rated at 92dB sensitivity and could run, up to a point, on the 3.5W the Sun Audio SV-2A3 ST amplifier gave them. Instead, I gave them 350W from the Tri-Vista 300.

Regular readers of this column will know my general complaint about big solid-state amplifiers: Going for grunt, many of them tend to lose definition, delicacy, and detail. The bigger the amp, the less finesse.

But the Tri-Vista 300 was no muscle-bound muscle amp. It easily surpassed any other Musical Fidelity amplifier I have auditioned over the years, whether moderately powered or high-powered. I heard much of the same delicacy, definition, and detail that I associate with a low-powered SET amplifier.

This was especially noticeable on well-recorded piano discs, such as Mendelssohn's Piano Works, Vol.5 (Naxos 8.553541), with pianist Benjamin Frith. I reveled in the attack, the percussive power, the decay of the notes—especially the Seven Characteristic Pieces, Op.7. The sound had a SET-like immediacy.

The Tri-Vista 300 was different from Musical Fidelity's less expensive A3.2Ch pre-and-power-amp combination, which I've also used with the Magellans. The sound of the Tri-Vista 300 was less austere: richer, more full-bodied. Again, like me. The Tri-Vista 300 also shared, to some degree, an attribute of the Halcro dm58 monoblock amplifiers, which I enjoyed all too briefly in our living room. The Tri-Vista seemed to push the soundstage way back, and widen it too.

The Tri-Vista 300 was very kind to pop and jazz recordings of the 1920s and 30s. It's amazing how good some of those late-30s Bing Crosby recordings on Decca can sound. Or Duke Ellington on RCA.

The amplifier was kind to historical
classical reissues, too — especially those on Naxos. I was riveted by Jascha Heifetz's performances of the Beethoven and Brahms Violin Concertos (Naxos Historical 8.110936, not issued in the US but readily available from the UK). I enjoyed the immediacy of the performance (who needs stereo?), the virtuosity of Heifetz at his prime, the sheer beauty of his tone — all of which seemed enhanced by the Tri-Vista 300. Tube colorations, anyone?

Turning to the kind of fare more favored by audiophiles, I played two SACDs in particular: Berioz's Symphonie Fantastique, with Paavo Järvi conducting the Cincinnati Symphony (Telarc SACD-60578); and Rimsky-Korsakov's Scheherazade, with the Kirov Orchestra under Valery Gergiev (Philips 470 618 02).

Now I really appreciated the power. The Tri-Vista 300 drove the Magellans with a tremendous sense of authority. The recordings simply played without strain — up to the point where the sound was just too loud for the room. Curiously, though, I got some of the same scope and sweep — some of the same panormic sound — from the Cary 805-C Anniversary Edition SET amp, rated at only 50Wpc. Go figure. Somehow, SET power is not the same as push-pull. We'll get Dennis Had's take on how much power you really need next month. Fortunately, I have another two weeks with the Magellans before they're shipped off to Home Entertainment 2003.

I tried the phone section, briefly, at the moving-magnet setting, with my aforementioned Rega P25 and Goldring 1040 cartridge. I thought that the phono stage was an improvement over that found in the A3.2c1 preamp, but perhaps some of the improvement was due to the presence of those "trivists" in the Tri-Vista 300's line stage. I heard more information, more ambient detail, than I recalled from the A3.2c1 preamp.

I took the Tri-Vista SACD player and integrated it up to the music room and hooked them up to my reference Quad ESL-988 speakers. The Quads don't need and can't use a lot of power, right? Well, the Tri-Vista 300 drove the Quads effortlessly and seductively. Of course, I was careful not to crank the volume too high. The Quads offer remarkably uncolored sound, and, after a short time, my ears became accustomed to that — more easily, perhaps, than to the colorations of many high-sensitivity speakers. What do you want — uncolored sound and unlimited dynamic range? Shut off your stereo and go hear a live concert.

Finally, I set the Tri-Vista 300's phono stage to the moving-coil position and tried my Ortofon Kontrapunkt B cartridge in my SME 309 arm on my modified and now venerable AR ES-1 turntable. I compared the Tri-Vista's phono stage to that of my reference AcousTech PH-1P outboard phono stage. I thought that the AcousTech won out. I heard more detail, noted more ambience. Recordings opened up in a way that they didn't quite do with the Tri-Vista's own phono stage. The sound was more alive, more immediate and involving. That said, the Tri-Vista 300's phono section was not irritating in any way, and should suffice if phono is a secondary source. Some people pay far more than $6000 for a phono stage alone. It depends how far you want to go with vinyl.

And it depends on how far you want to go with hi-fi. For $6000, I think it would be hard to find a separate pre and power amp that would top the performance of the Tri-Vista 300 integrated. Plus, you have that beautiful build quality and appearance, as well as the Tri-Vista 300's limited-edition status, which could quickly turn it into a collector. You also get an amplifier that should be able to drive just about any loudspeaker in any room without seriously reining in the so-called microdynamics. (Yes, the Tri-Vista 300 was a champ when it came to microdynamics, too.)

Musical Fidelity Tri-Vista SACD player
As mentioned, Mikey reviewed the Tri-Vista SACD player in May. I have only a few comments of my own:

First and most important, I don't think that the Tri-Vista SACD CD player sacrifices "Red Book" CD performance in order to bring you SACD playback. That's not surprising, since the Tri-Vista processes CD and SACD with entirely different digital signal paths. At the moment, I play standard CDs 99% of the time, because I have little worthwhile SACD software. The Tri-Vista SACD is a superb CD player that also happens to play SACDs. In stereo, anyway. (I'll leave surround sound to Kal Robinson.)

Second, the Tri-Vista's CD performance strikes me as being quite different from that of its predecessor, the NuVista 3D CD player, whose avowed purpose was to make CDs sound almost as good as SACDs. That it did, in my opinion — as did the Tri-Vista SACD player. Yet the players struck me as very different. And yes, I had both on hand for close comparisons.

The Nu-Vista 3D struck me as romantic. It had a way of making digital sound almost analog, possibly trading away a little resolution in the process. (I can't say for sure.) The Tri-Vista SACD player, on the other hand, struck me as more detailed, more informative, less romantic (or warm, if you will), but a touch smoother and sweeter in the midrange and treble, as well as tighter in the bass. Each player was convincing in its own way. Neither was fatiguing.

The comparison may be academic, because the Nu-Vista 3D is no longer available, and soon the limited-edition Tri-Vista SACD player won't be, either. But you might be able to pick up a used one. And, when it was available new, it sold for $2000 less than the Tri-Vista SACD. No one who bought one should regret the purchase; and, given the scant availability of SACD software, I see little need to upgrade to the Tri-Vista for the pleasure of playing a handful of SACDs — Favorite Chinese Instrumentals, anyone?

But if you're starting out now, and are willing and able to pay big bucks, you might want to have SACD capability. However, you'll be making a commitment to stick with stereo — for now. A multichannel version of the Tri-Vista SACD is planned.

I'll take the two-channel version, thank you.
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When I came upon Giuseppe Viola’s handiwork at the 2000 Top Audio Show in Milan, Italy, I said to myself, “Here’s a guy with a fabulous machine shop and too much time on his hands.” Most designers are satisfied to introduce a turntable. Not Viola. At Top Audio, under the V.Y.G.E.R. name, he introduced a whole line of hand-built, air-bearing tonearms and turntables. When I met the gregarious Giuseppe (aka “Pino”) later that day, he came across as a most enthusiastic, gnome-like character, eager to demonstrate his gleaming creations and explain their workings.

Viola had much to be proud of: He'd developed a massive, true air-bearing platter—one that “floated,” both radially and axially, on a thin film of air—and his tonearm featured a captured air bearing modeled after Andy Payor's Rockport design. While Payor's arm uses a bearing-and-rail assembly made by a company specializing in air-bearing machine tools, Viola rolls his own. But on closer inspection, the models on display at Top Audio, for all their gleaming metallic beauty and rococo good looks, struck me as underdeveloped and unfinished.

Would Viola continue his development and finish the work he’d begun? Would he be capable of building reliable finished products? Would his company survive? Three years later, the answer to all three questions seemed to be “Yes.” The tables have apparently found a following around the world, and V.Y.G.E.R. now has an American importer, Acoustic Dreams, so a review seemed like a good idea.

V.Y.G.E.R. Atlantis

Despite its exotic air-bearing platter and tonearm, the V.Y.G.E.R. Atlantis's subchassis support system is a conventional three-point design modeled after SME's, though on a much more massive scale. The design features a series of looped O-rings at each tower for vertical suspension and a viscous bath for horizontal control of the 77-lb subchassis, which is machined from a solid block of aluminum and fortified with 20lbs of lead. The entire base assembly weighs 122lbs.

Curiously, the custom-made AC synchronous motor is similarly isolated via an elastomer suspension of some sort at the motor pulley shaft, making it possible to wiggle the pulley back and forth. This makes no sense to me—it allows for microvariations in the distance from pulley to platter that, in my experience, mean microvariations in speed. The motor itself is outboard, isolated from the rest of the 'table via the suspension and the round rubber drive belt, so what this motorshaft "suspension" is supposed to accomplish is beyond me.

The 30-lb aluminum platter has an outer ring of lead for increased moment of inertia. It rides on a thin film of pressurized air (1.5–3 Bar) via a precision spindle of unusually wide diameter, made of high-carbon, corrosion-resistant, martensitic steel. (Martensite is the hard constituent that is the chief component of quenched steel.) According to Viola, the spindle has a rotational precision of 0.5–1μm.
Vacuum holddown is accomplished via two concentric “lips” of rubber (or a rubber-like material) that sit in grooves machined into the platter’s acrylic surface, which is secured to the platter with five hex-head screws. Air is drawn out along channels in the platter surface and down through a circular groove adjacent to the threaded shaft of the record spindle.

Matching the mass of the spinning system is the gargantuan assembly of the tangential air-bearing “pivot,” and supporting structures are made of magnesium to maximize stiffness and reduce weight. The air supply consists of a surprisingly compact oil-bath compressor enclosed in a 15mm-thick aluminum chassis. There are also a sophisticated filtering system and a cylindrical pressure-stabilizing unit.

**Setup**
While Acoustic Dreams will most likely set up your V.Y.G.R., watching the process and making certain adjustments myself led me to some discomfort about a few aspects of the design. First, there’s the interface of arm assembly and subchassis: a wide slot in the armboard, through which fits a large-diameter bolt that protrudes from the arm’s baseplate. Sliding the arm fore and aft in the slot accomplishes rough “overhang” adjustment (it’s not really overhang, but an adjustment to assure a radial tracking line across the record surface and tangency to any groove along that line). Because the heavy arm assembly can also rotate around the bolt’s vertical axis, setup becomes a somewhat cumbersome, sometimes frustrating procedure — but if it’s being done for you, why worry?

Once the arm had been properly situated using a straight-line gauge that goes over the spindle, I tightened a large plastic nut to secure the arm to the armboard. It’s not exactly an elegant or ultra-rigid solution. Fine “overhang” and azimuth adjustment are accomplished by loosening a pair of small set-screws that secure a shaft protruding from the rear of the armtube. This allows you to move the armtube back and forth, and to rotate it around the shaft axis to set azimuth.

After leveling the subchassis-platter assembly with the three suspension towers, I adjusted a series of pointed set-screws located around the arm’s baseplate to level the arm itself. This is the interface that gave me the greatest cause for concern. V.Y.G.R. and Acoustic Dreams suggested that the arm rail be set with a slight downhill bias toward the spindle. This is accomplished by screwing down the three set-screws on the right side of the tower base so that they press against the armboard below, thus raising the right side of the base.

First, having to put a downhill bias on the rail means that the azimuth will change across the surface of the record. Second, it means downward pressure of the screws on the baseplate. Over time this pressure surely will shift, resulting in instability. In any case, having the armboard cantilevered by pointed set-screws compromises rigidity, I feel. In fact, when the arm was removed after the review the set-screws had put divots in the aluminum baseplate.

The armtube itself is undamped and hollow, its internal wires permitted unrestricted motion. This surprised me — the hollow, air-filled cavity will certainly resonate. The arm wires themselves are left to be draped as you wish down to a terminal block mounted on the “table’s base — another less than elegant solution.

While a car can be driven with a spring suspension and no shock absorbers, the ride will not be pleasant or safe. A virtually friction-free but un-
Danished bearing system simply doesn't make sense to me. I don't have space here to go into all of the reasons, which I covered in my review of the Rockport Series 6000 arm, in the May 1996 issue (Vol.19 No.5). In my opinion, damping is beneficial in any tonearm, but it's critical for a linear air-bearing design, which, when properly executed, has virtually no friction.

Not damping the fundamental vertical and horizontal resonances, which in a linear arm will be very different because of the differences in horizontal and vertical mass, can create serious tracking and/or sonic problems. In the horizontal mode, the entire arm assembly moves; in the vertical mode, there is a shorter armature than a pivoted arm. Both contribute to the wide potential disparity between the horizontal and vertical resonant frequencies. At the very least, there should be vacuum holddown to flatten the record surface and reduce the excitation of warp/wow resonances. The V.Y.G.E.R. Atlantis has that, at least.

When I measured the fundamental resonances of the Atlantis arm using the Hi-Fi News Analogue Test LP and the Lyra Titan or Transfiguration Temper W cartridge, I found the horizontal resonance was excited from 7–8Hz down to the LP's minimum test frequency of 5Hz. Did the resonance extend below 5Hz? I don't know, but 5Hz is too low in that it starts to overlap with groove-eccentricity induced wow. As the test frequencies descended to 5Hz, there seemed to be no up to the excitation, so I'd guess that, yes, the resonance did go below 5Hz, which is not good. Because of the large horizontal mass—the entire arm and bearing assembly—the excitation caused alarming motion, the cantilever wagging back and forth almost to the point where the tail (arm) was wagging the dog (cantilever). A damping trough would have minimized this behavior.

If this resonance occurs during normal playback in the 8–12Hz region, there's little to worry about: it's above warp/wow and below musical frequencies, so there's little chance it will be excited—which is why you ideally want it to lie between 8Hz and 12Hz. If the resonance continues below 5Hz, record eccentricity might excite the resonance and create serious tracking problems.

I could find no resonance at all in the vertical direction using the Lyra Titan, meaning the resonance was probably above the 20Hz upper limit of the test record, and therefore within the range of music. That means musical frequencies will excite the undamped resonance, and low-frequency response would most likely suffer. I contacted the importer about this finding.

An email from the designer (paraphrased by the importer) claimed that the vertical resonance should lie around 9Hz but that it is "very difficult to see because of its very small amplitude. The air bearing and air tube [are] designed to dampen the vertical resonances." It went on to say that the designer's "Dynamic Control Design is proprietary but I can say that all the turntable materials were very carefully chosen along with his air-flow design to keep the table resonance down when playing, especially during hard attacks. Again, since his system works so well it may not be able to be detected using conventional methods."

I found the tonearm's horizontal resonance was excited from 7–8Hz down to the LP's minimum test frequency of 5Hz.

The fundamental system resonance that results from the cartridge compliance and the tonearm mass, whether linear air-bearing or pivoted, is not dependent upon program material unless the resonance falls within the encoded frequency range (which hopefully it does not). Its excitation begins the moment a stylus is lowered into the rotating groove.

Why the amplitude here would be small is not clear to me. I cannot understand how the bearing and/or the air tube in a virtually frictionless system can dampen the resonance, or why I would not see it or hear the wiggle of the pilot tone that accompanies the 9Hz frequency on the test record. I have always been able to detect a resonant frequency using this test record if the resonance lies within its 5–20Hz frequency range. Returning to the Temper W, the vertical resonant frequency was at the upper limit of the ideal range which was around 12Hz. This was most likely because the arm-tube needed to be adjusted farther out from the air-bearing and the counterweight was at the end of the stem. An ideal circumstance but pure luck. Had the cartridge been even a quarter-gram heavier the counterweight would not have sufficed and I would have had to double up the counterweights, which would then have put them closer to the pivot point and raised the resonant frequency back into the audio band. Both the Immedia RPM-2 and Graham 22, which are fluid-damped tonearms, have easily viewable and audible horizontal and vertical resonant frequencies within the ideal 8–12Hz range, using this test LP.

Getting a beginning VTA reference point parallel to the record with a bodiless cartridge such as the Lyra Titan was extremely difficult. The Atlantis arm-tube is tapered, and, unlike with the SME, for example, there is no horizontal leveling line to use as a reference. Luckily, I have the WallyTools WallyVTA, which provides a precise way to begin with the arm-tube parallel to the record surface. Having easily adjustable and repeatable VTA is a wonderful feature, but the inability to set a reliable reference point makes it difficult to use. When I set the Temper W parallel to the record surface the tapered arm-tube banged against the outer edge of the record. Meaning the only way to use that cartridge was with the VTA set undesirably high.

I first set the rail angle as instructed—with a slight downward slope (0.2 on the Cartridge Man's digital level)—and found that the downslope bias put the arm farther downhill than the stylus, resulting in a seriously off-kilter cantilever. I leveled the rail, found the cantilever nicely centered, and encountered no sticking problems throughout the review period, as long I remembered to clean the rail by running the bearing across it a few times to remove dust—something you have to do with any air-bearing arm.

I'll say this: The Atlantis arm's air bearing worked as advertised. But whether or not Giuseppe Viola has created a genuine orifice-compensated air bearing—in which the high pressure needed for bearing stiffness at the "work zone" gradually decreases to ambient air pressure at the orifice (where the air exits at the bearing/rail interface)—is something I can't answer.

On the plus side, the compressor system was so quiet that I was able to keep it in my listening room only a few feet from my chair—it was inaudible even when no music was playing. However, when the oil bath warms up, it does smell and you should be prepared for a slight "machine-shop" olfactory room ambience. Also, the Atlantis ran with-
Use
Using the Atlantis was easy and fun. I flipped on the compressor using the
plinth-mounted switch, first to the Up position for a few seconds to clear out
the air passages, then Down to pressurize the platter and arm bearings.
This took only a few seconds, and is verifiable via the air-pressure gauge
mounted next to the switch. I ran the arm across the rail to clear the
dust, and, after carefully cleaning the platter surface, put a record on it.
Cleanliness of platter and record are critical—the platter surface, unlike the
Rockport’s, is hard, and any dirt will be pressed into the record by the vacuum.
I then screwed on the heavy, nicely machined aluminum clamp, hit the vac-
uum switch, and the air evacuated from the LP/platter interface, sucking
the record down flat. The vacuum pressure was automatically withdrawn a few sec-
onds later, but the seal remained. I waited a few seconds more for the pressure
to return, flipped the motor switch on, lowered the stylus, and...

The Atlantis Sounds Off
Playing records the way they were cut offers certain obvious sonic advantages,
including an enormous, airy soundstage and a freedom from the typical distort-
tions caused by the tracking errors cre-
at by pivoted tonearms. On the best pivoted arms these are heard not so much as “distortion” but as a slightly
pinched or bright sound. Once you hear a true linear tracker (not one that mea-
canders across the record), you’ll hear an open, sweet sound that approaches that of reel-to-reel tape.

The Atlantis had that open, airy sound. It was both pleasing and dra-
matic, with a sensual, liquid caress that made strings sing lushly. The
Heifetz/Piatigorsky performance of the Brahms Double Concerto (RCA
Soria LDS-2513) was an absolute delight decoded by this turntable, as was the Leibowitz/RPO Beethoven 6,
from the Reader’s Digest boxed set. But, as I’d expected from the resonance
measurements and the lack of damping, the Atlantis’s overall sound was on the
warm, sweet, somewhat “fat” side.

I couldn’t fault the V.Y.G.E.R. system’s
dynamic slam, or the
harmonic presentation of
the midbass through the
upper midrange.

Images were big, rounded, and three-
dimensional, with soundstage width,
depth, and height appropriately sized to
accommodate them.

The Atlantis produced a sonic picture
I’ve seen showgoers at the Consumer
Electronics Show nap up in room after
room, and especially at THE Show, where some of the smaller, tweakier
companies exhibit—but having just
attended a few symphony concerts, I
don’t hear a strong relationship between
the Atlantis’s soft, sweet sound and what
I hear live. Still, I guess you could bal-
cance it all out with an appropriately
sharp cartridge and some wiry-sounding
electronics and/or speakers.

I couldn’t fault the V.Y.G.E.R. sys-
tem’s dynamic slam, or the harmonic
presentation of the midbass through the
upper midrange, which had weight,
texture, and physical presence. But
high-frequency transients were soft-
ened and somewhat dulled compared to live, and the bottom end in particu-
lar lacked punch, drive, and extension.
Romantic? Yes. Musically enjoyable,
soothing, and relaxing? Yes. Lifelike?
Not to my ears.

I went back to some recordings I’d
used in my May 1996 review of the
Rockport Series 6000 tonearm, includ-
ing The Newport Folk Festival: 1963, Vol.2 (Van-
guard SH 114, an original
Japanese pressing from
1964). One track features
11 singers—Bob Dylan,
Peter, Paul & Mary, Joan
Baez, the Freedom Sing-
ers, Pete Seeger, and oth-
ers—strung across the
stage singing Dylan’s
“Blowin’ in the Wind.”
There’s a photo on the
jacket showing the singers,
a stereo mike pair in front
of Dylan. I remember the
placement perfection the
Rockport 6000 delivered
—the width of the stage,
the sense of the outdoors,
and especially the image focus, the
delineation of the singers, the sense of
the stage backdrop, the night air. The
Atlantis superbly rendered the stage
width and the spread of the group, but
the pinpoint image focus was diffused,
as was the delineation of the singers and
the backdrop.

I threw on John Hiatt’s “Lipstick
Sunset,” from Bring the Family (Mobile
Fidelity 1-210). While the sonic picture
was enormous and Hiatt’s voice had a
warm, rich, natural texture, the delin-
ecation of it and the studio-induced reverberant field was diffuse, and Ry
Cooder’s slide guitar lacked shimmer and spine-stiffening tingle.

I was able to easily switch back to the
combo of Simon Yorke Series 7 turntable
with Immedia RPM-2 and
Graham 2.2 tonearms for comparison
on both the Newport and Hiatt LPs.
Yes, the cartridges were different, but
the fundamental differences between
the turntables held in terms of transient
speed and clarity, treble and bass exten-
sion, and overall image size and focus.
The Yorke combo won hands down,
though the Atlantis had quieter back-
grounds. Gone, though, from the
Yorke’s presentation was the enormity of
the picture, as well as the liquidity
and sweetness and a certain ease
and openness that had more to do, in my
experience, with linear tracking than the
areas where I felt (and measured) that
the Atlantis arm was not perform-
ing adequately.

I’d love to hear what the Atlantis
might sound like with a good pivoted
arm; I don’t feel V.Y.G.E.R.’s linear-
tracking arm performed at the same
high level as the turntable itself, though
I’m curious about the rationale behind
the gummy motor shaft.

in a hair of 33⅓rpm; a
1kHz test tone measured
990Hz, which is excellent.
Conclusions
The V.Y.G.E.R. Atlantis is a superb turntable mated to a tonearm design that needs work, specifically: silicone damping via a trough, internal arm tube damping, a more elegant way of dealing with the cartridge wires where they exit the arm, a more stable arm/table interface, and, especially, some kind of mass reconfiguration to get both the horizontal and vertical resonant frequencies as close as possible to the 8-12Hz ballpark. These fundamental performance issues need to be addressed before the Atlantis can be considered a truly finished product.

On the other hand, if you like the Atlantis’s sound—and who doesn’t like its looks?—don’t let me stop you. But for $33,500, you’re entitled to a ‘table that gets the fundamentals correct, and in my opinion, this one’s tonearm misses a few. When he came to pick-up the ‘table the importer heard what I had, but then, noting the play in the arm’s air-bearing, concluded that the arm was defective. I agreed to another audition after HE2003. I’ll let you know what I hear.

(Note: the survey of phono preamplifiers promised for this issue will appear next month.)

In Heavy Rotation
1) Christopher O’Riley, Plays Radiohead, Sony Classical CD
2) Ella Fitzgerald, Sings the Rodgers and Hart Song Book, Speakers Corner 180gm LPs (2)
3) The Lovin’ Spoonful, Hums of the Lorin’ Spoonful, Sundazed 180gm LP
4) The Kinks, Low Budget, Mobile Fidelity SACD
5) Various Artists, Reflections on Peter Green, Audio Fidelity 180gm LPs (2), SACD
6) Muddy Waters, Sings Big Bill Broonzy, Speakers Corner mono 180gm LP
7) Lee Morgan, Candy, Classic Quiex SV-P mono 200gm LP
8) Uncle Tupelo, 89/93: An Anthology, Sundazed 180gm LPs (2)
9) John Coltrane, Soultrane, Analogue Productions 45rpm, 180gm mono LPs (2), Mobile Fidelity mono SACD
10) Eddie Henderson, So What, Eighty Eight’s LP, SACD

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In my column for Stereophile’s March issue, I criticized a handful of records for combining very good sound with very bad music. A few readers expressed dismay, wondering what gave me the right to call music good or bad, especially since virtually all music is loved by someone (its mother?). But as far as I know, the magazine received a total of zero letters wondering what gave me the right to call sound good or bad. Hmm.

Anyway, on re-reading that column, I saw that I’d paid gobs of attention to good recordings of bad music and good recordings of good music, but little to a category that infests and infects the record collections of more audiophiles than any other: good recordings of bad performances of good music.

Since then I’ve expanded my listening horizons somewhat, and something important has dawned on me: In much the same sense that generous amounts of natural reverb are an immediate and almost subconscious clue that the listener is inside a very large and relatively empty space, so is that music played badly—even mildly so—has become, for the modern listener, an equally subconscious clue that he or she is in the presence of the real thing.

I don’t mean that symphonic musicians have gotten worse over the years; to read the letters of Beethoven is to wonder if such a thing is even possible. Rather, our musical diets have been scrubbed too clean, like our flour, our rice, and our nightly news: We hear recordings of instrumental music almost constantly, depending on where we work, play, and shop, and we’ve become too used to hearing recordings of those instruments in which human error has been spliced, synthesized, or browbeaten out of existence.

The last time I heard a musical instrument being played live by someone other than myself was a week ago, at our church: I followed the sound of classical music inside to find a trumpeter in the nave rehearsing a Purcell voluntary—to prerecorded accompaniment. (The church has no organ, and please leave all jokes about that outside the door.) The sound system wasn’t bad at all, and that actually made the listening experience more surreal: a recorded organ being played quite well in concert with a live trumpet being played quite poorly.

Right off the bat, before I was physically close enough to see the musician and the loudspeakers, that’s how I could tell that the trumpet was not a recording: because it was bad.

We’ve become too used to hearing recordings of those instruments in which human error has been spliced, synthesized, or browbeaten out of existence.

Dear Reader: I’m not saying you don’t hear enough live music. I don’t judge audiophiles on that basis, and I don’t even think it’s an important distinction in the long run. What is important—or at least interesting—is this question: When do you do most of your live music listening? At Carnegie Hall? At the farmers’ market on Saturday morning, where hacks like me play “Forked Deer” and “I pouaparte Crossing the Rhine” until we drool? Or outside your children’s bedroom while they practice the violin? For some, the former is closer to true, and for others it’s the latter—and right there I’ve described two kinds of listeners who are calibrated completely differently, and who will respond to even good music-reproduction equipment (or Quads) in different ways. Yours truly, Art Dudley.

If you don’t believe me, you ought to hear the following good recording of a very slightly iffy performance of good music: Mozart’s Symphony 35, K.385 (“Haffner”), played by the New Hampshire Festival Orchestra under the direction of Thomas Neu, released last year (LP, Cisco CLP 7001). No bad notes or horridly ragged entrances were caught on tape that day in 1976, and by “iffy” I mean only that the NHFO players were not in the very first rank when it came to tight ensemble and intonation—that and, yeah, a few entrances do sound as if they were cut with a steak knife instead of a scalpel.

But Neu has a good idea how the piece ought to go, and the performance sounds fresh and colorful from start to finish. I haven’t been able to listen to another “Haffner” since I got this one—it sounds wildly real to me. If your listening habits are anything like mine, you might love it, too. Go buy it before they run out.

To round off this part of my column, I nominate the Earl Wild/Arthur Friedler disc of Gershwin’s Piano Concerto in F as a good recording of a good performance of bad music. The Band’s Islands as a bad recording of a good performance of bad music, and Lou Reed’s Transformer as a bad recording of a bad performance of bad music.

I Married a Bee
Woody Allen said it best: Those who can do, do; those who can’t do, teach; and those who can’t teach, teach gym.

There’s a parallel: Those who can play music play music, those who can’t play music design loudspeakers, and those who can’t even do that become audio reviewers.

If I were smart and well-funded enough, I’d leave writing alone and design and build a mass-market solid-state integrated amplifier that could sell for only $300 and still sound better than everything out there, except for perhaps the very, very best. It would have tone controls, a channel-reverse switch, a mono button, and a phono section. Each channel (there would be two) would have its own volume knob, these being tied together with a rubber belt allowing just enough slip for balance adjustments. I’d put the whole kit and caboodle in a nice-looking box and market it direct to college students and people just on their way into or out of the job market.

I’m too busy right now: too many deadlines, too much snow to shovel, too much grass to mow, and hey, those chimp-in-a-bar movies don’t download
themselves, you know. But nonaudiophile friends and family members keep asking me to recommend good two-channel music systems. With that in mind, I’m on a quest to find the best cheap amp I can; to start out, I’ve rounded up a couple of likely lads.

First there’s the NAD C320BEE, which, according to its manufacturer, carries the torch for their well-loved 3020 integrated amp of the late 1970s and early 80s — this because both products bear the imprint of designer Bjorn Erik Edvardsen (hence the “BEE” designation — and I thought I was trying to sneak in another reference to Napoleon!). The C320BEE looks just like any other budget component from NAD, with its olive-drab faceplate and forest-green power button. It has defeatable tone controls — yes! — but no mono switch. It does have a balance knob, however, and for whatever reason, the C320’s balance adjustment is one of the least intrusive I’ve used: It did little other than move the soundstage this way or that, which is a darned blessing.

The NAD weighs a little over 14 lbs, delivers 50Wpc, and has inputs for five line-level sources in addition to two tape loops. I got all excited when I saw that one of the input selections was marked Disc, but that turned out to be just another line-level input, for DVDs or something; the C320BEE doesn’t have a phono section. (NAD offers a companion phono preamp, the PI 1, for $130.) Removable links allow the user to separate the preamp and power-amp sections from one another; the former has an output impedance of 80 ohms, while the latter’s input impedance is 20k ohms. There are no preamp output jacks that would allow the C320 to be used with a subwoofer, however — so if you want to use a sub with this amp, it must be driveable by an amplifier-level signal (as are my current favorite subs, the REL Stadium and the Linn S31). The US price of the NAD C320BEE is $399.

That’s right: $399. In light of that, the C320’s clean layout and excellent build quality come as nothing less than a shock. The transformer is a toroid, all the output devices and voltage regulators are mounted on generously sized heatsinks, and all the C320’s active parts are discrete. Solid-copper bus bars abound. Connectors are gold-plated and sturdy without being silly about it.

Your $399 also gets you NAD’s multi-product remote handset, and while it doesn’t do everything you might wish for (there’s no balance control on the remote, for instance), it at least lets you switch in and out of standby mode, select inputs, and turn the C320’s motorized volume knob, all from what I assume is the comfort of your listening seat. I almost said the handset lacks a mute button, but I just recently found it, hiding in plain sight between the volume buttons.

According to its manufacturer, the NAD C320BEE carries the torch for their well-loved 3020 integrated amp of the late 1970s.

The NAD C320BEE sounded surprisingly good at the basics of playing music — listening to this amp was consistently more an exercise in fulfillment than frustration. Driving the Quad ESL-989s or the "se" version of Spendor’s little S3 / 5 (see my review on p. 75), the C320’s sound was free of noise and artificial texture. It could sound colorful, given the right source — stringed instruments on Ricky Skaggs’ well-recorded Bluegrass Rules (CD, Rounder CD 0801) and Ancient Tones (CD, Skaggs SKFR CD1001) albums sounded warm and real, as did the strings and woodwinds in some of my favorite small-scale classical recordings — and its low-frequency performance was at least darn good, being neither anemic nor slow.

Once up and running for a minimum of 20 minutes, the C320 reproduced stereo recordings with excellent depth. Try that first Leonard Cohen album, Songs of Leonard Cohen, for example (CD, Columbia CK 9533), and listen to how pleasantly distant the brushed snare sounds in "So Long, Marianne," and how realistic the space is between Lenny and his demure backing singers.

The C320 also preserved the music’s sense of flow, regardless of style. I’ve become rather sensitive to this in recent years, but if you want a fairly obvious example of what I’m talking about, try any rock record that has a tambourine playing along with the beat for at least a couple of bars at a time. (Examples abound: the chorus of the Band’s "Tears of Rage," Let’s Active’s "Waters Part," almost any pre-Revolver Beatles track.) All you have to do is listen to the tambourine and see if you can picture a living, breathing, rhythmically imperfect human being playing it, and not a machine. The latter will sound precise and soulless, the former organic, believable, and probably more convincing.

Speaking of pop, the NAD did a great job playing every track on one of my favorite albums from last year, Built to Spill’s Ancient Recipes of the Future (Warner Bros. 47954-2). It got across the buzz’n’chunk of the opening number, "Strange," in an engaging and convincing way — lots of color, no fatigue — and managed to make the bass-and-drum combination sound impactful and fast at the same time. Ditto the same album’s "Fly Around My Pretty Little Miss" (not the same as the fiddle tune of the same name), which also soared right along through the C320. On the down side, a better amp — such as my old Naim 110 — will make the neat synthesizer and slide-guitarissando in "Alarmed" sound more dramatic.

Also on the down side, the NAD didn’t sound quite big or substantial enough to do justice to such recordings as Pierre Boulez’s of Mahler’s Symphony 6 (CD, DG 445 835-2). Turning up the C320 made it louder, to a point, but the sound lacked scale — and better amps give me more of a sense of flesh and blood on this and similar discs. Don’t get me wrong — the C320 is beyond good for what it is. But, based on my experience, if you want to hear Boulez’s Mahler with all the drive it has to give, you need a Naim or Exposure or 47 Lab amp or something...
like that; if you want all that and all the natural color and beauty there is (as in those wonderful little woodwind chorales scattered throughout the first movement of the Sixth), you need a Linn Klimax, a really good single-ended triode, or maybe something even more exotic.

I don't feel the least bit silly putting a $399 integrated amp in the same system with a $3500 SACD player, $8000 speakers, and God only knows how many dollars' worth of cables. I do, however, feel silly being so critical of something that performs better in that setting than I have any right to expect. The C320BEE is a really nice little amp, and totally worthy of whatever laurel leaves the 3020 has shaken from its head. (I know because I used to own one — and I've owned the 1020 preamp that was derived from it, too.) The NAD is musically and sonically accomplished, and is probably about as close to organic sound as you can get for this kind of money.

**Good Music for a Friday**

Then there's the comparable integrated amp from Rotel, that other maker of affordable electronics with a reputation for sounding expensive. A mere $499 gets you their RA-02, an amp with a little less power than the NAD (listen to me kvetching about power! Haw!) but some very nice extras: provisions for connecting and switching between two pairs of loudspeakers, and, ta-da, a phono section. Granted, the RA-02's phono section can't handle a low-output moving-coil cartridge; its sensitivity, not to mention its 47k ohm input impedance, wants to see either a moving-magnet cartridge or the output of your step-up transformer. But whaddayawant for your two bits? To live forever?

Like the NAD, the 40Wpc Rotel uses a chunky toroidal transformer, and its heatsinks are similarly impressive, although its preamp and phono section do use op-amps. The build quality is good — perhaps just a click below the level of the NAD C320BEE — but I think the Rotel, with its low profile, two-tone silver finish, and cool blue pilot lights, is the nicer-looking product.

The RA-02 has four pairs of line-level inputs and one tape loop. It doesn't have a set of preamp-out/amplifier-in jacks like the NAD, but it has something in their place that you might consider even more useful: a pair of preamp-out jacks (output impedance: 470 ohms) whose output signal is affected by the product's volume, balance, and tone controls — which is to say, it's just the ticket for subwoofer owners. I wish every preamp and integrated amp had this; seeing it on a $499 product only galvanizes my disdain for four- and five-figure products that lack it.

The RA-02's bass and treble controls can be switched in and out, and there's a balance knob, too — albeit one that dulls the sound audibly with any deviation from dead-center. As with the NAD amp, the balance can't be adjusted from the remote handset (included), but there is a Mute, and I had no trouble finding it. Both pairs of speaker output connectors are gold-plated and sturdy, and the input jacks are gold-plated too, although the rows for the two channels are a bit too close together for easy use with certain.

The Rotel's spatial performance was good, especially on CD (vinyl sounded a little flat by comparison, surprisingly or not). The digital version of Norman Blake's *Live at McCabe's* (Takoma 6509) came through with the intimacy of its setting well intact, and with good separation between the similarly hued cello and viola. And the woodwind and keyboard instruments scattered throughout songs such as "Easter Theatre" and "The Last Balloon," on XTC's brilliant *Apple Venus Vol.1* (TVT 3250), were locked distinctly into place with believable presence, if not with all the depth in the world. The RA-02 also scored with bass performance that was consistently enjoyable: Electric bass lines sounded deep, clean, and tuneful, and timpani and orchestral bass drums were reproduced with little in the way of overhang or other nasties. Again, this amp at least sounded powerful — setting the stage, I suppose, for another round of "watts ain't watts" discussions.

The Rotel RA-02 is a well-styled and decent-sounding product; with such features as a built-in phono section, subwoofer outputs, and provisions for a second pair of speakers, it offers undeniably good value for the money. But the NAD C320BEE's music-making is more to my taste; I'd be willing to sacrifice any number of conveniences for its smoothness and surprisingly good level of involvement. Heck, if it had a mono switch, I'd buy one now and tuck it away until my daughter was ready for college.

**Listening**

**Straight out of the box, the Rotel sounded crisp and forward.**

Stereophile, July 2003
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The mind of man, when he gives the spur and bridle to his thoughts, doth never stop, but naturally sallies out into both extremes of high and low.
—Jonathan Swift

In addition to being the genius of satire in the English language, Jonathan Swift was also one of the pre-eminent Protestant churchmen of his day. So it is likely safe to assume that when he spoke of “extremes of high and low,” he had in mind manners and morals.

But Swift’s observation applies as well to building audio equipment. Extracting the most performance from the least expensive design remains as evergreen an engineering challenge as is pushing the limit of diminishing returns when cost is no object.

As you might have already fathomed, this column will examine two bits of kit from the polar ends of the price spectra: Benchmark Media System’s DAC 1 ($850), and TEAC subsidiary Esoteric’s massive two-box P-70/D-70 CD playback system ($14,000).1

But first, a little marketplace context for the whole ongoing digital-front-end imbroglio. If you were surprised when I cited $850 as a polar extreme in digital playback, to the neglect of $69 portable CD players and everything in between, here’s my thinking behind that. At $850, the Benchmark DAC 1 is, in my experience, the lowest-priced piece of digital gear that can give sonic performance that is not just improved mid-fi, but genuinely high-end.2 There are less-expensive CD-playing solutions, but I think that the Benchmark

The Benchmark DAC 1 is, in my experience, the lowest-priced piece of digital gear that can give sonic performance that is not just improved mid-fi, but genuinely high-end.

This is because a digital front-end is made up of more than computer-like chips. You also must take into account casework and power supplies and transport mechanisms and lasers and analog stages. All of these things cost money, and an easy way to save money is to scrimp on these parts.

So there is no magic formula that can determine — especially at long distance — whether the owner of any given piece of digital gear should upgrade or stand pat; or, whether someone in the market for digital gear should buy a new unit, or instead take advantage of opportunities in the used market to buy older, more expensive gear that has already had the depreciation knocked out of it.

Despite the lack of a magic formula, here are some tried-and-true recommendations for digital front-ends under $1000, if the $850 (plus a transport) for the Benchmark DAC 1 (which is now my “default recommendation” for most people) is out of your reach:

- Sony 1V1D players have historically had very good Red Book CD audio performance, and except for the absolutely cheapest model, there doesn’t seem to be much difference in audio quality among the lower denizens of that price list. The 1V1N5325 (list price $120), is good. Comparable Panasonic and Pioneer 1V1D units are also good digital sound sources. You should not be surprised if any of them sounds better than a 10- or 15-year old CD player, perhaps owing to DVD players’ 24-bit/96kHz data-handling capability.
- Marantz’s CC4300 is a CD changer with surprisingly good sound and a very reasonable list price of $299 (often discounted). A headphone jack with volume control is a nice feature. Marantz has always represented good, solid, entry-level audiophile value for money in CD players. With their top tier now consisting of combined SACD/CD players, Marantz’s bottom tier is sounding better than ever, and is competitively priced.
- Sony’s NS-755V CD/1V1D-V/SACD combo player, at a list price of $399 (often discounted), is quite good. But it’s your call whether taking the SACD plunge is justified by the number of SACD titles out there that are not just warmed-over PCM but real improvements over their CD incarnations.
- In my estimation, the best CD playback for the least money is to be had by buying (on the used market) an older Enlightened Audio Designs home-theater processor and using it in Stereo mode as a DAC/line stage.

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1 Benchmark sells mostly through professional audio dealers, but if you buy directly from them at (800) 262-4675 or www.benchmarkmedia.com, they offer a 30-day, no-questions-asked, money-back guarantee. Esoteric’s website is www.rac.co.jp/av.

2 The Benchmark DAC 1 requires a separate transport, but a usable transport with an S/PDIF or optical out can be had on the used market for comparatively peanuts, and DVD players with digital outs and truly excellent tracking and jitter performance can be had for well under $200.
My old friend Scot Markwell (of The Absolute Sound) has for quite some time used an EAD processor and a Forsell transport as his digital front-end, and that combination is not to be sneezed at. There is usually a selection of EAD HT processors and DACs available on www.audiogon.com for reasonable money ($500-$1000). Less frequently, EAD’s excellent transports appear at slightly lower prices. EAD’s one-box CD-playing solution, the Ultradisc 2000, usually has a higher asking price than the processors, (I bet this is because most audiophiles are so persnickety that the idea of all those unused channels in an HT processor keeps them up at night.)

On to the Benchmark. In many ways — size, shape, lay-out, and functions — the DAC 1 is startlingly similar to the Grace 901 headphone amplifier I wrote up in my column in the March 2003 issue, with the important distinction that, in addition to the two front-panel headphone jacks, the Benchmark’s rear panel has RCA single-ended and XLR balanced analog line outputs that are switchable between line level, trim-pot-set “calibrated” level, and variable level, which in its default mode is controlled by the front-mounted volume control. Shazam! Gloriously, even. All you need is a transport to feed the DAC 1 a digital signal, a power amplifier, speakers, and a few bits of wire, and you have a stripped-down hot rod of a system that is ready to rock’n’roll. Or Wagnerize, even.

After carefully using the pink-noise track from Stereophile’s Test CD 2 as a reference to help match the DAC 1’s output level to that of the Marantz SA-14, I played a variety of favored CD tracks — from Ella to Mahler — and concluded that the DAC 1’s “Red Book” performance was at least as good as that of the three-times-more-expensive Marantz.

The Benchmark was slightly more articulate in the musical line, and slightly more detailed in spatial nuances, particularly the localization of individual images in space, and in soundstage depth. Not night-and-day differences, to be sure, but the race was won by at least a nose. On CDs. The Benchmark — and you are shocked, shocked — of course cannot decode DSD digital data, of which there isn’t much outside the professional realm anyway, as SACD players do not output DSD. If you listen only to CDs, the combination of a workable transport, Benchmark’s DAC 1, a purebred power amplifier such as Pinus’ under-appreciated 8200P (the power-amp section only, from their top-of-the-line 8200 integrated amp, which, at $2200, is $1000 less expensive than the 8200), and a pair of nearly full-range speakers such as Shahinian’s Compasses or Totem’s Forests, will set you back $7000 or so, but will deliver sound plainly superior to a jack-of-all-trades and master-of-none mongrel setup.

I used DH Labs’ D-75 digital interconnect, which is absurdly good for $75 (www.silverasonic.com). For a trifling upgrade charge, DHL will even make up for you (as they did for me) a digital cable with an RCA plug on the send end and a BNC connector on the receive end. (Benchmark thoughtfully includes a BNC-to-RCA adapter with the DAC 1, but in my view, the fewer metal-to-metal, friction-fit interfaces in the signal path — especially a digital signal path — the better.)

The Benchmark DAC 1 is making quite a buzz, in professional as well as consumer circles. I will send this unit on to John Atkinson, and perhaps he’ll find time to write a “Follow-Up.” By the way, in direct comparison with the Grace 901, using Sennheiser HD 600 headphones, I still had to give headphone-amplish pride of place to the Grace, for its slightly more luminous midrange and sweeter treble. And, for those for whom such things matter, the Benchmark’s industrial design and build quality, while certainly unobjectionable, don’t have any of the Grace’s “Wow!” factor.

On to the other extreme. One does not usually associate TEAC’s family of brands with all-out assaults on the high end of things, but the stunningly exceptional CD playback offered by Esoteric’s P-70/D-70 transport/DAC combination should go a long way toward changing that. Memory is fallible, but I have been substantially more impressed by and engaged by the Esoteric setup’s CD playback than I was by that of the twice-as-expensive Accuphase SACD transport/DAC combo ($28,000).

I am not prepared to say that the Esoteric system is the best digital sound I have heard, but I am certainly prepared to say that it is the best sound I have heard from conventional CDs.

That is perhaps more surprising than it should be. You may not know that in addition to Esoteric, TEAC is also the parent company of the professional recording equipment manufacturer TASCAM. TASCAM was a leader first in DAT machines, then later in utilizing the possibilities offered by using compact-format video tape transports to store high-resolution audio-only data. Indeed, TASCAM is (as far as I know) the only company making a tape-based DSD recorder; all the others use hard discs. Another part of TEAC’s corporate family is a world leader in aircraft flight data recorders. So a large and transferable knowledge base is in place there.

The Esoteric P-70/D-70 system is an all-out assault. Each piece weighs 55 lbs. Industrial design and fit’n’finish are first-class. The size and shape are nearly identical to the Accuphase units, with the convenient and oh-so-welcome difference that the Esoteric transport uses a conventional sliding...
drawer for the disc, not a trapdoor with a puck thingy. Hosanna!

Disc-access times are very fast, so there’s no time to go down to the wine cellar and decant something before the music starts. The transport uses a precision, mirror-polished platter with a very slight convexity, to brace the disc from above, called a VRDS (Vibration-Free Rigid Disc-Clamping System). This is claimed to reduce the need for focus-servo correction on slightly warped discs. The transport itself provides user-switchable upconversion, so the 176kHz data go to the DAC on three cables: two XLR balanced digital cables for left and right, and a separate 75 ohm BNC link for clock word.6 There is even a provision for a separate signal-ground connection (on hardware-store wire, in my case) between the units. Both units have heavy-duty captive-cone, three-point support feet. I placed the P-70 transport on a Symposium Acoustics Ultra isolation platform.

The D-70 DAC is a marvel. Given its 55-lb bulk and the lack of space behind it once I got it onto the shelf, I inadvertently confused the two balanced digital cables that make up the high-resolution AES3 connection. The front-panel pilot lights for both XLR connections came on, but no sound came out of the speakers. Meanwhile, the D-70’s front-panel LED screen helpfully pointed out “WRONG ERROR.” Thanks. I’m glad someone knows what they’re doing.

The D-70 is the only upconverting DAC I am aware of that enables both regular and upconverted HDCD playback. The D-70 provides three selectable digital filters, one a proprietary design claimed to interpolate data representing frequencies greater than Fs/2, as well as selectable word-clock options and RAM-buffer refresh. To top it all off, there is digitally controlled, optically coupled, variable analog output, so the D-70 can drive a power amp without the need for a preamp (although a separate preamp may provide more gain). The sound? Just plain absolutely wonderful. Not a trace of glare or grain.

Even more important, this was demonstrably not achieved by rolling off the treble to make it sound “more like analog.” There was a full measure of detail, which, instead of driving me back into my seat, brought me deeper into the soundstage and deeper into the music.

It is one thing to say that one hears things on a treasured recording one has never heard before (such as Jennifer Warnes’ Famous Blue Raincoat, which has never sounded better), because there is always the possibility that what one is hearing is just the application of a different—not necessarily more accurate—equalization curve. It is quite another thing to say that the sense of immediacy, of being enveloped in the world of a treasured recording, is heightened, so that the music as a whole makes sense to one as never before—and that is what the Esoteric P-70/D-70 did for me. Class A+ in my book. Bravi, bravi, bravi to all who worked on it. Do try to hear it.

Next time: The Dartzeel NHB-108 Model 1, the sweetest-sounding solid-state amp I have ever heard—and, without a doubt, the cake-taker6 for soup-to-nuts idiosyncratic uniqueness. I will also report on the Peak Consult In-Cognitos, which could be the apotheosis of the two-way loudspeaker. Interrogatories or refutations: jmrcds@jmrcds.com.

The D-70 is the only upconverting DAC I am aware of that enables both regular and upconverted HDCD playback.

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6This American figure of speech has an interesting origin. The cake-walk was a group social event from the 19th-century South wherein African-Americans would dress in fancy clothes and promenade in couples. There was a competitive aspect to it—imagine linear, competitive ballroom dancing. This custom may extend back into the era of slavery, and may even have African origins. The traditional prize was a cake, awarded to the couple whose “walk” was the most impressive, from whence comes the usage that something “takes the cake.” (Music journalists know this because Debussy wrote a “Gallois’s Cake-walk” as part of his Children’s Corner Suite.) H.L. Mencken is credited with popularizing the usage “piece of cake” in the 1930s, and that expression, along with “cake-walk” and “takes the cake,” became RAF fighter-pilot argot during World War II.
“...a level of sonic reproduction I never thought I could achieve.”

Joshua Fineberg, PhD knows sound. As a composer of contemporary classical music and a Professor of Music at Harvard University, he has spent time in some of the best recording studios and concert halls in the world. His expertise in replicating audio ambience is sought by recording companies and ensembles to make reproductions sound better.
The art of recording is to make it appear as though that pinned insect could still take wing. I have been devoted to both the science and the art of recording music since 1965, when I was given a Grundig 1/2" open-reel tape recorder as a birthday present. You could even say that my evolving interest in audio and my current position at the helm of Stereophile date back to my finding out how different a Shure SM57 dynamic cardioid microphone sounded from a Reslo Ribbon, even in mono, even at 3 1/2 ips, when captured on that Grundig.

Jump-cut a quarter century. In November 1992, I recorded Canadian pianist Robert Silverman live in concert for a 2-CD set released on Stereophile's own label. In the 10 years since then, I have recorded 10 more Stereophile CDs, as well as two for Minnesota-based choir Cantus and a 10-CD set of Beethoven piano sonatas for Bob Silverman. The idea of celebrating that decade of blowing life into the wings of recorded sound by releasing a CD of some of my favorite cuts was a no-brainer.

My thanks to Stereophile's Stephen Mejias for suggesting the obvious title when, one day, I confessed that I had no idea what to call the new CD. Editor's Choice costs $9.97 plus S&H and, along with all the CDs mentioned in this article, can be purchased from the secure "Recordings" page at www.stereophile.com or by calling (888) 237-0955.

On to the next 10 years!

—John Atkinson

1 Alexander Pope, "An Epistle to Dr. Arbuthnot," later used by William Rees Mogg, then editor of the London Times, to comment on Mick Jagger's 1967 amphetamine bust.

2 I discuss my recording philosophy in two published conversations with Wes Phillips. Both are available online, the first from 1996 (www.stereophile.com/showarchives.asp?229), the second from 2000 (www.onhifi.com/features/20010101.htm). My thanks to Wes and to Schneider Publishing, Inc. for allowing me to quote from that second interview in this article.
Executive Producer: Gretchen Grogan
Assistant Engineer: Wes Phillips
Piano Technician: Michael Blackwell
Microphones: two DPA 4006 1/2" omnis with (diffuse-field) nose-cone grids (spaced pair); two DPA 4011 1/2" cardioids (ORTF pair)
Mike Preamps: Fortsett M-2a (cardioids), Nagra-D (omnis)
A/D Converters: Manley (20-bit, cardioids), Nagra-D (20-bit, omnis) at 44.1kHz
Recorder: Nagra-D
Mix: Sonic Solutions Sonic System Digital Audio Workstation
(4 channels)
20-16-bit Noiseshaping: Meridian 518

My goal in making a recording is to preserve real music, happening in real space, as accurately as possible. I recorded this delicately scored work live in concert during the 1996 season of the Santa Fe Chamber Music Festival, so rather than use microphone stands, which would have interfered with the audience's view of the stage, I hung the mikes from the 35'-high ceiling of the small, live hall, using 70–80' of monofilament fishing line fastened to the balcony banisters at the back of the hall to adjust their positions. A spaced pair of omnis captured the full-range tonal characters of the instruments and provided sufficient antiphase information to give the listener a sense of envelopment; two cardioids arranged as an ORTF pair, their capsules 7° apart and angled at 115°, captured the picture of the stage. (ORTF cardioids give a relatively limited amplitude-defined soundstage, with only about 10dB of channel separation, but the time delay between the two channels, due to the spacing, gives a time-defined stereo image that reinforces the amplitude-defined image.)

As with all my multitrack recordings, all the A/D converter word clocks were synchronized. For this recording, the Nagra ADC was slaved to the Manley using a Sonic Frontiers Ultrajitterbug to resynchronize to the clock.

What you should hear: The D-Major Flute Quartet opens with a typically Mozartean Allegro—charming and accessible music with cunningly concealed depth. The minor-key development, for example, provides a strong contrast with the skitteringly sunny opening and recapitulation.

My mix of the two pairs of mikes was an attempt to optimally balance all three aspects of the live sound: tonal balance, soundstage, envelopment. Carol Wincenc's flute is just to the left of center with the string trio in a shallow arc behind her, covering from the center of the stage to the right of center. The violin is leftmost, the cello in the center, the viola to the right. The rather bright-sounding hall acoustic should be detectable as a delicate dome of ambiance. And the audience is extremely well-behaved, only one slight cough interfering.

For those listeners with sound-pressure-level meters, -20dBFS (track 20) corresponds to a peak SPL at the microphone position of 86dB. If you set your volume control so that the opening of the Mozart Flute Quartet generates a peak level of 91dB at your listening position, the playback level for the chamber music tracks on this CD will be within a couple of dB of the same as that heard live from the mike positions.

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No matter how purist the engineer's approach, all recordings are at least one step removed from the real thing in that the sound has to be picked up by a microphone. An electric instrument, however, allows the opportunity of recording its electrical output without any original sound being produced. In this way, the low-frequency phase integrity of the original "sound" would be preserved absolutely, something audiophile playback systems almost never have to deal with. The result is a reference sound with a high peak-mean ratio, meaning that even though it requires a system with a large dynamic-range capability to be passed through without distortion, it doesn't sound very loud.

I decided, therefore, to use a Fender Precision bass guitar for this disc's traditional channel and phasing checks. I ran off a couple of riffs, recording the instrument's output in mono in three different ways: taking a direct feed from the instrument; taking a tap from the Fender Bassman amplifier's output terminals; and, as a check, miking the speaker cabinet. The second version was the one that ended up on the CD, the amplifier's tone controls being used to add a degree of treble bite to the sound and boosting the level of the instrument's bottom octave but not otherwise significantly changing its fundamental character.

What you should hear: Despite what might be thought, the frequency spectra of electric (as opposed to electronic) instruments is complex. The fundamental frequency of the Fender bass's low E string is 412Hz, but the second harmonic at 824Hz is almost 12dB higher in level. Significant harmonics extend all the way up to the 17th, at 700Hz, which lies 65dB below the fundamental level; as with any instrument, it is the precise ratio of these harmonics that gives the Fender bass its characteristically woody tone. It is important for a hi-fi system to be able to pass along intact the harmonics of recorded sounds with the ratio of their levels, which corresponds to the "timbre" of the sound.


Performers: Carol Wincenc, flute; Yasushi Toayoshima, violin; Michelle Kim, viola; Peter Wyrick, cello
Recording Venue: St. Francis Auditorium, Museum of Fine Arts, Santa Fe, New Mexico
Recording Dates: July 27–28, 1996
Producer & Musical Director: Heichiro Ohyama

Performers: Antony Michaelsren, Rossi clarinet in A; Adrian Levine, first violin (the "Hilmutte" Stradivarius); Kathy Anderson, second violin; Stephen Tees, viola; Judith Serkin, cello
Recording Venue: Blue Heaven Studios, Salina, Kansas
Recording Date: May 11, 1999
Producers: Adrian Levine & John Atkinson
Assistant Engineer: John Brandt
Microphones: two Neumann M147 1" tube cardiods (ORTF pair); two DPA 4006 1½" omnis with diffuse-field nosecones (spaced pair)
Mike Preamps: two Millennia Media HV-3Bs
A/D Converters: dCS 902D and 902D (both 24-bit) at 88.2kHz
Recorders: Nagra-D (cardiods); Tascam DA-38 with PrismSound MR-2024T bit-splitter (omnis)
88.2kHz/44.1kHz downconversion: dCS 972 Digital/Digital Converter
Stereo Mix: Sonic Solutions Digital Audio Workstation (4 channels)
24–16-bit Noiseshaping: Meridian 518

Chad Kasem's Blue Heaven Studios was originally a church, and the opportunity to record the Antony Michaelsren Quintet in its supportive acoustics while being able to make use of its state-of-the-art facilities was too good to pass up.

The main pickup was a pair of cardiod mikes, this time tube Neumanns, which have good "reach" due to their slight presence-region boost on-axis. They also painted a well-defined stereo image, but, like all cardiods when used at a distance, they tend not to have enough bass. So I also used spaced omnis. To a purist—as I once was—spaced omnis are anathema because you get almost no true stereo image. However, you do get greater low frequencies and a very natural midrange tonality. When I returned home from location, I adjusted the relative timing of the two pairs of tracks to combine the well-defined stereo imaging of the central pair with the full bass and excellent midrange tonality of the spaced omnis.

What you should hear: Mozart's Larghetto is one of the pinnacles of the clarinet repertoire. Although it was originally written for a bassett clarinet, which has extra bass extension, the work's contemplative and haunting melody and its bubbling accompanying arpeggios perfectly fall within the smaller instrument's wide compass. The clarinet was to the far right of the stage, the cello in the center, the first violin to the far left, with the viola between the cello and the clarinet and the second violin between the cello and first violin. The three upper strings play om sodini, notes on their bridges thinning their tone.

At climaxes, the image of the clarinet does splash a little to the other side of the stage. This was due both to some early reflections of its sound from the altarpiece and to the instrument being aimed straight at the opposite mike. The imaging was more precise with the players farther out in the hall, but then they couldn't hear each other well enough, which affected their intonation. I decided to sacrifice some of the image specificity. Nevertheless, you should unambiguously perceive the positions of the instruments most of the time. Listen in particular to the closing passage, where an arpeggio motif is passed around the strings under the clarinet's soaring held notes, starting with the first violin, then the viola, and finally the cello.


Performers: Pinchas Zukerman, violin; Cynthia Phelps, viola; Eric Kim, cello; Marc Neikrug, piano
Recording Venue: St. Francis Auditorium, Museum of Fine Arts, Santa Fe, New Mexico
Recording Dates: August 16–17, 1998
Producer: Philip Traugott
Assistant Engineer: Wes Phillips
Piano Technician: Michael Blackwell
Page Turner: Kent Williamson
Microphones: two Shure SM-81 cardioids (piano, close ORTF pair); two DPA 4006 1½" omnis (distant spaced pair); two DPA 4011 1½" cardioids (violin, viola spots); Mikey Mike II omnis (cello spot)
Mike Preamps: Millennia Media HV-3B (violin, viola, piano spots), Bryston BMP-2 (cello spot), Nagra-D (main pair)
A/D Converters: dCS 904D (24-bit, violin, viola spots), dCS 902D (24-bit, piano pair), Manley (20-bit, cello spot), Nagra-D (20-bit, main pair)
Recorders: Nagra-D (piano, main pair), Tascam DA-38 with PrismSound MR-2024T bit-splitter (omnis, cello spots)
Stereo Mix: Sonic Solutions Digital Audio Workstation (7 channels)
Mastering Equipment: Lexicon PCM-90 digital reverberator, 2-Systems rdp-1 digital equalizer
24–16-bit Noiseshaping: Meridian 518

The fourth year of my recording the Santa Fe Chamber Music Festival proved problematic: As part of its contracts with the owners of the paintings it displays in its galleries, the Museum of Fine Arts had installed a noisy climate-control system that couldn't be turned off during concerts in the adjacent St. Francis Auditorium, which is part of the Museum. The hall's staff hadn't thought this worthy of mention prior to the sessions because they assumed I could filter out the noise. In addition, the AC poured a curtain of cold air across the front of the stage during the concerts.

The solution was complex. The AC noise was sufficiently wideband that electronic filtering changed only its character, not its audibility. It also emanated from several sources. So, while I did record the concerts where this Mozart work was performed, the performance you hear on this CD results from post-concert sessions, where we could both turn off the stage air and apply duct tape to the seams around the hall's doors to reduce the noise from the system's pumps and compressors, which lie outside. And while to capture the overall sound I did use a distant pair of omnis, spaced 27" apart and angled away from each other, I also placed spot mikes in front of and above the violin and viola, close to one of the cello's f-holes, and an ORTF pair of cardioids about 15" above the piano's soundboard.

As all the word clocks of all the A/D converters were linked, the seven channels of digital data could be played back in sample synchronization from my digital audio workstation's hard drives. But, as you can imagine, the spot mikes produced a very dry, rather bright balance. For the mixdown, therefore, I used a Lexicon digital reverberator to synthesize a stereo ambience that closely resembled the sound of the hall as captured by the distant pair of omnis. (That one sentence seems too short to describe a process that lasted the better part of a day!) If a longer reverber time
Editor's Choice:  
The Stereophile Sampler & Test CD  
STPH016-2

System Diagnosis Tracks
[1] Channel Identification:  0:36
[2] Channel Phasing:  0:47

Music Tracks
[16] Liszt: Liebesraum, S.541  5:23

Test Signal Tracks
[17] Reference Tone, 1kHz at -20dB  0.30
[18] Dual-Mono Pink Noise  1:00
[19] Chromatic Scale  1:38
[20] 1kHz Warble Tone Reference  0.30
[21] Bass Decade Warble Tones  1:55
[22] Midrange Decade Warble Tones  1:40
[23] Treble Decade Warble Tones  1:40

Total playing Time:  79:11
All tracks recorded, edited, and mixed by John Atkinson

is used than existed in real life, then the artificial hall’s character will be wrong for the tempo chosen by the musicians: if too short, the disparity will be obvious.

What you should hear: The balance is a mixture of the spot mikes (each panned to its precise position in the soundstage and time-aligned with the main omni pair), a high-pass-filtered version of the distant omni pair, and the Lexicon-sourced reverberation. In the mix, I attempted to reflect the fact that, although nominally a chamber work, this Quartet is better considered a piano concerto in miniature. While I equalized the string channels to what would have been heard at the audience position, I therefore left Marc Neikrug’s Steinway with slightly more high and low frequencies than was strictly accurate. However, the image of the piano extends from the right-hand speaker to just left of center stage, as it did in real life. The cello is in front of it, the other two strings to its left.

Though it does have some nostalgic moments, this generally upbeat Rondo provides a nice contrast with the melancholy of the movement from the clarinet quintet.


Performers: Julie Landsman, horn; Sheryl Staples, violin; Max Levinson, piano
Recording Venue: St. Francis Auditorium, Museum of Fine Arts, Santa Fe, New Mexico
Recording Dates: July 30–31, 1995
Producer & Musical Director: Heiichiro Ohyama
Executive Producer: Gretchen Grogan
Assistant Engineer: Wes Phillips
Piano Technician: Michael Blackwell
Microphones: two DPA 4008 ½” omnis with (diffuse-field) nose-cone grids (spaced pair); two DPA 4011 ½” cardioids (ORTF pair)
Mike Preamps/ADC/Recorder: Nagra-D (20-bit) at 44.1kHz
Mixer: Sonic Solutions Digital Audio Workstation (4 channels)
20–16-bit Noiseshaping: Meridian 618

As a digest to follow the Mozart “suite,” I include this delightful 6/8 waltz, so suited to the French horn with its hunting-call heritage and galloping rhythm. And Julie Landsman digs into the music with sure-footed gusto, the movement rushing to its close in a “blaze of color and excitement,” as noted in the booklet text for the original CD.

Like the Mozart Flute Quartet movement, this performance was assembled by editing together passages from two concerts, with some patches taken from the final rehearsal. Editing is like all things: Used sparingly and with taste, it can improve things; overused, it can turn a thrilling live performance into something sterile. Given the choice between leaving a very slight audience noise in, or replacing it with a not-quite-so-well-performed, noise-free version of the same passage, I will always leave the audience noise in. Which you can hear, vide a delicious cough at 2:52. But I do edit to remove the wrong notes, the “clams” that occasionally occur in live performance. Not to do so would be a disservice to the musicians.

What you should hear: As well as being notoriously difficult to play, the horn is a notoriously difficult instrument to record. Its bell faces away from the microphone,
meaning that its character is very dependent on the hall acoustic. In this instance, the horn’s sound is reflected from the piano’s lid and is remarkably robust. Compare the sound of the distantly miked piano here with that captured with the mix of spot and distant miking on the previous track. While adjusting the mix of the Mozart, I used this recording as a guide.

[7] Schulhoff: Sonata for Solo Violin, Allegro con fuoco (from Duet, STPH012-2)

Performer: Ida Levin, violin
Recording Venue: Loretto Chapel, Santa Fe, New Mexico
Recording Dates: November 18–19, 1997
Producers: Ida Levin & John Atkinson
Executive Producer: Gretchen Grogan
Assistant Engineer: Wes Phillips
Microphones: two DPA 4006 1/2” omnis with (diffuse-field) nose-cone grids (spaced pair at 27”) with central DPA 4011 1/2” cardioid
Mike Preamps: Millennia Media HV-3B
A/D Converters: dCS 902D and dCS 904D (both 24-bit) at 88.2kHz
Recorders: Nagra-D (omnis); Tascam DA-38 with PrismSound MR-2024T bit-splitter (cardioids)
88.2kHz/44.1kHz downconversion: dCS 972
Mixer: Sonic Solutions Digital Audio Workstation (4 channels)
24–16-bit Noiseshaping: Meridian 518

I recorded virtuosa Ida Levin performing this 1926 work in Santa Fe’s historic Loretto Chapel. Not only do its stone walls provide a richly reverberant acoustic, the suspended wooden floor acts as a giant drum-skin–like membrane to tilt the tonal balance of that reverberation to the warm side.

With just one instrument to capture, I decided to try a mike technique very different from my usual mix of spaced omnis and ORTF cardioids. This was a variation on the classic “Decca Tree,” pioneered by Kenneth Wilkinson of Decca Records in the 1950s. Whereas “Wilkie” had used three Neumann M50 omnis, I used a forward-facing central cardioid to provide a strong central image of the violin, while two omnis at its sides, angled at 45° and spaced by 27”, captured the space in which the violinist was playing. (Not used in the stereo mix heard on this disc was a backward-facing cardioid coincident in space with the front-facing mike. This provided a rear-channel signal for a future surround release.)

What you should hear: Ida Levin stands in the center of the stage, the movements of her body clearly discernible. Listen to how her occasional pizzicatoes illuminate the Loretto Chapel’s acoustic. Its “sustained lushdness,” as Wes Phillips described it in his liner notes, would turn ensemble music into mush—note how the drier acoustic on the Brahms track is more appropriate for Sheryl Staples’ instrument, which needs to remain distinct from the horn and piano. But with a solo violin, the reverberation allows to become real harmonies and chords in this modo perpetuo that would otherwise remain implied.


Performer: Robert Silverman, piano
Recording Venue: The Maestro Foundation Recital Hall, Santa Monica, California
Recording Dates: January 21–24, 2000
Producer: Jim Turner
Piano Technician: Mike Kemper
Sponsors: Aaron Mendelsohn (The Maestro Foundation), David Lemon (Orpheum Masters)
Piano: Bösendorfer 290SE 9’ Reproducing Piano
Microphones: two DPA 4011 1/2” cardioids (ORTF pair), two DPA 4006 1/2” omnis with diffuse-field nosecones (spaced pair)
Mike preamps: two Millennia Media HV-3Bs
A/D Converters: dCS 902D and dCS 904D (both 24-bit) at 88.2kHz
Recorders: Nagra-D (omnis); Tascam DA-38 with PrismSound MR-2024T bit-splitter (cardioids)
88.2kHz/44.1kHz downconversion: dCS 972
Mixer: Sonic Solutions Digital Audio Workstation (4 channels)
24–16-bit Noiseshaping: Meridian 518

The most fundamental decision in location recording is the choice of hall. Given a perfect hall that’s the appropriate size for the instrumentation and has a supportive, sympathetic acoustic with the right reverberation time for the music, all the engineer has to do is put up a pair of mikes in the perfect spot and roll tape (or, these days, hard drives). But the small concert hall that housed the Bösendorfer Reproducing Piano on which these performances had been prepared was really too small for such a large, powerful instrument. The live sound was bright, the balance thrilling, but the fact that there were walls quite close to the piano added some strong early reflections that at first I found disturbing.

Unfortunately, the Bösendorfer’s owner would not allow it to be moved. But as the instrument was automated, I asked the producer to set it playing one of the most dynamic passages in one of the sonatas and keep it in “repeat play” while I did a lot of listening from different places in the hall. I worked out what I was hearing and determined good starting places for the mikes. As coincidence might have it, when the technician came in to work on the piano, he told me that I’d placed the mikes more or less where NPR’s engineers had placed theirs when they’d recorded the piano for Performance Today: about 10’ in the air and 10’ from the piano, looking down the line of the open lid.

I then made test recordings, moving the cardioids about 4’ closer at a time on a line toward the piano’s soundboard. I thought the position closest in actually revealed the best balance between the sound of the hall and the sound of the piano. However, the mikes then picked up a lot of noise from the piano’s action. A piano is actually a percussion instrument: a felt mallet hits a string and produces quite a thump. So I backed off about 3’ from that position. This gave me more hall sound than I would have liked, but also lowered that thump to the point where we all felt it was acceptable.

As always, I used a pair of spaced omnis and an ORTF pair of cardioids, recording the four tracks at 88.2kHz. Also as always, the ADC word clocks were linked to allow synchronized playback from my hard drive. My starting point in editing is always to align the tracks in time with one another. To facilitate that, I always have an assistant (or the musician) create a sync pulse when we begin record-
ing, using a slap-stick at center stage. This gives me a time reference similar to the clapper board on a movie set. However, what is the theoretically correct time alignment may not be what is used on the final mixdown.

When I aligned the mikes so they were in perfect coincidence, I was just so aware that the room was too small, too live — unsuitable for such a large, powerful piano. So, for the 16-bit/44.1kHz CD, I ended up ultimately delaying the omnis by several milliseconds, thus smearing over the early reflections of the sounds from the walls. This made the acoustic more anonymous, but also more comfortable-sounding. Yes, this is a move away from purist documentary recording, but one that was justified.

What's interesting about this is that the theoretically correct coincidence of the mikes was acceptable at 24-bit/88.2kHz, because it was so unambiguous. The character of the hall was preserved with such accuracy that you could adapt to it and forget it — just as you would in real life. When I downsampled the recordings to 44.1kHz, I lost quite a lot of that precise definition of space and time, so the listener could no longer adapt to the sound.

What you should hear: Once you become accustomed to the vivid sound of the big piano in the small room — akin to dropping a big-block Chevy V8 engine into a compact Acura — you can hear how the early reflections help define the recording space without getting in the way of the music. The dynamics are wide; the tonal balance natural, both supporting masterful pianism.

A point to note is that because the piano had been set up for live recitals, it was angled toward the absent audience. The center of the soundstage is therefore the “point” of the instrument, at the treble end of the keyboard. While the bass strings run the entire width of the stage, the short treble strings are actually right of center. This is the opposite of how most piano recordings are made, with the mikes side-on to the instrument, which places the treble strings on the left — as in the Liszt selection on track 16 of this CD. So, no, your channels aren’t reversed.


Performers: Cantus (Brian Arreola, Michael Hanawalt, Curt Hopmann, Albert Jordan, Lawrence Wiliford, Peter Zwanowec, tenors; Adam Reinwald, Paul Wilson, baritones; Kevin Chan, Erick Lichte, bass-baritones; Alan Dunbar, Timothy Takach, second basses)

Recording Venue: The Concert Hall at Carleton College, Northfield, Minnesota

Recording Dates: March 19–22, 2001

Producers: Cantus

Microphones: two Neumann M147 cardioids (ORTF pair), two DPA 4006 omnis (spaced pair)

Mike Preamps: two Millennia Media HV3Bs

A/D Converters: DCS 904 (24-bit, cardioids), Nagra-D (20-bit, omnis) at 44.1kHz

Recorder: Nagra-D

Equalization & 24–16-bit Noiseshaping: Z-Systems rdpl 1 with POW-R algorithm

Mixers: Sonic Solutions Digital Audio Workstation (4 channels)

The sound of the singers was clear and bright, focused by an acoustic “cloud” hanging over the stage of this modern hall. I placed two omnis just over 6’ apart on the front of the stage, with the capsules 9’ high and 13’ from the singers. This is too wide a spacing in absolute terms to give anything but a rough semblance of a recorded soundstage, but for the mixdown, I blended their outputs with a coincident ORTF pair of tube Neumanns at the same height as the omnis but set 10’ farther back. This was quite a bit farther back than the theoretically appropriate position on an arc based on the center of the soundstage, but what I was listening for was a similar balance between the direct and reflected sounds picked up by the two pairs of mikes. I adjusted for the difference in arrival times in post-production.

However, when I had aligned all four tracks on my digital audio workstation to be exactly coincident in time for a sound source in the precise center of the stage, and had mixed them all at the same level, the sound was vividly real. But the bright, clear, well-focused hall sound was too real. Yes, you were in that hall, listening to those singers, but it was glaringly obvious that you were the only audience member present!

I had realized at the sessions that some equalization was going to be necessary, in order to reproduce the singers’ correct tonal quality. The fairly close omnis were picking up too much high-frequency information, while the distant cardioids were bass-shy. And I had to do something about acoustic hum coming from the building to the right of the stage.

The cardioids were mixed at −6dB with respect to the omnis, and I processed only the omnis with a deep notch at 120Hz, just a couple of hertz wide, to eliminate the LF noise. After some experimentation, I applied some mild EQ to correct for the microphones’ departures from a truly flat response: the omnis’ high frequencies were shelved down by 3dB, and a broad, shallow boost was applied to the cardioids’ lower midrange. The optimal amount of EQ was quite critical. At the correct amount of lower-midrange boost, for example, you could hear into the arrangements and enjoy the interplay between the inner voices, just as you could in real life. Just 0.5dB less boost and those inner voices became obscured; 0.5dB too much boost and the basses began to sound artificial, too “fruity.”

What you should hear: The singers are arranged in an arc halfway between the front of the stage and the rear. That all the artifice I have just described did not get in the way of art is, I believe, shown by the new life breathed into “Danny Boy” by Erick Lichte’s arrangement.


Performers: Cantus (Brian Arreola, Michael Hanawalt, Albert Jordan, Lawrence Wiliford, Peter Zwanowec, tenors; Kevin Chan, Adam Reinwald, Paul Wilson, baritones; Alan Dunbar, Erick Lichte, Timothy Takach, basses; with Charles Kemper, Steinway piano)

Recording Venue: The Chapel of the Good Shepherd, Shattuck St. Mary’s School, Faribault, Minnesota

Recording Dates: March 18–22, 2002

Producers: Cantus

Microphones: DPA 4011 1/2” cardioids (voices, ORTF pair); two DPA 4006 1/2” omnis with diffuse-field nosecones (voices, spaced pair); two Neumann TLM103 1” cardioids (piano, close ORTF pair)
Mike Preamps: two Millennia Media HV-3Bs (DPA mikes), Forsell M-2a (Neumanns)
A/D Converters: two dCS 9041ds (24-bit, voices), Digital Audio Labs CardDeluxe (24-bit, piano close pair) at 88.2kHz
Recorders: Nagre-D (DPA omnis), Tascam DM-38 with PrismSound MR-20/4T bit-splitter (DPA cardiods); Dell Pentium 3 running CoolEdit 2000 (piano, close pair)
88.2kHz/44.1kHz downconversion: dCS 972
Mixer: Sonic Solutions Digital Audio Workstation (6 channels)
Equalization & 24–16-bit Noiseshaping: Z-Systems rdp-1 with POW-R algorithm

If I have an overall recording philosophy — other than being true to the musicians’ intentions — it is that the more I can do to put off quality-making decisions to the comfort of my own listening room, the better. All I want to focus on at the sessions are the placement of the mikes, the laying down of the mikes signals on digital tape, and ensuring that none of the channels hard-clips. Everything else — mixing, equalization, changing the time alignment of the mikes — I much prefer to do under low-stress, familiar conditions back in my listening room.

This recording was a case in point. Expecting to record an a cappella male-voice choir, I was informed when I arrived in Minnesota that, for the first evening’s session, the choir would be accompanied by a piano. The preceding afternoon session and the following morning session would be just the choir, so I placed the mikes to best capture the voices, leaving the piano to its own devices. It therefore sounded a bit distant over the main microphone pairs, so I set up a close ORTF pair of cardiods facing down at the Steinway’s soundboard and recorded them on my PC’s hard drive, using the analog inputs of a CardDeluxe soundcard. Because this doesn’t have a digital input that can be used simultaneously with the analog inputs, the card was designated the Clock Master and the vocal-mike ADCs were slaved to its digital output via a Z-Systems rdp-1, used to clean up the timing of the S/PDIF stream.

Back home, I could experiment with the level of the close-miked piano and its timing vis-à-vis the main pairs to give the best integration. I ended up with the piano’s level 12dB down and its stereo image panned to the correct position in the soundstage so that it integrated with the sound of the singers.

What you should hear: The mix of distant and spot mikes gives the Steinway a brilliant quality, but not one that overpowers the voices. The small hall provides rich support of Brian Arreola’s solo in the bridge before the hushed key change on the piano heralds the choir’s re-entry. As with track 10, the singers should extend across the stage, with the piano extending from the center of the soundstage to the right-hand speaker position.

Performers: Hyperion Knight, piano; Krzysztof Zimowski, Anthony Templeton, Carol Swift-Mattion, Linda Anderson, violins; Katherane Reynolds, Christine Johnson Rancier, viola; Joan Zucker, cello; Jean-Luc Matton, double bass; Robert Dorer, trumpet; Debra Taylor, trombone; Tia Perdomo, clarinet; Lori Lovato, bass clarinet; Jeff Cornelius, Steven Kimpile, percussion
Recording Venue: First United Methodist Church, Albuquerque, New Mexico
Recording Date: March 10, 1997

Producers: Hyperion Knight & John Atkinson
Assistant Engineers: Wes Phillips & Steven K. Lee
Executive Producer: Gretchen Grogan
Musician Liaison: Christine Johnson Rancier
Piano Technician: Charles Rempel
Steinway D piano supplied by Barbara Riordan, Washburn Piano Company, Albuquerque, New Mexico
Microphones: two DPA 4012 high-voltage ½" cardiods (ORTF pair); two DPA 4003S high-voltage ½" omnis (spaced pair)

Mike Preamps: two Millennia Media HV-3Bs
A/D Converters: dCS 9000D (24-bit, 4012s), Manley (20-bit, 4003s) at 44.1kHz
Recorder: Nagre-D
Mixer: Sonic Solutions Digital Audio Workstation (4 channels)
24–16-bit Noiseshaping: Meridian S18

Although circumstances dictated that I use multimiking on the Mozart Piano Quartet movement (track 5), the relationship between the sound of an orchestra — or even the sound of a solo instrument such as the piano — and the hall in which it plays is such that you cannot chop it into small pieces, then expect to put it all back together again with any predictable degree of success. The promise of purist miking is that if you can preserve that relationship, the recording will not only re-create the sonic image of the musicians, but also the feeling that the listener is actually in the hall where the performance took place. That is what I tried to achieve in my 1997 Gershwin CD, from which these three Preludes are excerpted, made possible by the supportive acoustic of the Albuquerque church in which we recorded them.

What you should hear: Joe Ce’s orchestrations remain close to Gershwin’s original conceptions of these works for solo piano, but are enlivened with bluesy instrumentation. Hyperion conducted the orchestra from the piano for these sessions, so we arranged the instrument with him sitting with his back to the mikes and its lid off, so the musicians could hear him. The piano is therefore lighter in balance than it is in the Liszt recording made in the same hall (track 16), and the treble notes should appear to come from the right, not the left.

The miking gave great delicacy of imaging, with individual instrumental images, the sonic objects within the soundstage being reproduced free from blaat. The solo cello and muted trumpet in the second Prelude, for example, are as acoustically “small” as they were in real life. And despite the chamber ensemble scoring, the dynamic range of these tracks is extreme, with the real thing’s light and shade faithfully preserved.

Performers: Jerome Harris, Taylor acoustic bass guitar; Marty Ehrlich, alto sax; Arthur Baron, trombone; Steve Nelson, Müsser vibraphone; Billy Drummond, Gretsch drums; K. Zildjian cymbals
Recording Venue: Blue Heaven Studios, Salina, Kansas

Stereophile, July 2003
Unlike the other recordings on this CD, there was no real musical event to be captured with this track. Well, there was, but with an acoustic balance consisting of one very quiet instrument—Steve Nelson’s contemptuous vibes—overpowered by the horns and Billy Drummond’s drums, it was not one that would prove musically satisfying. The soundstage on Jerome Harris’s arrangement of “The Mooche” was therefore painstakingly constructed by me during the mix. However, it does reflect where the musicians actually were in the studio, and most of the ambience you hear is real rather than being sourced from a Lexicon reverb, so there is a basic honesty there. Listen, for example, how the snare drum lights up the church acoustic at around 6:00, before the recapitulation of the tune.

This is the one track where I used some compression, incidentally—not for the overall mix, which would have eliminated some of the light and shade, but for Art Baron’s trombone, which had mightily powerful peaks that would have used up at least a bit’s worth of dynamic range all by themselves. A touch of peak limiting, applied in the analog domain to the trombone channel, allowed the track’s average level, hence its loudness, to be a useful 6dB higher without, in my opinion, affecting the musical message.

What you should hear: In the mixdown, I used the stereo image of the drums and cymbals as a backdrop that extended the full width of the soundstage. The kick drum was panned to the center, as was the bass guitar, while the snare-drum spot was aligned with its virtual image from the overhead mike pair. The stereo image of the vibes was placed from far left to stage center, with the trombone mid-right and the alto sax far right. The kick drum is the true bass instrument, with Jerome Harris’s bass playing the role of a tenor continuo—which is why I ended up balancing it a little lower in the mix than you might expect, given that Jerome is the leader of the band.

Dig the crackle on Art Baron’s muted ‘bone in his solo, which is due to the air in the instrument’s mouthpiece being driven into nonlinearity. It takes a good system to reproduce the correct degree of this “brassy blattiness,” as Stereophile’s founder, J. Gordon Holt, calls it. Also note the degrees of difference apparent among Billy Drummond’s vintage cymbals. On speakers with sub-par tweeters, the cymbals will start to sound too similar to one another, or even more like an anonymous hiss than the sound of shimmering bronze.

The rich sound of the Steinway D on this recording, made in the same warm-sounding church as the Gershwin cuts, is due to all the microphones used being omnis, with their extended low frequencies. The central pair, however, was the Schoeps Sphere, which mounts two sideways-facing omnis on the sides of a head-shielded ball.

What you should hear: This particular Steinway D has a less reedy tonal color than the Bösendorfer used for the Beethoven cuts, with richer low frequencies. It’s a big instrument, 9’ long, and its rather diffuse image should extend from midway between the left speaker and the center of the stage to far right. But with playing as passionate as Bob Silverman’s is on this gorgeous melody, you’ll forget about the sound in favor of just being carried away by the music. Which, to my way of thinking, is what this business is all about.

“O love so long as you are able to love!” go Liebestraum’s lyrics, “O love so long as you can enjoy loving! The hour will come, when you will stand at grave sites and morn.”

[16] Liszt: Liebestraum, S.541 (from Sonata, STPH008-2)
Performer: Robert Silverman, Steinway D piano
Recording venue: First United Methodist Church, Albuquerque, New Mexico
Recording Date: November 2–5, 1993
Producers: Robert Silverman & John Atkinson
Executive Producer: Larry Archibald
Assistant Engineer: Robert Harley
Piano Technician: Charles Rempel
Steinway D piano supplied by Riedling Music Company, Albuquerque, New Mexico
Microphones: Schoeps KFM 6 Sphere (center pair), two DPA 4006 1/2" omnis with black (diffuse-field) grids (spaced pair)
Mike Preamp: Sonosax FD-M4
A/D Converter-Recorder: Nagra D (20-bit) at 44.1kHz
Mixer: Sonic Solutions Digital Audio Workstation (4 channels) 20–16-bit Noiseshaping: Meridian 618

[17] Reference Tone: 0.30
This track consists of a steady tone with a frequency of 1kHz generated in the digital domain. Its level of -20dBFS—which is 20dB below the maximum peak level of a CD or laserdisc player—corresponds to a THX-specified system to an acoustic level of 85dB SPL. To compare preamps, power amplifiers, or CD players/processors, measure the level of this tone with an AC voltmeter at the loudspeaker terminals, and adjust the volume control so that the meter reads 1V (1000mV). As long as each component being compared produces a measured level that’s within 10mV of 1V (990–1010mV), volume differences will not confuse the auditioning.

[18] Dual-Mono Pink Noise: 1.00
This and the next three tracks are intended to enable audiophiles to get a handle on how their systems and loudspeakers interface with their listening rooms—even if they don’t have any test equipment.

The sound on track 18 is random noise with equal energy per musical octave, recorded in dual-mono. Called
"pink" noise by engineers, it easily enables the listener to hear loudspeaker problems. 

**What you should hear:** Pink noise ideally sounds like absolutely smooth rushing water with no band of frequencies sticking out any more than any other. It should not sound hollow or colored in any way, while the image of the noise should appear to come from a narrow point midway between the speakers. If the sound of this track fails to meet any of these criteria, then try sitting higher or lower, closer or farther away, or moving the speakers and/or nearby furniture.

[19] **Chromatic Scale** (left channel, then right channel): 1:38

All test CIDs feature a conventional frequency sweep. Instead, I decided to include a musically relevant test signal. This track features sine waves tuned to the frequencies of the modern equal-temperament scale, sweeping up in half-steps from the low C1 at 32.7Hz (on the space five ledger lines below the bass staff) to the high C8 at 4186kHz (nine ledger lines above the treble staff) and back down again. Each note has a frequency equal to the frequency of the one below it multiplied by the 12th root of two.

The scale appears first in the right channel, then in the left, and, to aid identification of system resonant frequencies, the other channel in each case features the octave C notes played on a Sound Blaster synthesizer card set to its "Tinspan" voice. Middle C, or C4—the note between the bass and treble staves—is identified with a double note, as is the very highest C. The marker Cs have the following frequencies: 32.7Hz, 65.4Hz, 130.8Hz, 261.6Hz (middle C), 523.25Hz, 1046.5Hz, 2093Hz, 4186Hz.

**What you should hear:** With small speakers, it's possible that you won't hear the lowest notes. Otherwise, the scale should sound even, without some notes sounding louder or softer than others (though in the bass, room problems will make this unlikely). If you do hear something wrong, note where it stands in relation to the marker "bonks" in the other channel. You'll then have a rough idea of the frequency range affected, and whether it's due to a room standing-wave (30-200Hz) or a loudspeaker crossover problem (1.5-4.5kHz).

With loudspeakers, play the scale and listen to the cabinet walls with a stethoscope (about $20 from any good pharmacy). You'll hear a cabinet resonance as an accentuation of the note. If the resonance is particularly severe when you pause the CID player while the affected note is playing, you might even hear it ringing on its own. If the cabinet has resonances but they don't lie at the frequencies of musical notes, it's possible that they'll have less of a deleterious effect on music.

[20] **1kHz 1/8-octave warble tone at -20dBFS: 0:30**


Center Frequencies: 200Hz, 160Hz, 125Hz, 100Hz, 80Hz, 63Hz, 50Hz, 40Hz, 31.5Hz, 25Hz, 20Hz

[22] **Midrange Decade 1/8-octave warble tones at -20dBFS: 1:40**

Center Frequencies: 250Hz, 315Hz, 400Hz, 500Hz, 630Hz, 800Hz, 1kHz, 1.25kHz, 1.6kHz, 2kHz

[23] **Treble Decade 1/8-octave warble tones at -20dBFS: 1:40**

Center Frequencies: 2.5kHz, 3.15kHz, 4kHz, 5kHz, 6.3kHz, 8kHz, 10kHz, 12.5kHz, 16kHz, 20kHz

These warble-tone tracks roughly illustrate the extent of the terms bass, midrange, and treble. They were recorded from the output of an Old Colony Sound Lab analog warble-tone generator, the frequency quoted being the approximate center frequency of each. The generator contains a sine-wave oscillator that is frequency-modulated at a rate of 51Hz or so; this is fast enough that the perceived effect of low-frequency room resonances will be minimized, the test tone changing sufficiently quickly that the resonance doesn't have time to fully develop.

**What you should hear:** The bass warble tones, each of which (except the last) lasts 10 seconds, can be used to give a good idea of a loudspeaker's subjective bass extension in the listening room, either by listening or by using an SPL meter. Set a reference level with the 1kHz tone (track 20), then note how much the sound level drops with each successive warble tone. (Whereas the warble tones on the succeeding tracks increase in frequency, those on track 19 decrease, to make it easier to judge bass extension by ear.)

The 200-100Hz bands can be considered the upper bass, 80-40Hz the midbass, and the remaining bands the low bass. If these bass warbles sound or measure uneven, with some either sticking out more than others or missing in action, then try moving the speakers or your listening chair around the room. The object is to get the tones to sound and measure as evenly as possible.

Tracks 22 and 23 offer sets of 10-second warble tones covering the midrange and treble decades, so that you can measure the in-room response of your loudspeakers without using an expensive spectrum analyzer. The 1kHz warble tone (track 20) can also be used to get a relative idea of a loudspeaker's sensitivity: Measure the sound-pressure level with a loudspeaker that has a sensitivity you know; then, without changing the playback level, measure the SPL of an unknown loudspeaker substituted into the system.

**Acknowledgments**

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—John Atkinson
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Almost secret for years, the musical marriage of ANDRÉ PREVIN & ANNE-SOPHIE MUTTER thrives at home and onstage.

by David Patrick Stearns

If all the classical-music marriages imaginable, that of Anne-Sophie Mutter and André Previn is one that few would have predicted, even though it happened right under everyone’s nose. The August 8, 2002 union in Central Park — announced with no details or guest list, only reports of Tiffany wedding bands paid for with cash — caught music-lovers unawares. Still, in hindsight, there had been plenty of tip-offs.

Of all the living composers Mutter has championed, European modernists such as Wolfgang Rihm are typical, while breezy American tonalists are not. But her 2002 recital program virtually enshrined Previn’s Tangy, Song and Dance alongside Faure and Gershwin. She also premiered and subsequently record-
ed his Violin Concerto with the Boston Symphony Orchestra, a work that shows Previn, the composer, at his most concentrated. In fact, with one inspired flourish of lyricism after another, it may be the piece that his admirers have been waiting for him to write. (Mutter gave the work's New York premiere in late April, 2003.)

Even now, with their marriage public, the couple hesitates to play it up in the press. Mutter is so private that she'd barely admit to having two children from her first marriage, to the late Detlef Wunderlich, much less discuss them. During the raging controversy over the marriage of Previn's adopted daughter Soon-Yi and film director Woody Allen, the composer-conductor mostly presented a stone face to the press.

When the couple does talk to the press, they're among the best interviews in the business, his wit, charm, and flawless sentence structures matched by her penetrating intellect. Together, they're supremely intimidating. And now, as they happily relish the novelty of addressing each other as "my wife" and "my husband," a journalist can admit to being envious.

"You should be," says Previn. Perhaps not in the ways you'd think. Example: Being married to Previn doesn't necessarily give Mutter any special advantages in understanding his Violin Concerto, she says. "I don't believe that you need to know the biography of the composer in order to know the piece. Beethoven is maybe the exception because of what he had to struggle through, which ended with his being so profound. But I don't think I would play Beethoven any different if he were my husband."

Previn's brow knits at the prospect of Mutter being that involved with Beethoven. "I can't cope with that thought," he says.

"I would love to have been his 'immortal beloved,'" says Mutter.

Instead, she's Previn's beloved. Each has a history of involvements with many fascinating, charismatic members of the opposite sex. But, unlike in past relationships, their impact on each other is obvious. Though Mutter usually has the brainiest recital repertoire of any violinist, her new disc is full of Brahms Hungarian Dances, Fritz Kreisler, Gershwin, and Previn. "Usually I have those long, stern, hard sonata programs," she admits. "But I've had my mountain-climbing experiences without oxygen mask on, and it's nice to go back to a program so deeply rooted in violin playing, in the pieces I grew up with. I played Fritz Kreisler when I was seven and eight years old. It's great to give the violin what she deserves — beauty of sound, colors, whispers..."

Though Previn's compositions often place side by side the brilliant and the commonplace, the Violin Concerto, written in his typically post–Richard Strauss style, consistently shows him at his best, starting with a recurring horn motif that may be the single most arresting thing he's written. Asked how he came up with it, Previn refuses the compliment: "I probably stole it from somewhere."

That's typical of him. "There's a certain amount of self-protection in that," he explains. "I didn't like anything I'd written until 15 years ago. Maybe 20. Okay, 25. I've written much more in the last 10 years than I wrote in the 20 before. I have a lot of commissions but not enough time. And it surprises me a great deal. People like to play my music. Then the critics say 'What a load of crap,' and it's very difficult for me."

When prodded, though, he agrees that there's something different about the Violin Concerto. "I wanted it to be especially good," he admits. "The relaxing thing is that there are no technical difficulties. I can write anything [for her]. It's wonderful but, in a way, disconcerting."

He turns to Mutter. "I can't think of anything that would give you trouble. I would love to come up with something where you'd look at me and say, 'Are you out of your goddamn mind?'"

"I think it, but I don't say it," she replies. "There are passages in the Violin Concerto that are so high. Extremely high. Did you notice? It stretches over three octaves."

"That comes from the fact that you once said to me, 'I love playing high.' And I said, 'Okay! Within four bars, I had her up in the stratosphere.'"

Previn's work often has an improvisational quality, though Mutter believes that's an illusion. "There's enormous logic in his composing. There's a defined form even when it seems improvisational."

"I have trouble discussing music I've written," admits Previn. "I can't write program notes. It's out of the question."

"Wolfgang Rihm writes great program notes," Mutter says.

"But you need lessons to understand them."

That last exchange shows what different worlds they come from — and suggests how stimulating the conversion of those worlds could be. Though born Andreas Ludwig Priwin in Berlin, the 73-year-old Previn is essentially a Californian, having grown up in Hollywood, composed film scores when he was barely out of his teens (he's won four Oscars), and accumulated a considerable discography as a jazz pianist. He and then-wife Dory Previn wrote pop songs for the Doris Day album Duet, as well as for the camp film classic Valley of the Dolls. Previn has no apparent problem living these down. A few years ago, I mentioned that I fondly recalled his collaboration with Doris Day. "I don't know if you'd feel that way if you heard it now," he replied.

Previn's transition to fulltime conducting happened with the gradual encroachment of guest-conducting engagements on his schedule, and culminated with his being appointed principal conductor of the London Symphony Orchestra (1969–79). That yielded a career-defining discography of
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works by Ralph Vaughan Williams, William Walton, and Serge Prokofiev. When Previn took the helm of the Los Angeles Philharmonic in the 1980s, critic Martin Bernheimer aptly dubbed him “a first-rate conductor of second-rate music” — even though Previn’s cycle of Beethoven’s symphonies is one of the most overlooked corners of his recorded output.

Mutter, 39, had different but equally significant gifts: At age 13 she became the best-known protegé of the revered, powerful Herbert von Karajan, who needed only to pick up the phone to put her at the head of a years-long waiting list for an esoteric sports car — or to prompt Deutsche Grammophon to record her in any given concerto. The finely honed skills of musical analysis Mutter acquired early on probably circumvented the kinds of crises child prodigies experience in adulthood, when they discover that instincts aren’t enough. Mutter sailed into adulthood, recording by age 30 nearly all the standard-repertoire concertos and a fair amount of chamber music, including the Beethoven string trios with Mstislav Rostropovich.

In the late 1980s she began an ambitious program of commissioning of new works, including pieces by Henri Dutilleux and Sofia Gubaidulina. Following the death in the mid-1990s of her husband, a high-powered attorney whose clients included conductor Carlos Kleiber, she began a series of repertoire marathons. For an entire year, she devoted herself exclusively to the Beethoven violin sonatas. To celebrate the turn of the millennium, she hatched a grueling series of programs that attempted to present a cross section of 20th-century violin literature, going as far afield as George Crumb, which meant rehearsing one program in the afternoon and playing another in the evening. “At least I felt alive,” she says.

That sense of aliveness is paramount to Mutter: “So often [in classical music], everything is there, but everything is secure and boring.”

With that attitude, she was no doubt ready for somebody like Previn — not the most highly charged conductor, but one whose composing and jazz-pianist activities can’t help but generate surprises. The odd thing is that they’ve known each other for decades, collaborating on, among other things, a recording of the Sibelius Violin Concerto. Previn’s "Tango, Song and Dance" was commissioned in the mid-1990s.

They won’t say when their professional relationship turned into marriage material, but it must have happened some time ago. Artists of the stature of Mutter and Previn plan their programs three or more years in advance; this year, they’re playing concerts together in London, Oslo, Berlin, and Munich, plus piano-trio engagements with cellist Lynn Harrell. An educated guess would suggest that their intimate relationship is likely to have begun around or before a joint tour of Europe they made three years ago with the Symphony Orchestra of the Curtis Institute of Music.

Previn’s first four marriages ended in divorce, but that didn’t discourage him. “I didn’t want to let her go,” he says. And Mutter? “If you love somebody and want to spend the rest of your life with him, you get married. Otherwise, it

ARTISTS OF THE STATURE OF MUTTER AND PREVIN PLAN THEIR PROGRAMS THREE OR MORE YEARS IN ADVANCE; THIS YEAR, THEY’RE PLAYING CONCERTS TOGETHER IN LONDON, OSLO, BERLIN, AND MUNICH, PLUS PIANO-TRIO ENGAGEMENTS WITH CELLIST LYNN HARRELL.
would be a beautiful romance. This is a beautiful romance, but much more. And the kids are wonderful. We have an apartment here in New York and a house in Munich.”

If they seem an unlikely couple, they cease to be in matters of music. Indeed, their professional admiration for each other borders on the extravagant. Besides delivering what some Boston Symphony Orchestra players say was the best playing of her life in the recording sessions for Previn’s Violin Concerto, Mutter is campaigning for her husband to write another concerto, to feature her and Roman Patkolo, a phenomenal double bassist she’s discovered. Previn welcomes the assignment. “When I heard him play, they had to pick me up off the floor. This isn’t hyperbole. It’s some of the most extraordinary string playing you’ve ever heard. But one of the problems is that people say, ‘He’s playing what?’ Now, I just have to write it.”

The biggest composing project in Previn’s future is another opera. It’ll be anything but a reprise of A Streetcar Named Desire, his controversial adaptation of the famous Tennessee Williams play. “I’ve done my national monument,” he says. “I had barely started on Streetcar when the intendant of the San Francisco Opera said, ‘Did you ever think of Death of a Salesman?’ And I said, ‘Oh my God, no!’ ”

However, a 1996 novella by Alessandro Baricco, Silk—a rhapsodically romantic story of a 19th-century French silk merchant—seems to better coincide with life as Previn now knows it. Baricco’s writing is exquisite and spare, leaving plenty of room for music. “I can’t say what it will be like, I just want to write it,” Previn says. “It’ll be done two years from now.”

In Previn, Mutter may also have found the flexible musical collaborator that she increasingly needs. Her recent recording of the Beethoven Violin Concerto, with the New York Philharmonic under Kurt Masur, has a flexibility and daring that’s nothing like her outing with Karajan of some 20 years before. Were Karajan alive today, he might not like it, since he was essentially a classicist. Mutter could argue with that statement, but prefers to say, “I’m not here to please my past, but my past has much to do with what I am today.”

Indeed, her playing escalates in intensity from year to year. That’s motivated, in part, by urgency: “It took 23 years to do another Beethoven recording, and after a certain age, it doesn’t get better. I don’t have much time left.”

She’s serious, but Previn giggles. “You’re sitting next to the wrong man to make that statement, darling!”

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The Fat Lady Sings! Did the performance of the Clearaudio Virtuoso Wood exceed my expectations? Yes, by a significant margin. Can I think of any under-$1,000 cartridge I've tried in my system that I would rather own than the Virtuoso Wood? No. Can I find at least one criticism of the Virtuoso Wood? No. The performance of the Clearaudio Virtuoso Wood was so ear-opening that I recommend that anyone thinking of spending up to $2,500 on a moving-coil cartridge consider buying the $750 Wood instead, and investing the money saved in better components elsewhere in the system. Stereophile 11/02

New Acoustic Signature Calypso $3,500
The new Acoustic Signature Mambo turntable features a new 2 inch thick Silent-Platter made of aluminum with round brass inserts called "Silencers". The massive 2 3/8 inch solid aluminum chassis carries all the attachments and makes the Mambo seem indestructible. Three large adjustable round tipped spike feet are unique and make it easy to achieve precise leveling without damaging surfaces.

Acoustic Signature Samba $1,899

Acoustic Signature Final Tool $2,500

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Sumiko Celebration $1,500
Benz L2 $1,295
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Clearaudio Aurum/Alpha $250
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Dynamat 10/2 $350
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Sumiko BPS $349
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Ortofon X1-MC $145
Ortofon Samba $891 MKII $145
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Grado Blue Point $250
Denon DL-103 $225
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Denon DL-103 $225
Audio Techica 440 ML $999
Shure M97xe $999

Garrott P98 $3,000
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Ortofon Jubilee $1,850
Garrott FGS $1,600
Dynavector DV-20X $525
Grado Sonata $500
Garrott P-77 $500
Clearaudio Aurum/Beta $450
Goldring 1042 $375
Benz Gold $350
Clearaudio Aurum/Alpha $250
Clearaudio Aurum/Beta $250

Benz Silver $350
Sumiko BPS $349
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Denon DL-110 $140
Grado Blue Point $250
Denon DL-103 $225
Sumiko $249
Denon DL-103 $225
Audio Techica 440 ML $999
Shure M97xe $999
Acoustic Signature Tango $600
I preferred its additional clarity, for example, to the Lehmann Black Cube. The Tango's balance of strengths allows the gist of the music to come through and I never found myself musically frustrated by any aspect of its performance. Quite the contrary: the experience of the old "chills down the neck" - Gordon Holt's test of musical realism... occurred again and again in my listening tests. www.stereotimes.com

Shanling CDT-100 $1,999

Incognito Tonearm Wire Kit $250
AS RB-260 w/Rewire $550

Incognito Easy Riser Nut $12
Easy Riser Turbo $100
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Orbitrac #1, #4, #2, #5

Milty ZeroStat 3 $75

Grundig

RCA Fiber Brush $15

Hunt EDA MK 6 $25

London Decca Brush $25

Alloq Orbitas $29

Gruv Glide $24

ZeroDust $69

Discwasher SC-2 $10

Blue Note Kymys $55

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LP 9 Stylus Cleaner $22

Lyra SPT Stylus Cleaner $50

Disc Doc. Stylus Clean $4

JA Michell Bolt Set $15

Silver Stylus $15

Lenco 34 $22

Meze Headband $20

#1 Power Cleaner $34

#2 Power Cleaner $203

#2 Record Preservative $39

#3 Record Preservative $31

#4 Stylus Cleaner $19

#5 Stylast Preservation $28

#1 & #2 Combo Kit $85

#3 & #4 Combo Kit $141

#2, #3, #4, #5 & #6 $125


clearaudio Level $35

dishwasher VRP Rice Paper Record Sleeves $49

10...100

12" Paper Inner $20

12" Card Board Jacket $1 ea

12" Poly Outer with Resealable Flag $20

Cheesky Demo Disc $15

Ayre Enhancement CD $20

XLO Test & Burn in CD $30

 prosecutors representations of products.

Prices subject to change without notice. Some pictures are representations of products.
Description: Solid-state monoblock power amplifier with unbalanced (RCA) and balanced (XLR) inputs and two pairs of 4mm output binding posts. Rated output power: 500W into 8 ohms, 1000W into 4 ohms, 2000W into 2 ohms, 4000W into 1 ohm (all 270dBW). Sensitivity: 2.25V for rated output, balanced or unbalanced. Voltage gain: 29.0dB. Input impedance: 100k ohms. Output impedance: 0.017 ohm. Frequency response: 20Hz–20kHz, ±0.1dB. THD+noise: 0.002%. S/N Ratio: 135dB ref. rated output (no other conditions listed).

Dimensions: 19.5" (495mm) H by 11.5" (292mm) W by 23.75" (603mm) D. Weight: 192 lbs (87.3kg) net, 224 lbs (101.8kg) shipping.

Serial numbers of units reviewed: 1300905, 1300908

Prices: $28,000/pair. Approximate number of dealers: 80. Warranty: 5 years parts & labor.

Manufacturer: Classe Audio, 5070 François-Cusson, Lachine, Quebec H8T 1B3, Canada. Tel: (514) 636-6384. Fax: (514) 636-1428. Web: www.classeaudio.com.

Two big towers
The Classe Omega is expensive, costing $28,000/pair. The Classe Omega is also a drop-dead-gorgeous, massive, industrial-art chunk of aluminum and steel set off with a subtle mix of curves, contours, finishes, and textures. It's a vertical-format amp — imagine a normal monoblock stood on its side — of which the entire right side is a monolithic, cast-aluminum heatsink, softly contoured, and finished in velvety glass-black. The left half has a satiny silver finish and is completely smooth, save for three horizontal grooves and the flush-mounted power switch near the upper front corner.

The front and back surfaces are split between silver and black, but each amp's two halves are smoothly away from each other — one inward, one outward — creating a sculpted, biplanar façade. On the back side are two sets of WBT output binding posts, balanced (XLR) and unbalanced (RCA) inputs, and a high-current IEC receptacle for a Cardas Golden Cross AC cord (supplied). The front of the amp houses only a recessed, blue-backlit Greek letter omega, which blinks during the amp's turn-on/mute stage, and glows continuously in-operative mode. It glows red if a fault condition is detected.

The mono Omega's basic circuit resembles that of the stereo Omega (now discontinued), reviewed by Jonathan Scull in the March 1999 Stereophile — as well as that of any Classe power amp. The Omega is a true balanced configuration, using a pair of very-low-noise J-FETs as inputs and MOSFETs as drivers, with voltage amplification provided by a pair of bipolars after the J-FETs, and an array of 32 bipolar output transistors following the MOSFETs. The idea is to use the fast-reacting J-FET and MOSFET transistors to control the "heavy voltage or current-amplifying bipolar transistors," as Classe describes them.

After that, however, the Omega mono's design philosophy and implementation are completely different from the stereo versions, according to Classe's Armin Gschwendtner. Whereas the stereo version used "more of an old-school type design," he says, "with banks of output transistors running down the side of the heatsink, the monos, in contrast, use big, flat T220-type packages, which provide much better heat dissipation and management. The regulation too, in the monos, is way beyond what we did with the stereo amp. In the Omega monos, there's one regulator IC per output device, which adds tremendous stability and nearly unlimited power output."

The new design philosophy is already working its way down into Classe's newer products, including the Omicron mono and, interestingly enough, the CAM-350 mono, which I greatly admired in the January 2001 Stereophile.

What's more, although the Omega mono's rated output of 500W is only slightly more than the stereo version's 450Wpc, a glance at the spec sheet suggests that the mono has a lot more muscle backing up its rating. For starters, there are the 32 output transistors vs the stereo version's 16 per channel. Similarly, the mono has a much beefier power supply, with 64 power-supply capacitors supplying 358,000µF instead of the stereo's 90,000µF per side, and a 3000VA instead of a 2500VA toroidal transformer. Can you say "overkill?"

And how about 4kW into a 1 ohm load? Nor is that massive heatsink mere decoration. It allows the 32 output tran-
sitors, and the 32 identical transistors used to regulate the power supply, all to be kept well within their linear operating regions. Although the Omega runs iii pursuance class-A up to 30–35% of its rated output, essentially covering almost any real-world listening situation, my review samples were never more than warm to the touch, even after an entire day of intense, high-volume listening.

**Love at first hearing...but will the honeymoon last?**

From the very first notes on the very first album, it was obvious that the Classé Omega was something special—not just good, but extraordinary. Ironically, given its massive size and immense power, it was in the reproduction of the tiniest details and subtlest nuances that the Omega was most, and most obviously and immediately, spectacular.

One evening I put on the Stokowski reading of Liszt’s *Hungarian Rhapsody* No.2 (LP, RCA/Classic LSC-2471), lowered the lights, and sat back. The opening crescendos were stunning, emerging from a background both blacker and more alive than I’d ever heard before. The following swirling string passages, noticeably denser and more complex than I’d heard with other amps, took my breath away. And a minute or two later, when the strings receded, leaving only a solo woodwind line, my jaw dropped—the stage and surrounding space were much, much larger and significantly more realistic than I was expecting.

The notes flowed out with a more natural speed and jump with the Classé than with other amps, and bloomed into

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**Measurements**

Following the usual IEC preconditioning of running an amplifier at one-third power into 8 ohms for an hour, the Classé Omega’s chassis was hot. However, other than the side-mounted heatsink, which was above 60°C, it was not too hot to keep my hand on. An interesting fact emerged from this preconditioning: The Omega’s measured THD percentage dropped from an admittedly low 0.005% when the amplifier was cold, to 0.0018% when fully warmed-up.

At 29dB from either input, the Omega’s voltage gain into 8 ohms was to specification but slightly higher than average. The input impedance at 1kHz was to specification at 100k ohms unbalanced, 200k ohms balanced. The XLR is wired with pin 2 hot, and the amplifier doesn’t invert signal polarity. The output impedance measured 0.13 ohm over most of the audioband (including 6 ″ speaker cables), this figure rising slightly, to 0.15 ohm, at 20kHz.

As a result of this low source impedance, there was very little modification of the Omega’s frequency response by the Ohm’s Law interaction between it and the manner in which our simulated speaker load’s impedance varied with frequency (fig.1, top trace). The response into an 8 ohm resistive load was flat from below the audioband to 20kHz, with then a smooth rolloff reaching –3dB at a sensible 14kHz. This was the same into all impedances, balanced or unbalanced. A 10kHz squarewave was reproduced with a very short risetime, with no hint of ringing or overshoot (fig.2). The shape of a 1kHz squarewave (not shown) was essentially perfect.

The Omega was extremely quiet; its wideband, unweighted signal/noise ratio measuring 86.4dB (ref. 1W into 8 ohms). The A-weighted figure was almost 10dB better. As well as low noise, the Omega featured very low levels of harmonic distortion. To lift the true distortion out of the noise floor, I plotted the percentage of THD+noise against frequency at 9V rather than the usual 2.83V: 10W into 8 ohms compared with 1W. Nevertheless, as can be seen from fig.3, taken via the unbalanced input, the THD figure remained below 0.01% over most of the audioband, rising only at high frequencies and with reduced load impedance. Even so, this is a superbly linear amplifier. It was even more so through its balanced input, which more than halved the measured THD percentage (not shown).

The spectral content of the distortion is heavily third-harmonic (fig.4). Though some higher-order harmonics are present (fig.5), these all lie at the –100dB (0.0001%!) level. Intermodulation distortion was missing in action at low powers. With an equal mix of 19+20kHz tones (fig.6) at 350W into 4 ohms (), some 1kHz
a denser, more complex mix of tonal nuances. And both the fully orchestrated passages and solo lines simply had more shades in their tonal palette and more microscopic levels in their dynamic gradients — an infinite number of variations that had my head spinning trying to absorb and sort them all, which is exactly what happens to me in a concert hall when the lights drop, the crowd hushes, and the very first notes of the performance break across the tension.

Then there were the notes’ trailing edges. Wow! Before the Classe, the decay of notes was something that I pretty much took for granted, knowing that they were there but not really noticing them. With the Omega, believe me — I noticed. It was as if the notes now had distinct trailing edges, where before there had been none. With the Omega, these edges trailed off smoothly into the hall’s farthest reaches as they dropped way, way down into the surrounding ambience. I could close my eyes and imagine following waves of sound out to the hall’s corners, up into the rafters, and finally settling down into silence.

The Classé’s effect on my system’s spatial performance was equally stunning. The soundstage was wide and deep, stretching to well outside my speakers and far beyond my listening room’s front wall. But the real magic was again in the details — the low-level ambience cues that locate and describe a hall’s boundaries and fill the spaces between performers. The ambient details on the Marriner/Academy of St. Martin-in-the-Fields recording of Vivaldi’s L’estro Armonico (Argo ZRG 733-4) were a great example. Argo recordings of Marriner and the Academy typically have a very distinct, very characteristic ambience that often persists regardless of the recording specifics, but that’s very “broad-brush” in its very dense and liquid portrayal. With the Omegas, the performers, the stage, the space, the ambience — all were quite distinct. The individual instruments were much more finely drawn than I was used to hearing. What’s more, I was able to dissect the dense ambient environ-

difference component is apparent, though this is still almost entirely due to the D/A converter used as a source. The specter components at 18kHz and 21kHz in this graph are due to the Omega, but at ~80dB (0.01%), won’t bother anyone.

I always leave the clipping power tests to last, because that is where amplifiers tend to break. (I place the amplifier being tested in the corridor outside my lab for this test.) Not the Omega. I clipped it with impunity into 8, 4, and 2 ohms with continuous drive. The manner in which the THD+N percentage changes with output power into these loads is shown in fig.7. Below 10W, noise dominates the reading. Between 10W or so and the “knee” in each trace, the distortion starts to increase slightly, more so into the lower impedances, but the Omega basically remains extremely linear right up to the point where it runs out of headroom.

The Omega more than exceeded its specified power. Defining clipping as 1% THD, the actual clipping power available were: 590W into 8 ohms (27.3dBW), 1400W into 4 ohms (28.45dBW), and 2kW into 2 ohms (27dBW). Unusually, the 4 ohm delivery was slightly more than twice the 8 ohm figure, which means that its maximum output voltage is slightly higher into the lower impedance. I was suspicious of this — perhaps the dummy load had got so hot that its resistance was higher than 4 ohms, so I repeated the test with a different, cold dummy load. The result was both the same and repeatable, so it appears to be real. Perhaps it has something to do with the amplifier’s output regulation?

During these last tests, by the way, I inadvertently knocked the RCA connector out of my Audio Precision System One’s output jack while the Omega was driving 500W into 8 ohms. The amplifier immediately turned it off, the front-panel logo glowing red. After a hard reboot — disconnecting the AC cable — the Omega performed flawlessly, a tribute to its protection circuitry.

When you purchase a very expensive high-end amplifier, I think you should expect enormous power to be delivered into all normal impedances, with vanishingly low distortion and without the amplifier breaking. This the Classé Omega can do with aplomb and style.

— John Atkinson
ment, to hear the miking patterns and the effective ambient spaces around each of the instruments, as well as the boundaries where the spaces overlapped.

But it was in its portrayal of individual images that the Classés were most extraordinary, again revealing layers of detail and nuance that I'd not previously heard. Those first few notes of the Liszt Rhapsody Part of their arresting magic was a dimensionality that was noticeably beyond what I'd been hearing with my other amps. This was most obvious with solo lines set against a large stage, such as the woodwind lines in the Rhapsody—the rear halves of the Omegas' images were much better illuminated. This startling effect made the images tangible to a degree that left other amps sounding a bit back in comparison, as if only the front half of the image protruded from a planar surface.

With solo performers, however, such as cellist Franz Helmerson playing J.S. Bach's Suite No.2 for Solo Cello (LP, BIS LP-65), the added dimensionality was also quite obvious as a solidity and stability of the focus. Subtle details of pitch variation and bowing texture were more apparent and less ephemeral than I was used to hearing—more inherent components of the image itself than a feeling around its edges.

Similarly, vocals were distinctly more three-dimensional than with other amps, but just as distinctly—if less overtly—more concrete in their shadings and low-level details. When I cued up "Tom's Diner," from Suzanne Vega's Solitude Standing (LP, A&M SP-5136), I was startled—first by the immediacy and solidity of the image, then by the complexity of Vega's voice. It was as if I was hearing it live for the first time, after a lifelong dose of twodimensional recordings.

The Omega's magic persisted throughout its range, from top to bottom and from the softest to the most thunderous blasts. While the Omega's bass didn't seem to have the ultimate power or warm bounciness of the biggest VTL amps I've used, it was not otherwise lacking. On the Hungarian Rhapsody I noted that the orchestra was most definitely solidly and darkly anchored, the double basses having a weight that seemed to perfectly balance the rest of the orchestra. Bottom-end articulation and precision were excellent as well, better even than that of the big VTLs. When the double basses echo the cellos through a series of runs a few minutes into the Rhapsody, it was not only easy to keep the sections and individual cellos sorted out, but the individual double basses as well.

The Omega's top end was the best of any amplifier I've heard, reminding me of a bit of Magnepan's ribbon tweeter in its sweetness and extension. During the furious, racing triangle passages early on in the Rhapsody—the ones that morph hauntingly into downward-funneling woodwind lines—the triangle not only cut cleanly through above the orchestra, it was also dead-simple to follow the striker's triangular path around the inside of the instrument. And the cymbals on Pure Audiophile's sensational re-issue of Karrin Allyson's Ballads (LP, Concord/Pure Audiophile PA-001) were the best I've ever heard. Not only did they have the perfect mix of bell-like core and expanding, shimmering waves of overtones, it seemed as if I could hear the vibrations in the cymbal itself, emanating from the point where the stick or brush made contact.

With all that power and that huge power supply, you'd think the Omega would be nothing short of explosive—

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**Tricks'n'Tweaks**

No—I didn't try swapping in nonmagnetic screws in the Omegas' chassis, or suspend them in a pool of mercury, or anything like that. I set them up, turned them on, and forgot about them. But I found, not surprisingly, that they provided a crystal-clear window into whatever else was happening in the system. Any—and I do mean any—changes were immediately and clearly audible. As a result, I was able to quickly and easily tweak my system to a significantly higher level of performance.

I did quite a bit of cable work during the Omegas' stay, and it was always easy to quickly isolate and identify the cables' contributions. At one point, I cleaned and treated all of my connections with Caig's R5 Deoxit, ProfGold, and Power Booster ($29.95 for Caig's audio/video survival kit of products). I was surprised — no, stunned — by the amount of grunge that was removed from the sound, not to mention from the connectors themselves. And I finally got around to replacing my Home Depot 20A "Hospital Grade" AC outlet with FIM's model 880 "High Performance Wall-mount Power Outlet" ($69.95) — another big change. Not only does the FIM 880 grip a plug much more tightly, there was a slight improvement in image dimensionality — and I'd swear that the soundstage's rear corners moved a bit back and out.

Similarly, I found that my VAC CPA-1 Mk.III preamp sounded a bit more alive when sitting on rigid feet, but that the added life was just that: added. Replacing the spikes with Bright Star Isonodes ($19.95/set of four) under a Big Rock, which floated the assembly in a pneumatic-like compliance, noticeably cleaned up the sound, expanded and opened up the soundstage, and improved low-level detail. Ditto for slipping a set of Immedia's drum-like String Suspension Concept feet ($98/set of four) under my CD player — but the SSC pucks seemed to sharpen up transients as well, adding richness and precision to the Simaudio Moon Eclipse's sound.

A huge change, and one that I never would have expected, occurred when Immedia's Allen Perkins slipped a large set of SSC feet ($85/pair) under the Audio Physic Virgo IIIIs' spikes, effectively decoupling the speakers from my all-too-springy wood floor. Although decoupling speakers runs counter to everything I know about speakers, the SSC pucks made a huge improvement in the Virgos' focus. Franz Helmerson's cello was suddenly shaped like a cello, in three dimensions, rather than like a vaguely oblong aura of sound. Another noticeable improvement in soundstage depth, another lowering of the noise floor — wow!

Last but not least, I fine-tuned the VPI TNT's setup using the full complement of Wally Tools. I second Michael Fremer's wholehearted endorsement of these gadgets. If you're into vinyl, you owe it to yourself to go the Wally route. The tools are simple and easy to use, and the peace of mind — that your setup is right — is worth the price, never mind the obvious sonic benefits. — Brian Damköhler
all thunderous orchestral crescendos and cracking rim shots. Well, yes and no. Yes, the crescendos and rim shots were there; no, they never seemed "thunderous" or "explosive," nor did dynamics of any sort seem to dominate the Omega's performance. The Classé didn't sound big and bold or polite and reticent — it didn't sound any way at all, but simply did what the music asked, no more, no less.

I think part of it was that there was so much more information with the Omega that I ended up listening to the system at lower levels than usual — when I switched in other amps, I inevitably found myself turning up the volume. Certainly, the Omegas could pressurize even my huge listening space when I cranked up my beloved AC/DC and Stevie Ray Vaughan LPs, but more often than not, the amps would totally immerse me in a musical event with a lot less fuss than other amps I've used.

**Amp swapping**

I was hard-pressed to assign the Omega an overall sound or tonal character, particularly when I tried to triangulate in on them by swapping in the other amps I had on hand. The Omega, for example, had none of the Mark Levinson No.20.6's dark, silvery character or slightly liquid texture — but they certainly didn't sound tonally cool or light. Similarly, my VTL Ichibans sounded warm, rolled-off, and a little syrupy in comparison to the Omega, and didn't have their precision or detail, particularly at the frequency extremes.

But the Classé was in no way over-etched, nor did it accentuate the top and bottom ends at the expense of the mid-range. The VAC Renaissance 70/70, when matched with an appropriate speaker, most reminded me of the Omega but was softer overall, and had a slight golden coloration — and again, its performance didn't extend nearly as far to the frequency extremes. No matter how I approached it, the Omega simply sounded neutral — or, rather, didn't sound at all.

**Summary**

The Classé Omega monoblock is an extraordinary amplifier — extraordinary in its appearance, its engineering and construction, and, most of all, in its sonic performance. But despite its other-than-top power and energy reserves, it is in the handling of details that the Omega is most impressive. However, in spite of the apparent incongruity, I think that it is precisely because of the Omega's prodigious power, and its ability to precisely control a speaker's motion, that it could do such an incredible job with the subtleties. Prior to the Omegas' arrival, my system's tiniest details had been lost in the slight blurring that arose from the speakers not quite keeping up, or in the faint overhang and back EMF resulting from the drivers' momentum over-matching the amplifier.

**The Classé Omega is extraordinary in its appearance, its engineering and construction, and, most of all, in its sonic performance.**

My experience with VAC's Renaissance 70/70 amplifier follows along the same line. The VAC, too, is capable of a level of refinement and subtlety, and a speed and harmonic accuracy, beyond those of most other amps — but only when matched with a speaker that it could control when set to Zero Feedback. Throw the wrong speaker at it, one that needs more than 70W to sound its best, and I could hear the VAC's performance degrade and the sound become audibly less controlled. I suspect that, at the limit, the Omegas would suffer the same fate, though with their vast power and reserves, you'd have to look long and hard to find a speaker that would overtax them.

The Classé Omega is not only the best power amplifier I've ever auditioned, but in many ways it exceeded my ability to evaluate it — I found myself instead evaluating associated components, setup details, the system's response to changes in the weather, even characteristics of a recording itself. The Omega simply got out of the way, providing a clear conduit, a straight wire with gain — a lot of gain — between my system's front-end and loudspeakers. And because of its ability to absolutely control a loudspeaker, a finer level of detail was able to pass through this conduit than through most other amplifiers. The result, for me, was a level of system performance and musical involvement beyond my previous experience.

I don't have firsthand experience of all the other super amplifiers out there, so I can't really put the Omega's $28,000/pair price in the context of its direct competition. However, in a world of $17000 preamps, $15,000 CD players, and $10,000 turntables with $5000 cartridges, the Classé Omega doesn't seem out of line, particularly given its construction quality and the overwhelming excellence of its performance. The realities of a California mortgage preclude my buying a pair of Omegas, but I'll miss them for a long, long time. Even Trish said, "So they have to go back? You know, they really don't look so bad there...."

Even if you'll never be in a position to afford the Omegas, you owe it to yourself to give them a listen. You won't be disappointed. Very highly recommended!

**Associated Equipment**

**Analog source**: VPI TNT V-HR turntable-tonearm; Grado Statement, Benz Micro L.04 cartridges.

**Digital sources**: GamuT CD 1, Simaudio Moon Eclipse CD players.

**Preampiliers**: VAC CPA-1 Mk.III.

**Power amplifiers**: VTL Ichiban and Mark Levinson No.20.6 monoblocks, VAC Renaissance 70/70.

**Loudspeakers**: Audio Physic Virgo III, Kirkaster Silverline 60, Castle Severn.

**Cables**: Interconnect: Nirvana S-X Ltd. & SL, Nordost Valhalla, Audience Au24, AudioQuest Anaconda, Monster Cable Sigma Retro. Speaker: AudioQuest Gibraltar, Silversmith Silver, Monster Cable Sigma Retro. AC: Audience PowerChord, Synergistic Research Reference Master AC Couplers.

**Accessories**: Bright Star Rack of Gibraltar equipment stand, Big Rocks, Little Rocks; SSC component feet; VPI, Disc Dr. LP cleaning systems; Nordost ECO3, Diskolution CD cleaning/treatment fluids; MIT ZCenter power-conditioning system; AudioPiran Noise Sniffer AC line analyzer; Quiet Line AC filters; Echo Busters Bass Busters, Double Busters, room-treatment products; Wally Tools; Cag R5 Deoxit, ProGold, and Power Booster.

— Brian Damkroger
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66
Naim NAC 552 preamplifier

There’s nothing groundbreaking about the technology included in Naim’s new $22,400, two-box, remote-controllable, top-of-the-line NAC 552 preamplifier. Still, the inclusion of two sets of RCA input jacks is a departure from Naim’s tradition of DIN jacks, and the NAC 552’s programmability is unusual for a high-end two-channel audio product. And you can order RCA output jacks at no extra cost, which is how my review sample was configured.

Naim has always made a big issue of the quality of the power supplied to their electronics, and this preamplifier is no exception. The NAC 552’s power supply, built specifically for the NAC 552, has a noise-reducing “split-rail” (i.e., separate positive and negative supplies) power supply based on an 800VA toroidal power transformer “big enough to supply a 300 or 400W amplifier,” according to Naim. Three large capacitors and 16 regulators supply power to the NAC 552’s various sections. The split-rail design is said to keep signal levels clean, quiet, and thermally stable.

The supply feeds the preamp’s analog section via a large-diameter cable with locking multi-pin Burndy connectors, while a separate five-pin DIN cable powers all control and digital functions. The preamplifier’s audio output returns to the power-supply chassis via the main connecting cable, and drives the power amplifier via jacks on the power supply’s rear panel — unusual, but common in Naim products.

The NAC 552’s front-panel controls include volume and balance potentiometers and two rows of pushbuttons: one row for selecting the listening source, the other for directing signals to the Record Out facilities, though there is no “tape loop” as such. Both rows include Mute and Mono buttons, with which the user can fold down stereo mixes to mono at both playback and record outputs — and, more important, cancel out unwanted vertical modulations when recording mono LPs using a stereo cartridge. A very useful feature.

Another useful feature is the Record selection’s Lock function: by pushing the Source Mono button four times within six seconds, you can’t accidentally change the selected Record Out source. Four more quick pushes and you can.

The Input Mapping function lets you assign the input jacks to source input buttons. There are seven assignable DIN input jacks (one is powered and reserved for Naim’s StageLine phono stage) and two RCA phono input jacks: nine inputs but only six input buttons. The source buttons are labeled CI, Tuner, Tape, AV, Aux 1 and Aux 2, which helps you decide which inputs to assign to which buttons — or you can connect your sources to conform to the default settings (e.g., DIN input 2’s default setting is the CI button).

Of the six main DIN connectors, only 3, 4, and 5 have input, output, and unity-gain capabilities. (Unity gain is a programmable pass-through function, bypassing the volume and balance controls, for integrating the 552 into a multichannel A/V system.) However, all sources are available for recording at each of the DINs with output capabilities, meaning you could have three recording devices connected to the 552 simultaneously.

This feature is not made clear in the instruction manual. In fact, the manual is woefully inadequate. When I tried connecting the NAC 552 to the Alesis Masterlink ML-9600 hard-disk/CD-R recorder, I looked for the Naim’s Record Out jacks and found none. The manual’s diagram of the rear panel shows seven DINs and two sets of RCA jacks, labeled In 1, In 2, etc., but nowhere was there anything labeled Out. When I called...
Naim America’s Chris Koster about this, he told me that inputs 3, 4, and 5 had both In and Out pins.

I souded the connection page, and there, in a small box labeled “Inputs 3, 4, 5,” was a diagram of a five-pin DIN jack with two of the small holes labeled Out in very small print. Those tiny Outs were the only reference I could find in the manual to the Record Out connections. This is unfortunate for a product on which so much attention to recording facilities has been lavished.

Instruction manuals should tell a story and lead the consumer by the hand. This one does neither, though some sections are reasonably straightforward and descriptive. While Naim products are, for the most part, installed by dealers, they are also idiosyncratic. And while it’s safe to assume that most buyers of NAC 552s will be stepping up from other Naim products, some will be first-time Naim buyers. This manual will give them a trouble and not particularly pleasant introduction to an accomplished line of products.

One thing the manual does explain well is the input-assignment procedure, which is a relatively straightforward process. I won’t go into the particulars, except to say that it includes watching a set of small, rear-panel LEDs mounted above each input. Naim should include a small dentist’s mirror with each NAC 552.

According to design team leader Roy George, careful listening has convinced Naim’s designers that microphones have a profound effect on sound quality, even in solid-state gear—which won’t be surprising to most Stereophile readers. After careful listening, they’ve concluded that suspending the circuit boards on springs has an audibly positive effect.

Measurements

M easured using its RCA input and output jacks, the Naim preamp offered a maximum gain of 21.1dB, requiring just 88mV at 1kHz to give an output of 1V. (This is very slightly higher than the specified sensitivity.) The unity-gain position on its volume control was 11 o’clock. The NAC 552 did not invert absolute polarity, and the input impedance was a more or less constant 38.5k ohms across most of the audio band, this dropping disproportionately to 34k ohms at 20kHz.

The output impedance was a very low 3 ohms at middle and high frequencies, this figure including the series resistance of the interconnect used. It rose in the bass, to 418 ohms at 20Hz, presumably from its using a finite-sized output coupling capacitor. While this is still a low source impedance in absolute terms, it does result in curtailed bass response into a 600 ohm load (fig.1, lower pair of traces below 300Hz). This suggests the partnering power amplifier should have an input impedance of at least 8k ohms.

Into a more reasonable load (fig.1, top traces), the NAC 552 offers good low-frequency extension, though it still rolls off more the earlier at infrasonic frequencies than do typical American designs. As MF notes in his review, Naim has also arranged for the ultrasonic response to be rolled off earlier than is usual in US designs. This results in 0.6dB of rolloff at 20kHz, though this will not be subjectively significant, I feel.

Channel separation was excellent in the midrange (fig.2), though it did decrease at higher frequencies due to capacitive coupling, probably at the volume control. However, at 65dB in both directions at 20kHz, this, too, will not be an issue for listeners. Due to the capacitive coupling of the output, DC offset was negligible. The NAC 552’s unusual wiring topology, in which the audio output is first taken to the power supply, then to the power amplifier, is, to the best of my knowledge, to use the preamp’s ground reference at the point where the impedance to true ground is at its lowest. Certainly, the unweighted, wideband S/N ratio, taken with the input shorted but the volume control set to its maximum, was good at 75.9dB, this improving to 88.3dB when A-weighted. There were no AC power-supply-related spurious present in the audio output signal.

Fig.3 plots the THD+noise present in the output against the output voltage. The increase in the measured percentage as the level decreases shows that the figure is dominated by noise, not distortion per se. The latter starts to increase slightly above 750mV or so—the NAC 552’s nominal output is specified as 775mV—but the true clipping point (1% THD) is not reached until 8V into 100k ohms, or a still high 62V into 600 ohms.

The manner in which the THD+noise percentage changes with frequency (fig.4) was plotted at 1V output, which means that, as shown by fig.3, the graph does show the true level of distortion. Into 100k ohms (bottom trace above 200Hz), the THD is constant with frequency at 0.025%, but something weird happens into 600 ohms: there appears to be a notch in the measured distortion at 60Hz, with a rising percentage (associated, I assume, with the rising source impedance) at low frequencies. Such a notch

![Fig.2 Naim NAC 552, channel separation (10dB/vertical div., R-L dashed).](image-url)

![Fig.1 Naim NAC 552, frequency response at 1V into 100k ohms (top) and 600 ohms (bottom). (0.5dB/vertical div., right channel dashed.)](image-url)

![Fig.3 Naim NAC 552, distortion (%) vs output voltage at 1kHz into 100k ohms (bottom) and 600 ohms (top).](image-url)
Removing four transit screws allows the four boards, arranged in vertical pairs and separated by pillars, to float on spring suspensions. The boards are attached to heavy brass plates that add sufficient mass to lower the resonant frequency of the spring suspension to offer effective isolation. As the resonant frequency goes down, the length of travel of the springs increases.

On removing the NAC 552 from the box, you are advised to unscrew the four transit screws from the chassis bottom and to then not turn the unit over. Turning the unit over with the suspensions free would probably cause the weighted boards to bang into the chassis cover. I hung my sample on the edge of a chair to access two of the screws, then turned it around to remove the other two without having to turn the unit over.

The preamp functions are divided among the boards: one pair handles input switching and driver circuitry, the other buffering, gain, and a filtering stage. All components, including the bipolar transistors, are discrete and, according to Naim, "expensive" parts not usually used in audiophile gear. Careful listening determined ground-plane and parts placement on the circuit boards.

After carefully considering ladder-resistor volume controls, Naim chose a high-quality conventional ALPS pot. Roy George told me this was what sounded best, though only after careful mounting to minimize microphonic.

One of the NAC 552's most interesting features is a steep filter, well out of the audioband, designed to limit super-fast risetimes and prevent out-of-band fast transients from reaching the power amplifier. Naim contends that when an amplifier is fed waveforms that are "faster" than it can han-

usually means that some 60Hz AC hum is leaking into the signal somewhere, giving rise to phase cancellation in the measured level at the same frequency. But a frequency of 60Hz usually implies magnetic coupling from the AC transformer, not electrical leakage, and nothing I did with regard to the grounding of the NAC 552 or my Audio Precision System One changed this behavior. A mystery, but it does again suggest that the Naim not be used to drive low impedances.

The distortion that is present is primarily a low level of the innocuous second harmonic (fig.5), though the third harmonic rises when the preamp drives low impedances. Intermodulation distortion is also low (fig.6), the 1kHz difference component resulting from an equal mix of high-level 19kHz and 20kHz tones lying at -77dB (0.014%).

As long as it is not used to drive unrealistically low impedances—which it won't be in an all-Naim system—the NAC 552 gets a clean bill of health for its measured performance.

—John Atkinson

Fig.4 Naim NAC 552, THD+N (%) vs frequency (from bottom to top above 200Hz): 1V into 100k and 600 ohms (right channel dashed).

Fig.5 Naim NAC 552, spectrum of 1kHz sinewave, DC–10kHz, at 1V into 8k ohms (linear frequency scale).

Fig.6 Naim NAC 552, HF intermodulation spectrum, DC–24kHz, 19+20kHz at 1V into 8k ohms (linear frequency scale).
Back in 1999, Stereophile writer Michael Fremer wrote: "surfing the web for a CD rack and found a great one, the Boltz CD-600" and he stuck a photo of our only product into his article. Very big coup for us. Five years later we have a wonderful following, and we have stuck to our zen like way of doing business: Factory Direct, Free Ground Shipping, and the Superior way we TREAT OUR CUSTOMERS. Get our New Catalog featuring our latest lineup by calling (877) 804-7650 or order online at www.boltz.com.
dle, there are negative consequences in the audio band. They claim that the “constant time-delay filter” used has no negative effects on the sound.

The fit’n’finish of the two boxes is exceptional, and much improved over other Naim products I’ve had in for review, which were solidly built themselves. Naim’s familiar industrial design aesthetic has been maintained, though the NAC 552’s sculpted front panel, backlight buttons, and satin-smooth finish make it more pleasing to the eye and less of a forbiddingly monolithic black box. It’s possible to turn off the front-panel lighting by pushing the Disp button on the remote. Should you thereafter change any front-panel function, the LEDs will temporarily illuminate, then go out again. Push Disp again and the lights stay on.

Supplied with the NAC 552 is Naim’s Flash, an ergonomically pleasing remote control that’s backlit and equipped with an LCD screen that can operate other Naim gear, and can be set to switch to the appropriate preamp input. If you want to operate a Naim CD player with the Flash, the NAC 552 will automatically switch to the appropriate input. The remote’s backlighting switches on as soon as you pick it up, and automatically goes out when you set it down—a handy feature.

Also extremely useful are the remote’s triple-action volume and balance buttons: a quick touch and release results in a very small movement. Press, release, and then press continually causes the volume or balance control to move smoothly but slowly. A single press and hold causes the control to move quickly. These variations came in very handy.

**Setup and Use**

After running the two umbilicals from the NAC 552PS to the NAC 552, I connected the dCS Verdi, Purcell, and Elgar Plus SACD and CD-to-DSI playback system to one of the RCA inputs, the Manley Steelhead phono preamp to the other. Naim supplied a Chord DIN-to-RCA cable, which I used for my McIntosh MR-67 FM tuner, and a four-plug, in/out RCA-to-DIN connector for the Alexis MasterLink’s analog inputs and playback jacks. Naim also supplied their Stageline phono preamp, configured for a low-output moving-coil cartridge, and which I connected to the powered DIN socket. Since the Stageline is driven by the NAC 552PS power supply, it’s both compact and relatively inexpensive ($375), I connected to it the combination of Graham 22 tonearm and Audio Tekne MC-6310 cartridge.

After switching on the NAC 552, I assigned each of its jacks to a source button (the Record Out buttons follow automatically) and sat down for a first listen. Chris Koster said that the 552 needs considerable break-in—up to a few months—to sound its best, and for the capacitors to settle. I had only about a month. “You’ll know,” he told me.

The one glitch I found in the NAC 552 was that static discharges would cause all of its source LEDs to light up. Fortunately, the selected source for listening or recording did not change when that happened, and a touch of the selected source button would extinguish the other LEDs. Naim is aware of this problem; Koster told me that they have a fix.

**Tighten Up!**

I started with the NAC 552’s volume control at approximately 10 o’clock and put Pink Floyd’s *Dark Side of the Moon SACD* in the dCS Verdi’s drawer. The familiar heartbeats shook the room with what struck me as noticeably tighter and more controlled definition than I’d become accustomed to through my reference HiEnd HP-100 preamplifier.

Then the first blast hit with hurricane force. Ten o’clock was loud—way louder than my Holland, or what I was expecting, and way too loud to tolerate. Below 9 o’clock was still *rockin’* loud, and throughout the review period, no source needed to be turned up much beyond that to play at levels that shook the house. The McIntosh MR-67 tuner’s fixed-level Out provided so much gain that there wasn’t enough usable range in the lower end of the 552’s volume control. I was forced to go through the tuner’s variable-output jacks with the Mac’s pot turned well down.

According to the instruction manual, the NAC 552’s nominal output is 0.775V, which is not unusually high. Fortunately, the volume pot’s taper offers a great deal of range at the low end, and with the remote’s “nudge” facility, I had satisfactory volume control through all inputs at all times.

It’s a cliché to say that Naim specializes in providing “rhythm’n’pacing,” but were, did this preamp let me know it! It was the first piece of Naim electronics I’ve had in my system that wasn’t a CD player, and while those hint at exceptional control and rhythmic drive, the 552 put it in my face. I mean that in a good way.

Putting the 552 in my system was like outfitting my car with heavy-duty, high-performance shocks, 17” rims, and low-profile tires. Once I’d gotten used to the preamp’s dynamic authority, and especially its grip on contrasts, when I played familiar recordings with explosive dynamics, such as Classic Records’ 45rpm edition of Mussorgsky’s *Pictures at an Exhibition*, I entered the same kind of relaxing yet exhilarating zone that I do when throwing a high-performance car into a hairpin turn at higher-than-normal speed. Just as I feel the small bumps in the road without the car pitching and rocking, the 552 did the same with low-level microdynamic contrasts.

Audiphiles who prefer soft and bulbous sound—judging by the enthralled crowds in some demo rooms at Consumer Electronics Shows, there are many of these —will probably find the 552 a bit stiff. But if you like your reproduced music to have “grip” and drive, the NAC 552 is the ride for you. Its control of the Audio Physic Avanti III’s woofers and its ability to deliver taut, realistic bass weight and textures were unsurpassed in my listening experience, and it accomplished these without sounding dry or overdamped. Kick drums were well-focused, the attacks not overly brittle, the decays not artificially fast.

Once I’d locked into this quality, I found myself pulling out LPs, CDs, and SACDs that showed it off, such as the UK vinyl edition of the first Clash album, and Elvis Costello’s “From a Whisper to a Scream,” from the UK F-Beat edition of *Trust*. That tune is also an excellent test of image placement and focus —the mixing engineer placed Costello’s voice just to the right of the left speaker, and Squeeze’s Glen Tilbrook just to the left of the right speaker. The 552 locked the two voices in space right where they belonged in 3D-like focus.

The NAC 552’s solidity, control, and focus were not limited to the bottom of the audioband. These qualities extended right to the top, giving the preamp a coherent, solid, fully developed sound.
picture. Compared to my reference Hovland HP-100, the 552 was slightly darker, somewhat less transparent, and somewhat less liquid and airy in the upper mids, but those qualities were more appropriate to the preamp's bottom-end performance — just as the Hovland's somewhat lighter, less pronounced, but equally well-textured and well-focused bass was appropriate to its mid- and high-frequency performance. Both are great preamplifiers, in part because their designers have provided organically complete though very different pictures. If you like your images to have body and physical solidity, the Naim delivers that. If you want bloom, look elsewhere — but not to the Hovland, because it's not a "bloomy" tube preamp.

Once I'd settled in and begun enjoying rather than analyzing the sound — easy to do because the NAC 552 did nothing wrong that was readily apparent — I tried to envision what would happen if I ran the dCS Elgar and the Manley Steelhead directly out. Each has a built-in volume control designed to drive an amplifier directly, but here's where the Naim threw me for a loop. Audiophile gospel says that less is more — that the simpler and more direct the signal path, the more "pure" the sound. But after running both sources directly, then through the Naim, I preferred the sound through the NAC 552.

Both sources driving the amplifier directly sounded somewhat more transparent. For instance, with Cisco's indispensable LP reissue of Nathan Milstein's recording of the Dvôrák Violin Concerto, there was a slightly creamier, sweeter texture to the violin's upper register, and greater richness to the overtones, via the Steelhead's volume pot — but there was more body and solidity to the fiddle through the Naim, and the orchestra had greater weight and image dimensionality.

When I compared the Dark Side of the Moon SACD directly out of the dCS and then through the Naim, the preamp won hands down: more weight, more punch, more body, and, mostly, more control. Purists would argue that the preamp was "adding" these things, but what I think I heard was the NAC 552 allowing the power amp to get a much better grip on the speakers from top to bottom. If there was a slight loss of transparency, it was so minor I didn't notice it with this kind of music.

I dragged out the UK Decca box of the Beethoven Piano Concertos with Vladimir Ashkenazy, Georg Solti, and the Chicago Symphony — superb recordings — and listened to all of Concerto 3 twice. The Naim's rendering of the piano, in terms of its totality as a physical image and of the velvety solidity of individual notes, easily overwhelmed the Steelhead's direct-out delivery. If there was slightly less shimmer at the top end of the keyboard, it was a price easily paid.

Other than an almost unnoticeable loss of transparency (not enough to be called a "veil") and a slight harmonic darkening (though not enough to say it simplified the natural envelope), the Naim's performance was exemplary in every way: it was quiet, grain-free, did nothing to change the overall spatial picture (compared to sources fed directly into the amplifier), and didn't impose its own texture on the most delicate musical information. On the positive side, what it always managed to do was gripp the music in a way that helped delineate small and large rhythmic and dynamic gestures. Its bass extension, definition, and textural presentation were as good as, if not better than, what I've heard from any other preamp — and the rest wasn't half bad either! The NAC 552 never added thickness to the overall picture, never slowed down or dulled high-frequency transients. Whether Naim's proprietary ultrasonic transient filtering improved the performance of my reference Musical Fidelity Nu-Vista 300 amplifier, I can't say. It would be funny if much of what I heard was not preamp performance but better power-amp performance.

Whatever was doing it, the NAC 552's apparent sonic effect was to add enormous weight and meaning to all of the music I listened to through it — kind of like what the Boulder 2008 phono section did, when I reviewed it last July. More than any other preamp I've heard so far, the Naim organized and solidified the sound picture. I went back to my review of the Hovland HP-100 preamp, in the November 2000 Stereophile. About the Hovland's presentation of Miles Davis' Kind of Blue, I wrote, "The HP-100 seemed to be able to dig out and reveal tiny vibrational peaks and valleys where other preamps deliver flat lines. And it did so three-dimensionally, without etch, grain, or spotlighting."

There was only one thing to do: pull the record out and compare both preamps. The Hovland nosed out the Naim on Miles' horn in the ways I described in that review, but the Naim was almost as revealing, and definitely gave the picture more weight, the instruments somewhat more body. The Hovland is somewhat leaner-sounding and less prominent in the bass, but I knew that when I gave up the Ayre K.1x for it, because it did other things I liked better.

I preferred the Naim's and Hovland's presentations to the sources directly out, and that convinced me that I'm a "more can be more" audiophile, not a "less is

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**Associated Equipment**

**Analog sources:** Simon Yorke S7, V.Y.G.E.R. Atlantis turntables; Immedia RPM-2, Graham 2.2 tonearms; Lyra Titan, Audio Tekne MC-6310, Transfiguration Temper W cartridges; McIntosh MR-67 FM tuner.

**Digital sources:** Musical Fidelity Nu-Vista 3D CD player; dCS Elgar Plus/Verdi/Purcell SACD/CD-to-DSD playback system; Alesis MasterLink ML-9600 hard-disk/CD-R recorder.

**Preamplification:** Hovland HP-100 preamplifier, Manley Steelhead phone preamplifier.

**Power amplifier:** Musical Fidelity Nu-Vista 300.

**Loudspeakers:** Audio Physic Avanti III, Wilson WATT Puppy 7.


**Accessories:** PS Audio Power Plant P300 & Shunyata Research Hyda power-line conditioners, Sounds of Silence Vibraplane active isolation platform, Symposium Ultra shelf & Rollerblocks (Tungsten, Grade 3 superball), Finite Elemente & Pagode research equipment stands, Audiodharma Cable Cooker, Walker Precision Isolated Motor Drive, ASC Tube Traps, Shakti Stones & On-Lines, RGP BAD & Abffusor panels.

— Michael Fremer
more" type. Recordings are simply raw material — grist for the mill that is your stereo system. Whatever it takes to make a recording sound more vital and realistic is fine in my book. The Naim NAC 552 is what it takes.

Conclusions
At $22,400, the two-box Naim NAC 552 won’t be flying out the doors of your local audio emporium. It’s a “statement” design that sums up Naim’s sonic aspirations, and, for serious Naimophiles, it’s a dream piece worth lusting over. And its user-friendliness makes it a contender for well-heeled audiophiles who’ve never owned Naim gear. That’s a good thing — it would be a shame if what has been achieved here could be of interest only to true believers. (But remember: If you have more than two sources and plan to use the NAC 552’s recording facilities, you’ll need to have DIN plugs on one end of your favorite cables.) Believe it or not, there’s a “bargain” aspect to the 552: you can add Naim’s outstanding, ultra-quiet Stageline phono section for only $375. The price is so low because the Stageline draws its juice from the NAC 552PS power supply. The phono section will credibly handle the lowest-output MC cartridges, though it’s very susceptible to static and emits a loud pop when you throw switches of any kind (lights, turntable motors, etc.) in its vicinity.

My time with the NAC 552 was time well spent.

My time with the NAC 552 was time well spent. It was always exciting and inviting to fire up the system knowing that the 552 was in control. Its ability to organize and solidify the performance of my reference Audio Physic Avanti III was unsurpassed in my experience of those speakers. The 552 made me appreciate, more than ever, how tricky this job really is, and how problematic it is for someone reading a review to draw definite conclusions from it. Had I owned the NAC 552 when I reviewed the Avanti IIs, my description of their bottom-end performance would probably have been significantly different. That’s why a review — mine or anyone’s — can be only a guideline, and not the final word.

But I’m fairly certain that the Naim NAC 552 has set new standards in my listening experience for low and mid-bass performance and overall dynamic drive. The rest of what it delivered, in every sonic parameter, was also of exceptionally high caliber. I never listened and thought “This is dark” or “This is edgy” or “This is grainy” or anything like that. All I thought was “This is music.” If you like warm and bloomy, you probably won’t go for the 552 — but you’ll never be able to say it sounds “solid-state.”

Most important, the sonic vision of the Naim designers was clear and coherent, and they delivered what they set out to achieve — the NAC 552 provided an exceptionally coherent and cohesive sonic, and especially musical, picture. Add to that its high build quality, convenience, flexibility, and, for the most part, glitch-free performance, and you have an expensive product that, when you look at, touch, and hear it, quickly lets you know you’re in the presence of audiophile greatness.
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Transistors can be made to sound like tubes, digital can be made to sound like analog, and cables can be made to sound like no cables. You’d almost think we live in an age of miracles.

But can a little speaker be made to sound like a big one? Generally, no. Moving a 5” plastic cone back and forth 41 times a second is not the same as reproducing the lowest note of an electric bass, and loudness is not the same as scale. Like it or not, in 2003 as in 1903, the only way to move a lot of air is to move a lot of air.

But the Spendor S3/5se does one of the nicest end runs around the laws of physics I’ve heard: It’s capable of sounding much bigger than it is, and its bass shortcomings—inevitable but less severe than you’d think—are offset by the speaker’s very good balance. The S3/5se packs drama, scale, and freedom from worry into something the size of a box of Kleenex. Who’d have guessed?

Pigs are definitely stupid...

The S3/5se’s name recalls the 27-year-old LS3/5a, which was designed as a broadcast monitor by a team of BBC engineers—some of whom had distinguished themselves in the early days of television—and which was manufactured under license by a number of English firms, Spendor included. The unambiguously domestic S3/5se isn’t a direct descendant of that classic design, and weedy audio historians will complain that the name doesn’t quite fit. (In BBC nomenclature, LS means “loudspeaker,” J is the in-house code for a product intended for remote use, away from the studio or home, 5 is the model number, and a simply denotes a revision of an original.) But for most hi-fi hobbyists, myself included, the little LS3/5a is a loudspeaker of towering significance, and remains the target at which almost any little box must aim.

The LS3/5a was an odd duck, and more complex than it appeared: a small but superbly well-made wooden enclosure with a plastic-dome tweeter and a plastic-cone woofer, both made by KEF, hooked up with a complex and consequently power-hungry crossover. Much has been written of the latter and its role as an equalizer, which was meant to give the tiny speaker at least some semblance of good bass extension. Coming as it do from the single-ended-triode branch of the audio tree, I look at things somewhat differently, and suggest that the LS3/5a’s original crossover didn’t boost bass, but rather threw away amplifier power everywhere else in the spectrum—which is true, of course. In any event, the fact of the matter remains that the LS3/5a was not an easy speaker to drive.

Nor was it easy to make, as a half-dozen or so licensees—some of whom fell by the wayside before bringing even a single pair to market—would eventually find out. Parts consistency was crucial to the original BBC design, which required that any individual LS3/5a, regardless of serial number, be sonically indistinguishable from any other. And when suppliers made seemingly insignificant changes to their wares—or when components were discontinued altogether, as happened with KEF’s original B110 woofer—havoc was wreaked. The LS3/5a wasn’t just a playing field for a handful of British speaker builders: It was a classroom for any audio experimenter with two good ears and an open mind, and its lessons are said to have humbled more than one UK engineer who thought that such things as mounting screws, grille fabric, or the source for wool felt couldn’t possibly make an audible difference.

Some people learned those lessons...
especially well, however, and that includes the Spendor design team. When the LS3/5a's time on Earth was over, Spendor got to work on an in-house design for its replacement. The result was the S3/5, introduced in 1998. Fundamentally, an S3/5 was an LS3/5a cabinet turned 90°, with the drivers mounted to the narrow wall instead of the wide one. The drivers were different, too: a 3/4" Vifa tweeter and a 5" plastic-cone woofer that Spendor designed and made themselves. The crossover was also a lot simpler. The two pairs of binding posts were different. So was the grille. Okay, so the whole damn thing was different.

The S3/5 remains a part of the Spendor lineup — more than 600 pairs have been sold in the US alone, and the reviews I've seen have all been rave — but the Spendor designers, spurred by new company owner Philip Swift, decided last year to make a horn-loaded version for real perfectionists such as you and me. Small differences abound between the S3/5 and the S3/5se (for "special edition"), but two are more important than the rest:

1) That Vifa tweeter, decent in its own right, has been replaced with a pricier 1/2" unit from ScanSpeak — the same one used in Spendor's great SP100, which in 1993 won the Diapason D'Or award, and which is one of my favorite loudspeakers of all time. The ScanSpeak tweeter also makes a surprise appearance in very good speakers from other manufacturers, such as ProAc and Naim.

**Measurements**

As expected, Spendor's little S35/5se is not very sensitive, 2.83V raising just 81.5dB (I) at 1m — a dB less than the BIC's original LS3/5a. However, its plot of impedance magnitude and electrical phase against frequency (fig.1) indicates that it is a kind load for the partnering amplifier to drive. The impedance drops below 8 ohms only below 40Hz and in the lower midrange, and stays above 10 ohms for much of the audioband. The peak of 28 ohms at 71Hz indicates the tuning of the sealed box, which in turn implies limited LF extension.

A wrinkle just below 250Hz in the impedance traces suggests the presence of some kind of cabinet resonance. (Both this and the next measurement were taken with the speaker sitting on upward-pointing cones, which allows cabinet resonances to develop to their fullest.)

Fig.2, calculated from the output of an accelerometer fastened to the back of the speaker just above the electrical terminals, shows that this panel does have a high-level resonant mode at 242Hz, as well as another just below 400Hz. Fortunately, this panel faces away from the listener. Modes at 200Hz, 300Hz, and 360Hz can be found on the side and top panels, but these are much lower in level. However, I do wonder if they are associated with the touch of chestiness AD noted on voices, despite the fact that he used Blu-Tack pads rather than spikes as the interface between the speaker and its stand. (An article in Stereophile's September 1992 issue showed that Blu-Tack was very effective at damping cabinet resonances — see www.stereophile.com/showarchives.cgi?806.)

Fig.3 shows the individual farfield responses of the tweeter and woofer, spliced to the nearfield woofer response below 355Hz. The crossover frequency can be seen to lie closer to 4kHz than to the specified 3.5kHz, but there is broad overlap between the two drivers. The high- and low-pass slopes look close to 18dB/octave, and the drivers are reasonably flat within their passbands. The slight rise in the upper bass is almost entirely due to the nearfield measurement technique; the speaker is probably tuned to be maximally flat, with a -6dB point of 55Hz with respect to the level at 1kHz.

Fig.4 shows how these individual drive-units add up at a nominal farfield point on the tweeter axis, aver-
2) Owing to the increased power handling of the more sophisticated tweeter, Spendor's designers were able to lower the crossover frequency from 4.5kHz to 3.5kHz—a change that provoked an even simpler crossover and, more to the point, much better midrange and high-frequency dispersion characteristics, with less crossover-related weirdness.

The hook-up wire looks better, too—this despite the lack of soldered joints, forgone in favor of push-on connectors, themselves merely crimped to the ends of the wires—and the links that go between the two pairs of chunky, gold-plated terminals are plated with gold, in contrast with the cheaper ones you get with cheaper speakers.

Other than that, the standard S3/5 ingredients prevail, including a beautifully made woofer with a molded frame. Spendor's own individually made inductors (I've been there! I've seen them do it), and an intelligently designed thin-walled cabinet that uses a transverse brace and strategically placed bituminous pads instead of just being pounded together out of very thick wood—which is easier to do but results in energy-storage problems, they say (and I agree).

....pork is a nice sweet meat
I thought that the lightish S3/5ses sounded better sitting on four pea-sized dabs of Blu-Tack than it did perching on four upward-facing spikes. Stand height seemed dependent on nothing more exotic than listener height—and even this didn't seem terribly critical, since there were no severe tonal penalties for my sitting too high, too low, or too far afield. (As always, I'll be interested to hear what John Atkinson uncovers in his measurements, but I thought the aged across a 30° horizontal window. Again, assuming the apparent rise in the upper bass is a measurement artifact, the response rises slightly from the lower midrange through the midtreble. AD didn't note any coloration, so I assume this balance aids articulation and the presentation of recorded detail rather than being heard as an energy excess.

Fig.4 Spendor S3/5se, anechoic response on tweeter axis at 50°, averaged across 30° horizontal window and corrected for microphone response, with the nearfield response of the woofer plotted below 300Hz.

Fig.5 Spendor S3/5, anechoic response on tweeter axis at 50°, averaged across 30° horizontal window and corrected for microphone response, with the individual responses of the tweeter and woofer (red trace above 300Hz), and the nearfield response of the woofer (red trace below 300Hz).

What did surprise me was the slow rollout in the top octave. In anything but a small room—and from the time I once spent enjoying music in AD's room, I can testify that it is not "large"—the speaker will sound rather mellow. AD's room is also more live-sounding than, say, my own, which is probably why he was not concerned by a top-octave reticence. However, he did note that cymbals shimmered "more politely" compared with the basic S3/5, which might be a function of this behavior.

For comparison, the black trace in Fig.5 is the S3/5's response averaged across a 30° horizontal window on its tweeter axis, spliced to its nearfield woofer response. Despite the cabinets of the two speakers being identically sized and the woofer's looking the same, the S3/5 is tuned to a higher frequency—84Hz is 71Hz—with a slightly less damped alignment. Some of the rise in the upper bass will therefore be real, which I assume was done to better balance the S3/5's less reticent top octave (see later). AD didn't remark on any differences in the LF region, however. The individual drive-unit responses are plotted in red in this graph, and can be seen to cross over at 4.5kHz. But note that the '3/5's tweeter is balanced a couple of dBs "hotter" than that in the 'se. All else being equal, that will go some of the way toward explaining AD's description of the differences in the speakers' trebles.

The big factor that stops things being equal, of course, is the speaker's dispersion. Fig.6 shows how the S3/5se's balance varies to the sides of the tweeter axis. The radiation pattern is remarkably even, something that ties in with stable, accurate stereo imaging. Despite its top-octave rollout, that 0.75" tweeter does maintain its HF output to 20° off-axis, which
Spendor's off-axis response was smooth and predictable; that, plus an impedance curve that never dips below 6 ohms, indicate a well-designed crossover network, as contrasted with the rubbish one often sees in speakers costing ten times as much, or more.) Although the debate between the lowmass and highmass camps in stand design may be an interesting topic for a future column, for now I'll leave it be, other than to say that, for this review, I used low-mass stands of rigid construction but long-forgotten origin.

Using my Audio Control Industrial spectrum analyzer to aid me in room placement, the best compromise I could achieve between response smoothness and bass extension was with the little Spendors slightly less than 4' from the wall behind them, with the outer edges of their cabinets about 30" from each side wall and the speakers toed-in directly toward the listening area. Playing from there, bass extension was 4dB down at 80Hz — very much in keeping with the manufacturer's specifications — with a very gradual roll-off at both ends of the spectrum. There was still, believe it or not, faint output at 40Hz and even at 31.5Hz.

That wasn't the only setup location I enjoyed, however. Although I heard a few response irregularities in the upper bass through lower midrange when I tried it, I really enjoyed listening with the 325/5Is placed all the way against the wall, separated from one another by a mere 7' or so. (Made me feel like a proper Flat-Earther, it did.) I was astonished at the extent to which the imaging didn't suffer there, apart from a predictable decrease in the sense of stage depth: Image specificity and wholeness remained quite good.

Certain musical and sonic qualities were common to both installations. It's a bit of a cliché, I know, but the Spendors had an uncanny ability to sound big when they needed to, much as a housecat can puff itself up for brief periods of time. Orchestral instruments — the trombones and other brass instruments in the famous Charles Munch recording of Saint-Saëns' "Organ" Symphony, for example (LP, RCA/Classic Records) — sounded magnificent. And when I first lowered the needle to the lead-in groove on The Jayhawkers' Tomorrow the Green Grass (LP, American 9 43006-1), I was almost startled by the realistic scale of the acoustic guitars that open "Blue" — and this coming straight from listening to the comparatively sizable Quad ESL-989s and Lowther Medallions.

Equally surprising — if no less of a cliché in small-speaker reviews, for which sorrow I can only shake my head — was how well the Spendor performed in the bottom octaves. The bass on John Lee Hooker's "Shake it Baby," from It Serve You Right to Suffer (LP, Impulse! AS-9103; another good recording of good music) was tight and crazy-deep. The deep bass drum at the beginning of "Here Comes President Kill Again," from XTC's Oranges and Lemons (LP, Geffen GHS-24218), was nothing short of startling. Even the pedal tones in the Saint-Saëns were convincing: Obviously, the fundamentals were not there, but through a striking combination of second harmonics and realistic ambience or pressure — "clean noise," if you like — the Spendor got across the idea of deep bass if not the thing itself. On first listen, at least, the Spendor didn't sound that much lighter than the Quad. And it kicked himey all over the Lowther, whose big enclosure I can scarcely carry by myself.

The 325/5Is had a lot of strengths in my system, and, as my listening notes seem to show, they were adaptable to a

**Measurements**

will ameliorate the audibility of the rollout in rooms of small to medium size. However, the tweeter does increasingly roll off above 12kHz at more extreme off-axis angles.

The 325/5's lateral dispersion (not shown) is basically similar, but with its higher crossover frequency, the beginnings of an off-axis flare between 5 and 10kHz can be seen, due to the woofer's starting to beam in the octave below that region. This will accentuate the audibility of the 3/5 tweeter's slightly elevated level compared with the 's.

In the vertical plane (fig.7), a suck-out in the crossover region develops at off-axis angles greater than +5° and -10°, suggesting that the user's stands should place the tweeters at ear level for the best results. However, I note that AD was not bothered too much by differences in listening height.

In the time domain, the 325/5Is's step response (fig.8) indicates that the tweeter and woofer are connected with the same positive polarity, the former slightly but inconsequentially leading the latter in arrival time at

![Fig.7 Spendor 325/5s, vertical response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 45°-3° above axis, reference response, differences in response 5°-45° below axis.](image1)

![Fig.8 Spendor 325/5s, step response on tweeter axis at 50° (5ms time window, 30kHz bandwidth).](image2)
wide range of musical styles. But if I were a Spendor salesman and I had just 15 minutes to convince you how good they are, I'd sit you down with the reissue of the legendary DeViro recording of Bach's Violin Concerto in E (LP, EMI). When I tried that one, I was just about ready to buy the S3/5ses myself—not because of individual aspects of the speaker's sound, but for its musical performance overall. It was spot-on in terms of pitch: I'd never before heard that record played back quite so listenably (especially true, I admit, when I drove the Spenders with my old-style Naim electronics), and the notes were so right and real that the music seemed hardwired to my brain. That record gave the best accounting of the Spenders' spatial strengths, too: Even with the speakers against the wall, I was completely entranced by the way the solo violin came a little forward of everything else, and just stayed there and sang and sang.

For whatever reason, I could never quite get the Spendor to "float" voices as well as it did solo instruments: Other speakers allow singers a greater and more believable sense of presence—the Spender's failure to do so remained its most notable shortcoming, certainly more so than dynamic compression, lack of bass, or anything else so obvious. Heard through this speaker, familiar voices also sounded very slightly darker and somewhat chaster than I'm used to hearing—as true with Janet Baker singing Purcell's "When I am laid in earth" as with Peter Pears doing the solo tenor turn in Britten's War Requiem, or Bryan Ferry singing the wickedly weird "In Every Dream Home, a Heartache."

The sheep pig
Now for the most obvious question of all: How does the spiffed-up S3/5se compare with the original—which is still available, and still cheaper at just $949/pair in light cherry or black ash? I'd heard the regular S3/5s on a number of occasions, but that's not the same as a comparison—which is easily done when the product is this portable and the distributor this accommodating. (Thanks, Mike. When you go to Hawaii, make sure you leave the phone off the hook in case someone reviews try to call.)

As I write this, a well-broken-in pair of S3/5s is playing Dietrich Fischer-Dieskau's magnificent 1961 recording of Schubert's Die schöne Müllerin downstairs. "Die liebe Farbe" is my favorite song in the cycle, and Fischer-Dieskau sings it with a sense of irony bordering on bitterness and anger, in the second verse in particular—especially his first statement of the line "My darling loves hunting so dearly!" The standard S3/5 did an adequate job with all the subtle emotional cues in the music. But through the S3/5se—and more so than there being any great timbral difference or "coloration" (see above) in one speaker or the other—Fischer-Dieskau breathed better, had a better sense of dynamics, and generally sang more expressively. And at the angriest moment in the verse, the more expensive speaker compressed less: The voice got louder more easily. The difference was clearly audible.

That may be enough to sell most potential S3/5 buyers on the idea of the 'se, but by no means do the differences end there. On the Knappertsbusch Parsifal prelude—the excerpt, on Westminster, not the one from the complete performance on Philips, which is very different—the S3/5se did a distinctly better job with the sounds of the horns and woodwinds, making them seem more present and timbrally believable. The 'se version sounded more refined in almost every musically important way; Cymbals shimmered more poetically and with less of a noisy quality, and voices and reed instruments sounded more like themselves. The quick, snappy country guitar licks that Gary Louris plays in the background right before the third verse of The Jayhawks' "Seen Him on the Street" were more noticeable through the more expensive Spenders, and seemed to carry more musical meaning. And in the funeral movement of Bruckner's Symphony 7 (with Bruno Walter on a late-'90s Cl), the orchestra sounded more open and less shut-in with the more expensive speakers. The result was a bigger sound in some ways.

A tragic day
That's more or less where I came in: The idea of something this small and this affordable thumbing its little rosewood nose at the physical laws to which most things are bound is a delight, apart from the sheer musical and emotional enjoyment it gave me.

But because my family and I are moving to a different house in a matter of weeks, and because the comparison portion of this review meant I had to tie up twice as much of a distributor's stock than I'm comfortable doing, the day came when the Spendor S3/5ses just had to go back. I would rather've kept them around

Fig.9 Spendor S3/5se, cumulative spectral-decay plot at 50° (0.15ms risetime).
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What’s more, the Ph.D. has four different loading options and gain-stage settings that are simple to adjust.

There’s never been anything quite like the Ph.D.

Ph.D. Dimensions: 17” wide x 4” high x 14” deep
for the fun of it. Maybe, once we get settled, I can buy a pair for myself—the 'se version, that is—and if there's room in the new place, I'll set up a "secondary" system with them and my old Naim, and maybe Jane's Rega Planar 3 turntable. I already have the stands.

I don't think I could do a whole lot better in terms of value for money. The Spendor's cabinet, while not as exotic as some, is superbly crafted and finished. The ScanSpeak tweeter and Spendor's own woofer are both as refined as they come. (Spendor virtually invented the plastic-cone driver, and I think it's safe to say they've got it down by now.) The crossover is better-made than most. And the design is obviously superb—the product of a company with ears, brains, and a pedigree.

So, yes: I think the Spendor S3/5se is worth every penny of its $1249/pair price. Five years ago, when Spendor built and sold their last pair of BIC-designed LS3/5a, those speakers sold for $1250/pair. Whether or not that small reference to history was intended, the result is the same: When Spendor stopped making the LS3/5a, they didn't stop making world-class small speakers.

**Associated Equipment**

**Analog sources:** Linn LP-12 turntables (two) with Linn Lingo and Naim Armaggeddon power supplies; Naim Aro and Linn Ekos tonearms; Supex 900 Super, Miyabi 47, Denon DL-1031, and Lyra Helikon Mono phono cartridges; Audio Note AN-S2 moving-coil step-up transformer; Rega Planar 3 turntable with Rega RB-300 tonearm and Rega Elys and Exact phono cartridges.

**Digital source:** Sony SCD-777ES SACD/CD player.

**Preamplifiers:** Naim NAC32-5, Linn Klimax Kontrol.

**Amplifiers:** Naim NAP110, Linn Klimax Twin.

**Cables:** Nordost Valhalla, Linn Balanced, Linn Analogue, Naim SNAIC (various), and homemade interconnects; Nordost Valhalla, Nordost Flatline, and Naim NACA-5 speaker cables.

**Accessories:** Mana stands under turntable and CD player, Base amplifier platform under amplifier (sometimes), Loricraft PRC3 record cleaner, occasional use of Shun Mook Mpingo discs. —Art Dudley
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Clearaudio Champion 2 turntable

Turntables are intrinsically cool. Maybe it's that I am of the pre-C1D generation, for which the acquisition of one's first really good turntable marked an audiophile's coming of age. Just as turntable technology has progressed to such awe-inspiring pieces as the SME 30/2 and Rockport Technologies System III Sirius, less stratospherically priced 'tables now offer levels of performance that, if not revelatory, show why so many audiophiles (including yours truly) continue to love their LPs with something just short of fanaticism.

Clearaudio's Champion 2 turntable is about as good-looking a piece of audio gear as there is. The Champ 2's suspensionless plinth is a two-level affair, the two hefty, polished acrylic slabs separated by stainless-steel pucks. These, according to Clearaudio, not only add mass (including its motor and motor stand, the Champ 2 weighs 72 lbs), but also help to control resonances. Under the lower acrylic slab are three spiked feet that fit into supplied discs, preventing the spikes from marring whatever the 'table is set on. The thick acrylic platter is a dead ringer for that used on Clearaudio's much more expensive Maximum Solution and Reference series turntables, and is commendably inert when tapped — as is pretty much every other part of the Champ 2.

As is seen ever more often, the Champ 2's motor is not mounted to its plinth. Instead, the stainless-steel-cased motor sits on a stainless-steel stand that precisely matches the diameter of the motor housing; this gets the motor up to the appropriate level for driving the platter. Square notches in the rear left corners of the plinth's layers provide space for the motor, which can be rotated atop its stand to alter the tension of the thin, round-profile drive belt. Also included is the Clever Clamp, a spiffy little disc that is popped over the spindle to secure the LP to the platter and flatten out minor warps. Everything is beautifully made and finished, and the total effect is striking and extremely handsome; the Champion 2 looks and feels as if it costs a lot more than $2800.

Setup
The Champion 2's tonearm mounting system is unlike any other I've seen, and not easy to describe or deal with. At the rear right corners of the plinth's two layers are identically sized cutouts. To mount the armboard, one must first place one acrylic collar into the cutout on the top of the upper plinth, then, reaching upside-down between the two plinth layers, hold a second collar against the bottom of the upper plinth's cutout. Next, a machine screw must be threaded through the unthreaded holes in the two collars and a spacing sleeve slipped over said machine screw. At this point, you must try to secure the machine screw into the threaded holes on the bottom of the actual arm-mounting board, which eventually sits atop the aforementioned spacers.

Trying to get the short leg of the supplied Allen key between the two plinth layers while simultaneously holding on to the machine screw, bottom collar, and armboard is a task for an octopus. Lots of loose bits have to be assembled from an awkward, upside-down position in a tight space, working against gravity all the way.

Description: Belt-drive LP turntable with geometrically resonance-optimized shape. Speeds: 33 1/3, 45rpm, variable to ±0.1%. Drive: standalone motor, belt drive. Bearing: bronze-plated hardened steel, inverted. Platter: acrylic with highly polished surface, 2.75" (70mm) H. S/N Ratio: 84dB (no conditions or reference level given).

Dimensions: 18.33" (470mm) W by 9.33" (240mm) H by 15.25" (390mm) D. Weight: 79 lbs (36kg), including motor.

Serial number of unit reviewed: Not noted.


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In short, assembling the Champion 2 was incredibly infuriatingly difficult. It became somewhat simpler after I'd secured the first two screws to the armboard, as I now needed only two hands instead of three. Still, the first time I attempted it, it took me more than two hours to finally secure all six screws. And the arm still was not installed — just the armboard. After this miserable experience, I threw in the towel and called in the Analog Guru himself, Wally Malewicz of WallyTools fame. A fellow Twin Cities resident, Wally handled all arm installations and cartridge setups on the Champ 2 from there on out.¹

Geometric adjustment is provided by turning the collar-space-armboard assembly. Unfortunately, the collar, screw, spacer, and armboard must be left a bit loose to facilitate making this adjustment; making sure everything stays precisely in place while trying to squeeze my hand and the Allen key between the plinths was another exercise in frustration. Last, if you've chosen the wrong orientation of the arm on the unmarked, eccentrically cut armboard, and the arm's geometry will not correctly line up, the arm must be completely dismounted and you get to start over.²

Still, after all the monkey-motion and frustration are over with, the armboard assembly is, like the rest of the Champion 2, very solid and sturdy. But why put a user through so much vexatious effort in the first place?

System

Most buyers of Champion 2s will not be using the turntable in a context quite as exotic and revealing as the reference system I used for this review (see sidebar). The Champ 2 sat on a carefully leveled Grand Prix Audio Monaco stand fitted with an F1 carbon-fiber shelf. The Monaco was spiked through the carpet down to the concrete-slab floor of my listening room. Most auditioning was done with the $1000 Clearaudio Unify arm and $1295 Benz Micro L2 MC phono cartridge (see sidebar). I also listened to the Champ 2 with my reference combination of Graham 2.2

Clearaudio Unify tonearm & Benz Micro L2 cartridge

When Garth Leerer of importer Musical Surroundings offered the Clearaudio Champion 2 turntable for review, I asked if he could also supply a typical tonearm and cartridge that a buyer might reasonably pair with the table. He responded by including Clearaudio's own Unify arm and a Benz Micro L2 cartridge.

The Unify ($1000) is a slick-looking unipivot tonearm with a sexy carbon-fiber armtube for low resonance and high stiffness. Azimuth and VTA are adjustable, and a length of Clearaudio's Six-Stream interconnect is permanently attached. This makes it a bit tricky to handle during setup, as the arm is completely undamped — the main part of the arm simply sits atop the post, the weight of the non-detachable cable pulling the whole assembly to one side until it's secured with a screw-down clamp. Moving the arm assembly around when setting up the table is definitely a two-handed operation.

As with the Champion 2 turntable, ergonomic issues raised their heads. The lack of damping means that cueing by hand is strictly for the steadiest and most steel-nerved, particularly if an expensive cartridge is being used. Attempting to sneeze the cartridge off the record will often result in the arm wobbling away from the direction your finger is moving. The Unify's cueing is also undamped, an omission I find hard to understand in an arm at this price. Careful attention must be paid to cueing, as simply flipping the lever forward results in the arm immediately dropping straight down to bang the stylus on the record, with the potential for catastrophic results. Also, the arm had to be placed farther toward the center of the LP than the point I wanted the stylus to land at, as it drifted outward significantly on descent.

The Benz Micro L2 cartridge ($1295) is a low-output moving-coil design with a 6µm by 40µm FG2 line contact and a gorgeous body of Bruyere wood. Its output is 0.4mV at 3.54 cm/sec, and the recommended tracking force is 1.7–2.0g.

Paired with the Champion 2, the Unify and L2 made a well-matched and satisfying combination, the Benz in particular standing out for its excellent tracking, its sweet, natural, unhyphenated presentation, and an easygoing, highly musical personality. More dollars will buy more back-of-the-stage resolution, but it's safe to say that if you're hunting for a mid-priced MC, the Benz L2 is a must-hear.

— Paul Bolin

¹ With me assenting — mainly by holding the armboard and spacing sleeves while he struggled to insert the screws and get them to grab the armboard — Wally had an easier time of it than I had, but it took him the better part of an hour to get everything assembled and set up. Bringing in an outside expert should not be necessary to successfully set up a medium-priced turntable. Perhaps the final version of the owner's manual includes some tips for assembly that my carbide draft version did not.

² Is there any reason that the armboards can't be ended with a notch or an engraved letter or arrow or some other indicator to let the user know how they should be oriented toward the front of the table?
The Clearaudio consistently seemed to slightly accentuate the leading edges of transients. Acoustic guitars had a bit more "string" and slightly less "wood" sound than with my reference SOTA Cosmos Series III, and woodwinds had a jot or two more reedy bite than wooden roundness, but the Clearaudio's balance was in no way unnatural. With massed strings, the individuality of each section's multiple players was not forfeited, and timbre was consistently commendable. Brass had suitable weight and "blat" without undue harshness.

The Champion's presentation was on the forward side, but not unnaturally or aggressively so; "bold," "lively," and "up-front" were the best descriptors. On "McBride's," from Moving Hearts (WEA K 58387, UK), the Champ 2 brought Donal Lunny's bouzouki more forward than I'm used to hearing it, and Zino Francescatti's violin had a bit of highlighting in Beethoven's Violin Concerto (Bruno Walter, Columbia Symphony, Columbia MS 6263). Treble performance was unremarkable in a positive way. Top-octave extension was good, without any unnatural highlighting or harshness, but there was a slight sense of air and height lacking, particularly on orchestral music. Nonetheless, the Champ 2 offered more than competent performance, and its minor subtractive colorations were not obtrusive.

When I listened with the highly neutral Gratomic-Dynavector combination, the Clearaudio's liveliness morphed into a slight edginess in the upper mid-range/lower treble, and the midbass was decidedly thinner than with the Unify arm and Benz cartridge. Admittedly, this is not a huge issue, as it's unlikely that a Champion 2 purchaser would pair the 'table with an arm and cartridge so much more expensive than the 'table itself. It's always interesting, though, to see how a moderately priced component performs when used with top-shelf ancillaries, just to figure out where its performance ceiling is.

Soundstage breadth was consistently excellent. Such widescreen orchestral recordings as János Starker's performance of Dvorák's Cello Concerto (Antal Dorati, London Symphony, Mercury SR-90303) had broad, well-drawn soundstages with good image specificity and solid placement. Images were well-developed and free of wander, though lacking some of the bloom and airiness available from more expensive 'tables. Depth was good, but not exceptional in absolute terms; nothing ever sounded spatially squashed on the Clearaudio. Dynamic performance was also admirable, particularly in the middle ranges. From pianissimo to forte, the Clearaudio did a fine job. There was some audible compression at the loudest moments, especially on orchestral music, and the lowest-level information at the back of the stage remained a bit murky.

**Cosmo comparo**

In a somewhat unfair direct comparison with my SOTA Cosmos Series III (see "Follow-Up" in this issue), the Champ 2's wisely chosen compromises became clear. The Cosmos threw a much deeper stage, and resolved considerably more detail at the rear of that big stage. The
Clearaudio’s upper bass was, comparatively, somewhat lacking in authority, and top-octave air was moderately but appreciatively truncated. The Cosmos’ dynamic range was also broader, particularly at the softest and loudest extremes, and the resolution of fine dynamic variations was more subtly presented. A reality check: The Cosmos costs two-and-a-half times what the Champion 2 does, and the latter’s overall performance was far more than merely credible.

So?

I can offer only a mixed verdict when all the points are added up. The Champion 2 is superbly styled and built, and has a lively, well-balanced, and engaging sound when paired with the Unity arm and Benz Micro L2 cartridge. However, the difficulty of its assembly and setup borders on the unacceptable. The typical Champ 2 buyer will most likely be upgrading from a decent entry-label table, most of which are bone-simple to get up and running. The Clearaudio will provide a very frustrating experience for the enthusiast expecting Rega-like ease of assembly and setup. I’ve owned and pattered around with a lot of turntables in my life, and not one offered anything like the Clearaudio’s mechanical assembly challenges.

But on sonic grounds alone, the Champion 2 merits recommendation and its high-quality engineering and finish only add to the fine impression it makes once assembled. Were Clearaudio to redesign the armboard mount to make its installation as painless as is listening to the result, my recommendation would be unqualified.

Clearaudio has chosen carefully and sensibly among the sonic compromises necessary to build to a price that’s moderate for a high-end turntable. The straight skinny: The Champion 2 will provide very good overall performance when teamed with a well-considered match of tonearm and cartridge. In spite of my beefs about its ergonomics, the Clearaudio offers a solid package and a lot of performance for a very reasonable tariff. That should be more than enough for most vinyl lovers.

3 Considerably more exotic tables can be models of simplicity to set up. My reference SME Series II, for one: Unpack it, release the screws that secure the bearing, set it on a level stand, and mount the armboard with three easily accessible screws. Hook up power and vacuum lines and voila — you’re done in 20 minutes. Or consider Mike Frame’s description of the SME 30-25 ultra-easy assembly and setup in his March review (available free on-line at www.stereophile.com/showarch/wesg7996).
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Last January, the *Stereophile* website conducted a poll asking readers what they thought was their audio system's weakest link (www.stereophile.com/showvote.cgi?236). The results indicated that 24% thought that their room was the most problematic component. What this says is that, though often accused of being obsessed with hardware, we audiophiles are aware of what a potent effect the speaker-room setup has.

Sure, it's easy (except for cost) to try different components or interconnects, even speakers—but room arrangements immediately invoke the Spouse Acceptance Factor and other domestic concerns. How often have you had to explain why the speakers can't go against the wall, or why it's necessary to put sound-absorbing materials in specific places? Unless one is so fortunate as to have a dedicated listening room, such fights are usually settled by compromise and concession. At least 24% of us are dissatisfied, unable to wring further concessions from those with whom we share our space. More panels and Tube Traps? Not options.

Along comes Rives Audio, a company focusing on small-room acoustics and related services, with its Parametric Adaptive Room Compensation, or PARC: a sophisticated analog parametric equalizer¹ that purports to accomplish significant low-frequency correction of room modes. By restricting its responsibilities to the 16-350Hz band, by using attenuation only, and by dint of its design and construction, Rives intends the PARC to be used in systems of the highest quality.

As I wrote in a sidebar accompanying my review of the TacT RCS 2.0 Room Correction Processor in September 2001 (www.stereophile.com/showvote.cgi?2437:5), a simple amplitude correction of room effects with an analog EQ cannot, in theory, suffice — any attempt to correct the room-influenced late response will also modify the speaker's on-axis direct response. In addition, many audiophiles have sworn off analog EQs, graphic and/or parametric, along with tone controls, since they induce distortion, noise, and phase shifts. Despite this, such amplitude/frequency EQs are fairly common in recording studios and other sites.

**What's the problem?**

The basic issue is that, aside from room decoration and acoustic treatment, the very dimensions of our rooms support resonances. The physics start out pretty simple: A dimension will support a standing wave at a frequency whose wavelength is twice that dimension. Already, that means there is one standing wave for each of the three primary room dimensions. The room can also support frequencies related to each of its diagonal dimensions, so add three more. In addition, each of these dimensions will also support, albeit to a slightly lesser degree, all frequencies that are even harmonics of their basic resonant frequencies.

Of greater significance is that, when one of these fixed room dimensions is the same as or a multiple of another, the resonant frequencies they have in common are reinforced. These combined interactions also create sites (nodes) in a room where certain frequencies are greatly enhanced, as well as sites (nulls) where certain frequencies are greatly canceled. Such are the underlying reasons for designing listening rooms with nonparallel surfaces (to distribute the resonant frequencies for that dimension), and dimensions that are not multiples of each other (to minimize the summing of resonances).

How does this analysis help us? First, it can tell us what frequencies need attention. Second, it suggests how to attack those frequencies. High frequencies can be absorbed, diffused, or diffacted with materials that, with care and luck, can be disguised to promote

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¹ Unlike a conventional graphic equalizer, that has bands that are fixed regarding both their width and center frequency, a parametric equalizer allows control of both band width (Q) and center frequency. — Ed.
domestic tranquility. That will not do for low frequencies, which would require devices of much greater size. Moreover, as Richard Rives Bird reminded me, even a relatively large and efficient bass trap occupies only a small portion of a room's area and surface. However, at these low frequencies, electronic EQ can be implemented without introducing significant distortion or noise in the midrange, where the ear is most sensitive.

That, in short, is why Rives restricts PARC's correction to between 16 and 350Hz, the range corresponding to room dimensions of between 35.3' and 1.6'. Dimensions greater than 35' would affect sub-audible frequencies and their audible harmonics above 16Hz, while dimensions shorter than 1.5', such as in a closet or cupboard, would affect higher frequencies and can be dealt with in other ways.

**Easy as PARC**
The PARC is a three-band, two-channel parametric equalizer whose front panel clearly reveals what it is and what it does. Above each control is an indicator LED or a numeric readout of its status. Beginning on the left, the first button, Display, toggles the display of the numeric readouts without affecting any other functions; you don't need that.

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**Measurements**

Unusually, the Rives PARC has a hardwired bypass: when the unit is turned off, it passes the input signal to the output jacks. Turned on, the PARC had unity gain at 1kHz both when its Bypass LED was lit, and when the equalization was engaged but set to do nothing. It will not, therefore, mess up its owner's system's gain architecture. The PARC didn’t invert signal polarity, and its input impedance was a high 104k ohms unbalanced but a much lower 10.2k ohms balanced (both figures measured at 1kHz). The output impedance was a usefully low 25 ohms from the single-ended RCA jacks, double that from the balanced XLRs.

The Frequency, Q, and Attenuation controls were accurately calibrated, the measured parameters matching the displayed information. Fig.1, for example, shows the individual responses of the three filters for each channel that had been decided on for Kalman Rubinson’s auditioning. (Note that these parametric filters provide notches at the selected frequencies, not peaks.) The lower two traces in fig.2 show the combined effect of these notch filters, compared with the response in powered Bypass. For the record, the latter offers very slightly more ultrasonic extension above 100kHz, but that won't be an issue for humans. Crosstalk in both directions for both unbalanced and balanced (not shown) operation was buried below the noise floor, which itself was very low. (I couldn't replicate the noise problems with the balanced output that Kal experienced.)

All the distortion measurements were taken with the three parametric filters in-circuit but with the attenuation of each set to 0dB. I could not drive the PARC into overload in balanced mode, even at my Audio Precision System One's maximum output of 15V. In unbalanced mode, the unit hard-clipped at 5V RMS input/output (fig.3) — well above the level required to drive any amplifier used to overload. The downward slope of the trace in fig.3 below the onset of distortion indicates that what distortion components do exist in the PARC's output lie below the noise floor at all levels. The distortion percentages plotted in fig.4, taken at 1V output into 100k ohms and 600 ohms in both balanced and unbalanced modes, are therefore dominated by noise. Interestingly, the unbalanced output has half the THD+noise com.

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**Fig.1** Rives PARC, frequency response of each of the three parametric filters as set for KR's auditioning (2dB/vertical div, right channel dashed).

**Fig.2** Rives PARC, frequency response in bypass mode (top at 100Hz and 100kHz) and as set for KR's auditioning (2dB/vertical div, right channel dashed).

**Fig.3** Rives PARC, unbalanced, distortion (%) vs output voltage at 1Hz into 100k ohms, EQ set to 0dB attenuation.

**Fig.4** Rives PARC, THD+N (%) vs frequency (from bottom to top): 1V into 100k and 600 ohms, balanced, 1V into 100k and 600 ohms, unbalanced, EQ set to 0dB attenuation.
Both XLR and RCA outputs are always active when the PARC is powered up, but with power off, the audio signals will pass through from RCA to RCA and from XLR to XLR regardless of toggle setting. In order to use the PARC, one could, of course, measure the room dimensions and calculate all the fundamental frequencies and overtones...but that way lies madness. You can model your room and speakers with CARA (www.stereophile.com/showarchives.cgi?438), or try one of several online calculators that are useful for planning (www.rivesaudio.com/PARCcalc.html). However, as the speakers’ effective room interaction is greatly influenced by placement and by everything else in the room, I thought direct response measurement would be definitely better for this review.

One approach is to use computer analysis of calibrated pulses, such as ETF (www.stereophile.com/showarchives.cgi?277). PARC has a similar associated component, the Bass And Room Evaluator (BARE), which will do this quickly and efficiently, but it’s still in beta stage and requires a PC, a microphone, and another $100. However, Rives supplies a simple alternative with the PARC: a test CD with tones for a calibrated meter, and another set of tones corrected for use

pared with the balanced, but the right channel is even better in this respect. (This may have had something to do with the system grounding I used.)

To further examine the PARCs linearity, fig.5 shows an FFT-based spectrum of the unit’s unbalanced output driving a 1kHz tone at 1V into 8k ohms, with 32 spectra averaged to drop the noise floor. The only distortion harmonics visible are the second, third, and fourth, but as none of these rises above –110dB, they are essentially nonexistent. The small spikes at the far left of this graph are due to spuriae at the full-wave-rectified power-supply frequency of 120Hz and its harmonics. I could not eliminate these, no matter how I arranged the grounding between the PARC and my PC-based analyzer. This noise was a little higher in balanced mode, but was still negligible by any meaningful measure.

Finally, fig.6 shows a similar spectrum taken with the PARC driving an equal mix of 19kHz and 20kHz tones at 1V into 8k ohms. (Each of the individual components lies at –60dB with respect to the level of the summed signal.) The difference tone at 1kHz is the highest in level, but at –80dB (0.01%) is low enough to be of no concern.

Befitting its pro-audio lineage, Rives’ PARC appears to be bomb-proof. Its settings are accurately calibrated, and its excellent technical performance conforms to the First Law of Outboard Processors: “First, do no harm to the signal.”

--- John Atkinson
with the ubiquitous RadioShack SPL meter. The latter approach is tedious, BARE (or ETF) being much easier, but it did get comparable results from the CI9 and from BARE. Such convenience, and the ease of re-measuring the response after correction to confirm the settings, make me hope that Rives will decide to bundle the finished BARE into the PARC package.

After measuring the response of each speaker, Rives advises finding the room’s three major resonant peaks in the response below 350Hz. The PARC manual states that “the purpose is to reduce the frequencies caused by room excitation.”2 Following the manual’s clear guidance, you calculate and enter the magnitude and width of each peak into the attenuation and Q settings of the parametric filter. Simple arithmetic, really, and a calculator is a useful luxury. Rives suggests entering the flattest response into Memory 1 and using the other memories for “tailored” responses. Other uses for the additional memories might be for particular sources (nah, none of us have rumble turntables), alternative speakers, or alternative listener positions.

2 Since the PARC can only attenuate, not amplify, it can deal only with resonant peaks, not resonant nulls. Rives argues that this is a conservative and parsimonious approach that is less likely to lead to garish abuse than would ill-applied amplification. It can also be argued that the resonant modes will still store energy, even with attenuation, smearing the transient performance of the system, and that a comparable gain-correction of nulls is likely to have less of an effect on transient performance. Thus, aside from keeping us from abusing the PARC or exceeding power limits for the amp or speaker, I think of no theoretical justification for not offering some null correction. Richard Bird tells me that the PARC hardware is capable of applying gain, but that the current software does not. They are considering a software modification to permit a small amount (up to 6dB) of gain.

**PARC Place**

When Richard Bird delivered the PARC, I had just restored my Revel Ultima Studio loudspeakers to my main system. Though somewhere in the vicinity of their old sweet spots, they were not carefully positioned. They imaged well and had good midrange presence, but were a little lumpy in the bass—which, of course, made them prime candidates for the PARC treatment. The PARC was wired into the system between the Sonic Frontiers Line-3 preamplifier and Power-3 power amps with a short length of AudioQuest Python Balanced interconnect to supplement the normal long run.

The BARE facts confirmed the lumpy bass in both channels (figs. 1 and 3). Note that the frequency scale of these graphs is linear, not the logarithmic scale usually used in Stereophile, so the peak at 32.7Hz in the left channel (fig. 1) looks much narrower relative to the others than it otherwise would. As you can see from the chart below, its Q is actually lower than the peak at 350Hz but slightly higher than that at 134Hz. Similarly, the three peaks in the right channel (fig. 3) appear, in this linear scale, to be similar but have substantially different Qs. Remember, $Q = \frac{\text{center frequency}}{\text{peak width at } -3\text{dB}}$.

From these measurements, Richard Bird suggested the following corrections:

<table>
<thead>
<tr>
<th>Channel</th>
<th>Frequency (Hz)</th>
<th>Q</th>
<th>Attenuation (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>32.7</td>
<td>1.9</td>
<td>10.0</td>
</tr>
<tr>
<td>L2</td>
<td>134</td>
<td>1.1</td>
<td>5.0</td>
</tr>
<tr>
<td>L3</td>
<td>350</td>
<td>5</td>
<td>1.4</td>
</tr>
<tr>
<td>R1</td>
<td>35.3</td>
<td>1.4</td>
<td>4.0</td>
</tr>
<tr>
<td>R2</td>
<td>84.5</td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td>R3</td>
<td>211</td>
<td>4.4</td>
<td>3.8</td>
</tr>
</tbody>
</table>

These were transferred to the PARC and the measurements repeated. The results (figs. 2 and 4), revealing a reduction in irregularity and overall lowering of bass levels compared with the midrange. If the frequency scale were logarithmic, the overall smoothing would be more visually apparent. Note that the measured acoustical attenuations are all less than the calculated attenuations set in the PARC. I ascribe this discrepancy to the energy storage of the room modes (remember, they’re still there), and suspect that John Atkinson will find that the PARC’s filters measure pretty close to spec.

**PARC Listening**

With the PARC set to Bypass, its audible effect was vanishingly subtle. In either the recommended setup (between preamp and power amp) or the alternative setup (in the tape monitor loop), the difference between Bypass and straight-through with filters nulled was insignificant. In its active role, with filters set below 400Hz, the PARC was completely transparent in both the critical midrange and the revealing treble range. The high frequencies did seem a little brighter, in comparison with removing the PARC from the signal path, but this was probably the psychoacoustic concomitant of the improved, unmuddied bass. Way down, in the room-mode-vulnerable lower midrange and bass, the PARC was changing the sound, as was intended.

There were two ways to hear what the PARC did. First, I chose the deep male voices of Thomas Hampson and David Johansen (or any male WQXR announcer), and listened while switching the EQ in and out. With PARC EQ, the voice was always firmer, better defined harmonically and spatially, and...
To hear what the PARC did further down, I listened to Ray Brown’s double bass on his classic Solar Energy album. The PARC maintained the powerful plucking with equal force and shape, despite attenuating rather than boosting any of the relevant frequencies. By fiddling with the controls, I found that the upper-bass corrections had a greater ameliorative effect than the lowest ones, even though the instrumental fundamentals were quite a bit lower. This is probably due to the ear’s sensitivity dropping off at the very lowest frequencies and to the bass fiddle’s harmonic richness.

One curious observation with Solar Energy was that the PARC corrections were both more effective and more appreciated with the analog signals from the DVD-Audio (HiRes HRM 2011) via the Meridian 800/861 DVD-Audio player, or the SACD (Groove Note GRV 1015-3) via the Sony XA-777ES SACD player, than from the LP (Pure Audiophile PA-002(2)). Pure Audiophile’s blue vinyl discs are simply spectacular, with potent, taut bass at relatively higher levels than from the digital media, with or without PARC. One might chalk that up to the fact that the PARC correction was not customized to my particular combination of turntable, tonearm, cartridge, and phono stage, which, I’d venture, is not completely linear. With other, lesser LPs, the PARC wrought the same transformations as it had with the digital sources.

A second way to appreciate the PARC EQ was to listen to music of great size and complexity, such as Mahler’s Symphony 6 (Michael Tilson Thomas, San Francisco Symphony, San Francisco Symphony 0001). I realized that, although there was no sapping of the orchestra’s power and energy; there was a greatly enhanced facility to hear more of what was going on within the orchestra. PReT ( Pace, Rhythm and Timing) fans will appreciate what PARC does to delineate the pulse and meter of the music. I was motivated by this to dissect the effects of the various corrections, and again found that the audible improvements were proportional to frequency. Indeed, if I removed or substantially moderated the attenuation in the lowest band on both channels, the perceived clarity of detail was retained, along with a restoration of some weight in the most massive sounds; or the "blows of fate" in the final movement of the Sixth. What this confirms is that the measurements and the corrections they imply are only a starting point; as ever, one must rely on critical listening to fine-tune the system.

The only operational problem I had in using the PARC was excessive noise with its balanced outputs feeding the bridged, balanced inputs of the Bel Canto eVo6 power amplifier. I had no problems with the other amps using balanced connections, nor with any amp using unbalanced connections, including the bridged eVo6. Rives informed me that they were aware of this problem—it’s related to the low input impedance of some balanced inputs—and have already corrected it in current-production PARCs.

Alternatives to PARC

Although the PARC was designed as an analog device to be applied equally well to systems with analog or digital sources by insertion at the power-amp input, the trusty Z-Systems rdp-1 Digital Parametric Equalizer (www.stereophile.com/showarchives.cgi?278) can apply the same filters in the digital domain. It was no sweat to transfer the PARC’s filter parameters to the rdp-1.

As you might have predicted, the acoustic results were identical. However, the overall reduction in LF amplitude due to interaction between the low-Q/high-attenuation filters (on the left channel particularly) could be compensated for with the rdp-1’s shelf filters. In addition, the rdp-1’s six available bands and gain capability permit even finer tuning. For example, it could deal with the 302Hz bump in the right channel as well as the sharp suck-out in both channels. However, I could not use the Z-Systems with SACD or DVD-Audio discs—as of this moment, those sources’ digital outputs are not available—nor could I use it with my turntable without adding a high-quality A/D converter to the system. This confirms Rives’ contention that an analog device has greater applicability, at least for the present.

I wish I could have compared the PARC directly to the TacT RCS (www.stereophile.com/showarchives.cgi?437), a much more ambitious device. The TacT did its intended job, but it requires a PC for setup and works only with dig-
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**Digital sources:** Meridian Reference 800/861 DVD-Audio player, Sony XA-777ES SACD player, Mark Levinson No.360s D/A converter.

**Preamplification:** Sonic Frontiers Line-3 preamplifier, Audiolab 8000PPA phono stage.

**Power amplifiers:** Bel Canto eVo6, Sonic Frontiers Power-3, Classe CAM-350 monoblocks.

**Loudspeakers:** Revel Ultima Studio.

**Cables:** Interconnects: AudioQuest Anaconda & Python, both balanced; Cardas Cross, unbalanced. Speaker: AudioQuest Gibraltar. AC: PS Audio Lab, JPS Aluminata.

— Kalman Rubinson

Blown signals. Also, I had been less than blown away by its A/D and D/A stages, although the DSP certainly did its job in improving my system's performance without relocation or divorce.

The TacT's most important contributions were in the same low-frequency range as the PARC's; higher-frequency corrections were like "flavoring to taste" rather than objective improvement. I expect to soon get my hands on TacT's improved RCS 2.2X for a "Follow-Up."

**Conclusions**

While one really should optimize room acoustics and speaker placement before trying the PARC, it can still accomplish a lot. I was surprised how successful and satisfying the PARC was in applying attenuation with precision. It provides an alternative to impractically large acoustic absorbers by attenuating resonant frequencies in a more selective fashion. To a degree, it also frees you to place the speakers for better imaging and midrange while helping with the bass.

I have no criticism of the PARC's audible performance. It is relatively simple to set up and use, and, once configured, can be left permanently in the preamp-amp link until a change in the system requires its attention. At least 24% of us should be thinking about getting a PARC right now.
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SOTA Cosmos Series III turntable

It's been a loooong time since Thomas J. Norton reviewed the original SOTA Cosmos turntable back in July 1990 (Vol.13 No.7). Remarkably, both SOTA and the Cosmos, now in its Series III iteration, are still going strong. Under the ownership of Kirk and Donna Bodinet, SOTA Sales and Service is still hand-building turntables, from the modest Moonbeam to the top-of-the-line Millennia, and taking special care in repairing, restoring, and upgrading the thousands of SOTA 'tables still out there in the hands of happy, loyal vinylphiles.

I bought my Cosmos (serial no. 075) from its original owner in 1997, and have put a lot of miles on it in the years since. Having the Clearaudio Champion 2 'table in-house for an extended visit (see my review elsewhere in this issue) moved me to finally get around to something I'd long been meaning to do: return my Cosmos to the factory for an update.

The Bodinetts have made substantial changes to the Cosmos in the years they've owned SOTA. After discussing the project with Kirk, a man of boundless enthusiasm for all things analog, I decided on a complete refit to the latest, Series III specification. On the cosmetic front, I opted to replace the rather bland gray Fountainhead cabinet with the new oiled-rosewood option. The current Cosmos incorporates the same drilled-out and damped subchassis of solid aluminum as its sibling Millennia. Further improvements include a costly new 24-pole stepper motor with a synthesized-sinewave power supply, which combine to eliminate the cogging effects that old SOTA 'tables were somewhat infamous for — and numerous other improvements to the vacuum system and external power supply.

As my Cosmos was such a veteran trooper, we also decided to replace the main platter bearing and install the new Vinyl Format Mat with Groove Damper. This also included replacement of the vacuum lip with a much more supple and flexible design, which allows the vacuum pressure to be considerably reduced while maintaining the salutary effect of securing the LP firmly to the platter and flattening small warps.

The subchassis upgrades have resulted in a momentous improvement.

After three months (a longer delay than usual, thanks to a parts supplier's bottleneck and a small fire in SOTA's woodworking shop), my Cosmos returned home, appropriately enough, on Christmas Eve 2002. The 'table had been so thoroughly rebuilt that the only parts that returned were the basic platter assembly, the plate on the bottom of the subchassis, and minor hardware such as the feet and rear control-and-hookup panel. The oiled-rosewood cabinet was eye-poppingly gorgeous, with a rich, vivid, high-contrast grain and painstakingly crafted corner joints. I reinstalled my reference Graham 2.2 tonearm and Dynavector XV-1S cartridge and immediately got down to listening.

Brother, was I surprised. While the III was not a completely different sort of beast from my original table, the design and manufacturing improvements have resulted in huge, not incremental, improvements. With the new motor and power supply, issues of speed stability are things of the past. Even on the longest piano decays, there was never a waver or flutter to be heard: the new motor-and-power-supply system works exactly as advertised.

The subchassis upgrades have resulted in an even more momentous improvement. The replacement of the wood-and-metal subchassis with solid, damped aluminum drastically calms and improves every aspect of the 'table's performance. Low-level resolution, already good, was dramatically improved, and instrumental images were in place with granitic solidity.

Soundstaging has always been a SOTA strength, and the Cosmos III built on that secure foundation. My new III threw a cavernous stage that was evenly illuminated from front to back and from side to side. Resolution of height cues was also materially improved. Dynamics, another SOTA strong suit, retained the traditional power with a large new dollop of subtlety, refinement, and improved performance at the extremes.

Part of the credit must surely go to the newly revised vacuum system. The current Cosmos applies much less vacuum pressure to the record, facilitated by the large, flexible rim at platter's edge. The rim, which acts as the vacuum seal, has a slightly tacky texture that allows for much easier coupling to the record than the old, hard-rubber rim. Because the seal is so much more effective, vacuum pressure could be lowered significantly. Lower pressure, together with the revised Vinyl Format mat and Groove Damper mat cover, should allay fears about the potential for damage to the side of the record in contact with the platter. And you still get the benefits that come with vacuum coupling: the reduction of small warps and a snug record/platter interface that effectively presents the stylus with a seriously nonresonant 14-lb record to play. Another welcome effect of the subchassis and mat upgrades was a notable decrease in groove rush.
ALTO'D STATES

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Customer: Hello, is this Sound By Singer?
Andy: Yes.
Customer: Can I speak to Andy Singer?
Andy: This is Andy.
Customer: Oh, I didn't know you answered the phone. Anyway, I know you really love the Grand Utopia Beryllium and Nova Utopia Beryllium. I would love to own either of those. But I really need to keep it under $20,000 for a pair of speakers. How are the new JM Lab Mezzo Utopias?
Andy: There are no new JM Lab Mezzo Utopias.
Customer: But I thought...
Andy: There are no new Mezzo Utopias. There is the Alto Utopia Beryllium.
Customer: How does it compare to the old Mezzo Utopias? They were very good, weren't they?
Andy: Yes, they were "very good". But very good wasn't good enough for JM Lab, they know that "very good" just doesn't cut it. That is why they designed a new speaker from the ground up, which isn't "very good".
Customer: It isn't very good?
Andy: No, it isn't very good. In fact it isn't excellent, or wonderful, or superb or any superlative adjective you can find. It is simply the most accurate, musical engaging speaker system under $35,000 in the world. When I heard the Grand Utopia Beryllium, I expected nothing short of perfection and I got it. Before I heard the Nova Utopia Beryllium, I imagined a somewhat smaller slice of audio heaven. I was not disappointed.
I did not know what to expect from the Alto Utopia Beryllium. So, when I heard it, the only words that come to my mind were holy sh...! It can't be this good. But it is.
Customer: How much are they?
Andy: Only $17,000 per pair.
Customer: That is $3,000 less than what their name...

Andy: That's right. You know that old proverb, "why pay more for less when you can pay less for a whole lot more".
All of these specific excellences were presented in a context that was superbly continuous and consistent across the spectrum. The Cosmos III presented music against a deeply, densely quiet background, the smallest details emerging as integral parts of the larger sonic picture. Big SOTAs have long been known for their tremendous (some have said excessive) bass response. The Cosmos III still rattled the rafters with bass, but this was now bass with supreme mastery and definition. There was no wooliness or boominess to be heard, only an abundance of authority and control. The treble, more extended than with my old Cosmos, now had a silky smoothness and like life sparkle. The previous version could sound a bit overdamped and tight on top.

Above all else was the Cosmos III's effortless, unfussy sense of total command. Voices and instruments bloomed lushly into the room, and there was a wonderful sense of air and space with any decently recorded LP. The big SOTA was as easy a turntable as there is to live with and listen to hour after hour, month after month, year after year — graceful, robust, and supremely easy to use. Though that arch-Linn Sondek fan John Atkinson and I will inevitably disagree, I believe that the SOTA Cosmos Series III offers performance fully competitive with or better than that of any 'table other than the megabucks models from SME, Walker Audio, and Rockport. As all of those 'tables cost more (sometimes much more) than $20,000, the Cosmos III is a fine deal indeed.

An upgrade of the magnitude of mine is not cheap. Absent a cabinet change, a complete remanufacture of an early Cosmos to current specification will cost around $3000; a new Cosmos Series III lists for $5520. A return authorization number is required from SOTA, as is a $65 inspection fee, which is deducted from the total cost of any upgrades or repairs eventually made.

Given the prices of turntables offering similarly exceptional performance, it makes eminently good sense for the owner of any older Star Sapphire, Nova, or Cosmos to investigate SOTA's infinitely flexible upgrade plan, which allows you to pick and choose exactly which parts you want to replace. If you don't own a SOTA, you owe it to yourself to check out the latest Star, Nova, or Cosmos at the earliest opportunity. And if you do...what on earth are you waiting for?

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**Recording of the Month**

**VIVALDI: La Stravaganza**
12 Violin Concertos, Op.4
Rachel Podger, violin; Arte dei Suonatori
Channel Classics CCS 19598 (2 CDs), 2003.
Jonathan Freeman-Attwood, prod.; C. Jared Sacks, eng. DDD. TT: 102:59

*Performance ****
*Sonic *****

**Applying long gone are the days when those who should know better (Stravinsky, for one), as well as the hoi polloi, claimed that, rather than writing more than 500 concertos, Vivaldi wrote one concerto 500 times. Now we know that, in addition to the instantly recognizable The Four Seasons and the choral Gloria, he was a superb composer of opera, and that, in fact, many of the concerti, composed for a splendid array of instrumental combinations, are masterworks. Furthermore, now that historically informed performance practice is a welcome fact of musical life rather than an eccentric option, one also hears the concertos for solo violin, of which there are more than 200, in a brand new light. Many of these works, which seem workaday only when played in a workaday fashion, have turned out to be thrillingly alive concertos that challenge and fascinate with their originality.

That said, the 12 violin concertos that make up La Stravaganza, Op.4, inspire confidence in neither a particularly broad tonal palette nor in any breakthrough format possibilities. All but one are in three movements, fast-slow-fast, and scored for solo violin (with the occasional echoing second violin and, in No.7, a true additional solo violin and a solo cello), the usual quartet of strings, and a continuo section of archlute, guitar, theorbo, harpsichord, and organ (this combination probably decided on by the players and adding a nice flavor). There is a sameness of texture and format; besides, Vivaldi is Vivaldi and is easily recognizable. But we wouldn’t want Sinatra to sound like Tony Bennett, so what’s wrong with Vivaldi endlessly reminding us of Vivaldi?

Then again, if you were to begin listening to these concertos with No.8, in D, its weirdly jagged, angry, seemingly random solo violin part might make you wonder just what you’d walked into. The 90-second first movement slows down unexpectedly at its very end, then segues into the middle movement for a few seconds before a furiously fast midsection that seems to pass out emotionally into a w-e-r-y s-l-o-w Adagio for a minute before ending peacefully. The last movement is a solid Allegro of great classical formality that, despite its bright colors, has a dark, angry core. All of this takes place in less than seven minutes.

Not all of the concertos of Op.4 are up to this level of inspiration, and with the concerto that follows we’re back on far more familiar turf. But even here, the chug-chug-chug final movement is played with such verve that it catches us up despite our knowing just where it’s going.

Elsewhere are similarly unexpected joys: The slow movement of No.10, without a particularly interesting tune, is underpinned by the archlute and organ with remarkable gravity; No.3’s slow movement, while somewhat reminiscent of The Four Seasons, is of unsurpassable beauty and simplicity; the last movement of No.6 is so busily virtuosic and has such a great beat that you’ll need a rest after you listen to (and move along with) it. And after the rather ho-hum first movement of No.4, still played masterfully, the harmonic flights of the final movement keep throwing us off before bringing us back to a familiar Vivaldian cadence.

Rachel Podger is in a class with Andrew Manze — neither is afraid to riff wildly, and both have a spectacular innate rhythm and sense of the arc of a movement, which allows them to embellish a line without ever distorting it. In addition, they refuse to treat even more routine music routinely, invariably finding, say, an inner dissonance or quirk in scoring to emphasize. Both can be aggressive, and both can opt for true sensitivity; Podger’s take on the opening of No.2 is positively dainty.

Arte dei Suonatori is a Polish period-instrument band that is apparently conductorless; they and Podger manage a give-and-take that defines teamwork and joy in music-making, and each member of the band is more than up to his or her task. With the group’s string balance of 7-2-2-1, I was afraid the recording would be top-heavy and shrill; but whether it’s the engineering or the venue (a church in Poland), this is not the case. The bottom is rich and full, and the clarity with which the archlute, guitar, and theorbo are recorded add mightily to the experience; at just the right volume level, the room practically vibrates.

These 12 concertos were not intended to be listened to in one sitting, but I’ve found it easier to take a bunch at a time from this recording than from any other. The two CDs are offered at a bargain price. It’s easy to take Vivaldi for granted; here, it’s impossible.

—Robert Levine
with its bells and winds.
Symphony 2, Mysterious Mountain, is the one that made Hovhaness famous (Leopold Stokowski commissioned it, Fritz Reiner recorded it). It, too, evokes huge expanses. For the most part the symphony exudes tranquility, although its central movement’s double fugue has plenty of energy. Symphony 66, Hymn to Glacier Peak, opens with a hymn-like passage and leads to a big brass crescendo that, in turn, works its way into a three-flute riff. The second, very short movement features solos for flute and oboe and is meant to be reminiscent of Hovhaness’s wife, who is a coloratura soprano. The work ends in gigantic glory. The brief Storm on Mount Wildcat, which ends the CD, is an early work, a swell piece of post-Romantic excitement.

Hovhaness is unknown to many who might adore him (there are few recordings of his work), these performances are perfect, and, as sheer showpieces for your system, this recording is perfect as well, allowing for the works’ hugeness as well as their intimacies. Go get it.

—Robert Levine

**Record Reviews**

**DOYLE BRAMHALL**

**Fitchburg Street**

Yep Roc YEP 2045 (CD). 2003. Doyle Bramhall II, Doyle Sr. is a soul-singing, skin-pounding songwriter and record producer who cut his teeth playing the Texas fraternity circuit with Jimmy Vaughan’s early band, the Chessmen. Vaughan’s little brother, Stevie Ray, recorded more than a dozen tunes written by or with Bramhall, including “The House is Rockin’” and “Dirty Pool,” which granted Bramhall the financial wherewithal to work at his own pace (his 1994 debut, Bird’s Nest on the Ground, was recorded over a number of years), and to produce records for acts he believes in, such as Chris Duarte, Marcia Ball, and Native American blues-rock band Indigenous.

The rollicking, roadhouse-worthy Fitchburg Street is named for the West Dallas neighborhood Bramhall grew up in. Appropriately, the songs surveyed here are mostly by musicians he’d have heard at the time and/or covered in live performances throughout his career. Bluesmen John Lee Hooker and Howlin’ Wolf were inspirations, and Bramhall covers two tunes by each: Hooker’s foot-stompin’ “Dimples” and “Maudie,” and, from the Wolf, “Forty Four,” a menacing tune if ever there was one, and the equally explosive “Sugar (Where’d You Get Your Sugar From).”

Bramhall offers horn-drenched versions of the soul chestnuts “That’s How Strong My Love Is” and “I’d Rather Be (Blind, Crippled & Crazy),” and rocks out on Buddy Miles’ “Changes” and Jimmy Reed’s “Baby What You Want Me to Do.” There’s only one original on the disc, but it’s a good one: “Life by the Drop,” made famous by Stevie Ray. If the vocal style sounds remarkably like the late Vaughan brother’s, it’s actually the other way around — Stevie Ray learned from Bramhall.

Fitchburg Street could be docked a point or two for dealing in such familiar material rather than seeking out some worthwhile obscurities. But you’d be hard-pressed to find a collection that
The Headphone Wars Heat Up!

For a long time, our job of finding the best headphones and then telling people about them was pretty easy—after throwing out all the bad ones, we weren’t left with many to choose from! Well, things are beginning to change. Recently we’ve come across a number of headphones that have forced us to become a little more measured (no pun intended) in our recommendations.

For the last few years, choosing the “world’s best dynamic headphones” has been a rather boring debate: we always came back to the Sennheiser HD 600. Sure, the Grado RS 1 are lush and intimate, and the AKG K1000 have astonishingly natural imaging, but neither can be recommended without a caveat of one sort or another. However, beyerdynamic has just released their new DT 880 to challenge Sennheiser for the top spot and, by golly, they’ve done a damned good job. The 880 are clean and clear, with extended highs and lows, and good behavior in between. Although the HD 600 might image a bit better and seem a little more coherent, the beyers are a bit more intimate and less laid-back. If you’re looking for a top-of-the-line can these days, you may want to surf over to our web site and study the details of these two cans to decide which is right for you.

Another race that’s heating up is the one for low cost, in-ear headphones. By now you must have heard us gush about the Etymotic ER-4 series, how great they sound, and how much (much!) better they are for plane travel than noise-canceling cans. You may also know that they cost $269—a price tag that has sent a lot of folks packing bigger but cheaper cans into their travel bags. Well, now Etymotic has a lower cost alternative in its ER-6, and Shure (yes, the same company that makes phono cartridges) has come out with the $2. Both are priced around $100, both provide ~20dB isolation (as opposed to ~10dB for noise canceling and traditional sealed headphones), and both set new standards for sound quality at their price point. They’re perfect for air travel or any application where noise is an issue. Again, check the web site for details.

Although it certainly makes helping you personally determine the comparative value of headphones more difficult, we couldn’t be more pleased to see these fine companies taking the time and effort to develop outstanding products. We’ll just have to spend more time in the listening room evaluating and writing about these headphones. It’s a tough job, but we’re ready, because we’re...

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pulls all of these songs off so convincingly and makes you hit the Repeat button rather than go scouring for the original versions.

—Daniel Durchholz

MASSIVE ATTACK

100th Window


Performance ****
Sonic ****

While trip-hop and Bristol, England, are no longer the buzzed-about genre and burg in the short-attention-span theater that is electronic music (remember Tricky and Portishead?), albums by Massive Attack are still paid close attention by sound sculptors everywhere. Like DJ Shadow and Cornelius, the taste-making Bristol collective has always aimed for the wide screen rather than the dance floor. Nor does it hurt to let your legend swell over a few years of silence: Massive Attack's last album, the moody, menacing Mezzanine, came out in 1998.

The new one, 100th Window, should have come with a disclaimer: “Batteries included, but not all of them.” With Andrew “Mushroom” Vowles and Grant “Daddy Gee” Marshall departed from Massive Attack's core trio, Robert “3D” del Naja is alone at the helm. Unfortunately, what he’s attempting to steer is a treadmill. Del Naja has help, of course, from guest vocalists Horace Andy (who appeared on Mezzanine) and Sinéad O'Connor, whose three performances here are distinctive and evocative; anyone who needs reminding of the warmth and depth of O’Connor’s pipes need listen no further than track 2, “What Your Soul Sings.” O’Connor also lobs the album’s lone political rock, the Northern Ireland address “A Prayer for England.” It hits the ground with a dull thud. Somewhat unfairly, 100th Window suffers for sounding too much like Massive Attack: oppressive orchestral samples, dub grooves, ethereal/soulful vocals.

While the songwriting on 100th Window can be sparkless, the sound is spot-on. Massive's beats are “blunted”—connoting both the gaudy THC fuzziness and the genuine sound editing that del Naja employs to file away the sharp edges of the drum strokes. (Think of a firecracker exploding inside a pillow.) As for audio presence, well, del Naja’s nickname is “3D”; his careful layerings of instruments and vocals here feel like submergence. These last days of trip-hop haven't quite yielded another landmark, but 100th Window sounds as if underwater moonlight is pouring through it.

—Matthew Fritch

DAN MELCHIOR'S BROKE REVUE

Bitterness, Spite, Rage & Scorn


Performance ****
Sonic **

With 2002 bummushed by the Rolling Stone-heralded rockshock attack of the Hives, Vines, White Stripes, Strokes, etc., a fair question to ask in '03 is, what to do with the horde of lesser-knowns who have neither MTV photogenic appeal nor the sonic finesse that can yield Clear Channel rotation? One particularly hard sell will be New York City’s Dan Melchior, a garage-rock aesthete whose remarkable grasp of the genre’s primal essence is matched only by his outright unmarketability. With a litany of influences that include Mississippi Fred McDowell, Skip James, Iggy Pop, the Stones, the Nineties punk-garage-punk bands, Melchior, on his third Broke Revue album, aims to put the punk back into “primitive” and the garage into “garage.”

Whaddaya get? Songs such as the slide-guitar/heavy-nud “Semi Famous People” and the gospel-blues strut “Gatecrasher” could pass for Exile On Main Street outtakes—although it must be noted that the grim, lo-fi vibe comes far closer to the version of Exile that Jon Spencer’s old band, Pussy Galore, once worked up than the Stones’ epochal classic. (Maybe “Exile Down a Dirty, Rat-Infested Alley Somewhere Off Main Street’?) On “Suburbs!” the Revue sounds like avant-rock combo The Fall attempting “Louie Louie” with the Sex Pistols’ Johnny Rotten on vocals. Elsewhere one hears plenty of distorto twang, fuzz-drenched skronk, and inbred hooch-holler—urban trash-blooze on an extended bender and a perilously minuscule budget. And with Melchior’s deadpan, megaphone blare of a singing style, there’s no shortage of ‘tude in Revue-land. Call it a quintessential Neo Yawk band and you won’t be too far off the mark.

—Fred Mills

TOM RUSSELL

Modern Art


Thoroughly modern: Tom Russell.

Performance ****
Sonic ****

Tom Russell has built a reputation over the years as one of America's greatest songwriters—not a commercial Clear Channel-approved Nashville tunesmith, but someone who can write real stories about the wonder and heartbreak of a life lived outside the world of celebrity fantasy.

On Modern Art, Russell decided to mix his own songs with some of his favorite tunes by other writers, and in the process has made an album that's a showcase for his powerfully distinctive baritone voice. Michael Smith’s classic “The Dutchman” is the perfect medium for Russell's smoky, world-weary sound. Nancy Griffith’s “Gulf Coast Highway” is a brilliant selection,
and the duet of Russell and Griffith on Dave Alvin's "Bus Station" is an inspired choice, a dialog song for two voices matched for maximum dramatic contrast. The two also sing together on the great Emmylou Harris song "The Ballad of Sally Rose." Russell's fine sense of history was clearly piqued by Carl Brouse's brilliant "American Hotel," about the death of Stephen Foster, and the tragic maritime tale "Isaac Lewis."

But the prolific Russell could hardly put out a new record without including several outstanding songs of his own. The title track recounts his experiences growing up in Los Angeles, "The Boy Who Cried Wolf" is the sole survivor from a song cycle Russell wrote about a love affair gone bad. "Not only did I get over her," he remarked, "I got over writing that kind of song."

Nobody writes about American icons better than Russell, and Modern Art includes a pair of Russell's poignant observations about American sports heroes, Mickey Mantle and Muhammad Ali. "The Kid from Spavinaw" turns on Mantle's memorable line, "If I knew I was gonna live this long I'd have taken better care of myself," but it's really a song about an Oklahoma boy's relationship with his father. "Muhammad Ali" is much more of an anthem, turning on the historic phrase "No Vietcong ever called me nigger."

Russell is also a journalist who kept up an exchange with poet and novelist Charles Bukowski that will result in a book Russell plans to release later this year. Modern Art contains a tribute to Bukowski in which Russell sets to music a Bukowski poem about Los Angeles, "Crudefix in a Death Hand," he wraps it all up as an elegy for another friend, Warren Zevon, by including "Carmelita" as the coda.

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**Record Reviews**

**Jazz**

**TOSHIKO AKIYOSHI JAZZ ORCHESTRA**

**Hiroshima: Rising from the Abyss**

For 30 years, Toshiko Akiyoshi and her husband, Lew Tabackin, have led one of the most important large ensembles in jazz, first in Los Angeles, now in New York. The band's distinctive identity has always come from Akiyoshi's writing and Tabackin's soloing. As composer-arranger, Akiyoshi is a subtle sound painter of the Gil Evans school, but brings fresh perspectives from Japanese music. With her new album, Hiroshima: Rising from the Abyss, Akiyoshi, in her 72nd year, has created one of the most ambitious and profound works in her distinguished portfolio. And Tabackin proves yet again that he is a towering tenor saxophonist and very likely the finest flutist in jazz.

When a Buddhist priest urged Akiyoshi to write this music for Hiroshima, she reports that "at first I couldn't see the purpose." Then she discovered a photograph of a young woman who emerged from a bomb shelter three days after the blast "looking at the sky... with beautiful eyes full of hope."

The 53-minute suite contains three movements, "Futility-Tragedy," a high-speed burner, at first suggests no obvious correspondence to the day Picadon (as the people of Hiroshima named the bomb) fell. Yet there are forebodings, such as the spinning, ominous, repetitive figure that opens the movement and recurs between solos. Is it the Enola Gay circling above its target? Is it the sickening vertigo of madness that pervades all murder, even (or especially) when it is state-sponsored? The full-rap solos by Tabackin (on tenor), Jim Rotondi, and Dave Pietro (on alto) sometimes sound dangerously close to the edge of chaos. Cataclysms becomes more explicit in the crashing fury of George Kawaguchi's drum solo, which leads directly to the wild rolling and screaming of five horns, perhaps depicting the flash or the agony of its aftermath.

Then there is a beautiful segue from the unbearable cacophony of the horns to a single held note from trumpet and arco bass that introduces Part II, "Survivor Tales." For six minutes, over a somber, murmurizing chord floor from the orchestra, the young female voice of Ryoko Shigemori reads lines, devast-ating and stark, from "Mothers' Diaries" at the Hiroshima Memorial Museum, with interludes by Won Jang-Hyun on traditional Korean flute. In the remaining 15 minutes of "Survivor Tales," John Eckert, Tabackin (on flute), Tom Christensen (on tenor), and Scott Whitleff lift their voices, individually or intertwined, in a collective search for emblems of meaning, over the whispered details of the full ensemble.

The conclusion of the suite is "Hope." It is a flowing from the orchestra that sweeps in a long upward curve, with an eloquent, understated affirmation by Tabackin, on tenor. (In the liner notes, Akiyoshi remembers the Dalai Lama's statement that human beings cannot live without hope.)

The album was recorded in a Hiroshima concert hall on August 6, 2001, exactly 56 years after Picadon was dropped. Akiyoshi has described the composition of Hiroshima: Rising from the Abyss as a "difficult task." She has met the artistic challenge with dignity and authenticity and humanity. Courageously, she has thought about the unthinkable, and emerged with hope.

---

**MILES DAVIS**

**In Person at The Blackhawk, Complete**

Columbia/Legacy CK 87097 (2 CDs). 2003. TT: 117:51

**In Person Saturday Night at The Blackhawk, Complete**

Columbia/Legacy CK 87100 (2 CDs). 2003. TT: 203:51

Both: Miles Davis, trumpet; Hank Mobley, tenor sax; Wynton Kelly, piano; Paul Chambers, bass; Jimmy Cobb, drums

Inning Townsend, prod.; Harold Chapman, eng.; Michael Cuscuna, Bob Belden, remaster prod.; Mark Wilder, remixing/remastering, ADD?

Performance *****

Sonic * ***

It is not entirely obvious why Miles Davis' two In Person at The Blackhawk LPs should have been the most important albums of my youth. They were not exactly masterpieces, such as Kind of Blue and Sketches of Spain. But they were recorded live (not as common then as now), and there was something electric about the anything-can-happen looseness, the murmuring crowd ambience. And the LP cover was epic: Miles crouched to light a cigarette in a classic Prince of Darkness pose with a raincoat thrown over his shoulder, as a young woman (his wife, I later found out) stares at him in apprehensive awe.

Then there was the text by Ralph J. Gleason, broken down into "The Artist" and "The Locale"—quite simply the greatest liner notes in the history of jazz. Gleason's notes turned Davis into a cult figure, and the Blackhawk into a sweaty shine. Gleason wrote, "The Blackhawk is gloomy, dirty, and unattractive. Yet... some of the very best music I have ever heard was played there... A most in-
credible cross section of American society has been inside this dimly lit saloon. Its hard chairs and tiny tables have accommodated British poets, Japanese jazz musicians—champion prize fighters—and just about every hardcore jazz fan able to make the trek to San Francisco.

And so we went. Two friends and I, college freshmen, over spring break in March of 1963. We drove all night from Salt Lake City to San Francisco, three of us in an Austin-Healy Sprite, and saw Miles Davis at the Blackhawk with fake ID. We knew that we had arrived. We had joined Ralph Gleason’s legions of the hip.

The band we saw (twice) on that trip was a transitional Davis group—only one member, drummer Jimmy Cobb, remained of the band that had made the In Person LPs two years before. (The other sidemen we saw were George Coleman, Frank Strozier, Harold Mabern, and Ron Carter.) The band that made the Blackhawk recordings came chronologically between two Davis ensembles that critics often call the First Great Quintet (with Red Garland, Paul Chambers, Philly Joe Jones, and John Coltrane) and the Second Great Quintet (with Herbie Hancock, Ron Carter, Tony Williams, and Wayne Shorter). To characterize Davis’ bands in this fashion is to undervalue the Blackhawk group, which contained a rhythm section for the ages—Wynton Kelly, Paul Chambers, and Jimmy Cobb—plus tenor saxophonist Hank Mobley.
Perhaps this band is overlooked because it was together only intermittently in 1961 and 1962, between Mobley’s “personal problems” (as drug busts were called in the jazz press of that era), and recorded only three times. It had a sound like no other Davis ensemble, with a magical hook up between the rhythm section and the horns, Kelly jabbing at Miles and provoking him, yet also tethering him. In this spontaneous, eruptive atmosphere, Miles is set free to take risk after high-register risk, and nails them all. Or almost all — when he misses, it is even better (life is real). On such pieces as “No Blues” and the two versions of “Walkin’” and “Neo,” he slashes as though his trumpet were a sword. When it is Mobley’s turn, he always slow things down, taking oblique tangents, never once stating a theme directly. His solos are vast, ironic, harmonically ornate designs, with subtle patterns of accentual variation that would make a master drummer proud.

The original Blackhawk LP contained 12 performances, heavily edited and spliced. The first CD reissues, from 1988, retained most of the edits, such as the long Mobley solo and the Paul Chambers arco bass solo cut out of “No Blues.” Now, with the release of these two Columbia/Legacy Complete editions of the Blackhawk material, not only has the edited material been restored, but 13 previously unissued performances have been recovered. Except for one tune (the triumphant rolling chariot here called “Neo,” usually called “Teo”), the entire third and fourth sets of the Saturday Night box are new. There is an 11½-minute “Autumn Leaves” with one of Wynton Kelly’s most ecstatic solos on record, as though he might levitate right through the Blackhawk’s sooty ceiling; and a 9½-minute “Someday My Prince Will Come,” slower and more soulful than the studio version recorded by this band six weeks earlier. The Friday Night set contains “I Thought About You,” never heard before. One of the few ballads played on these two nights, it is so intense it sounds as if Miles might splinter the Harmon mute in his trumpet. In all, these two sets contain 97 minutes of previously unreleased music, plus an inspired, floating, 12-minute “On Green Dolphin Street” that had been released, in edited form, only in an obscure LP anthology.

These two boxes not only rescue invaluable music, they also, like a reliquary, preserve a particular creative countercultural milieu, a moment and a place previously lost in the shadows of history. This fragment of the past is vivid because of the sonic quality of these reissues. It is not audiophile sound. But the acoustics of the Blackhawk were renowned, and original engineer Harold Chapman gets a roughhewn, visceral presence on the five instruments and an intimate sense of the room, alive with an audience that was deep with the music, and was also cool, and knew it. The new remixing and remastering by Mark Wilder, using 24-bit Super Bit Mapping, provides the cleanest, most dynamic, most detailed version of this music ever available — at least in the US. (SACD editions are available in Japan.)

The Blackhawk closed in summer 1963. There is no monument, no marker, on the corner of Turk and Hyde where the club once stood. But now there are these four CDs, and they are absolutely essential, even for — perhaps especially for — those never so fortunate as to have sat on a hard chair at one of the Blackhawk’s tiny tables.

— Thomas Conrad
Enjoy

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Manufacturers' Comments

Graham Engineering Robin

Editor:
To follow my “Manufacturer’s Comment” in the June issue, one change we are implementing is to lower the US price of the Robin to $645. Several things have helped to improve the pricing for us, and, in passing these savings along, we’d like to make the Robin as attractive and competitive as possible in this market segment. Accessories such as the upcoming alignment gauges and the IC-40 output cable will have similarly attractive prices, and with the improved performance they bring, will, we believe, make the Robin even more the tonearm of choice in this price range.

Robert Graham
Graham Engineering

Perreax R200i

Editor:
Thank you to Michael Fremer and John Atkinson for taking the time to review the Perreax R200i in June 2003. It is refreshing to feel that the unit has been subjected to a reasonable level of scrutiny by your publication. Regarding the channel naming, to ease confusion in future, we will consider changing the rear-panel transfer. In the interim, we will consider changes to the product manual.

The Audio Physic Avanti III is rated at a nominal 4 ohms impedance. We have not seen how the impedance of this speaker varies over frequency, but, at face value, would agree with Michael in saying that the R200i would easily drive a wide variety of loudspeakers, including the Avanti III. Indeed, John Atkinson warns about using the R200i with “speakers that dip below 4 ohms for much of the audio band.” This observation was made from the power output at 2 ohms, and, I feel, is not entirely accurate. It would, in our opinion, be a more accurate statement if it were to say “speakers that dip close to 2 ohms for much of the audio band”—which, in effect, is saying “speakers rated at ~2 ohms nominal impedance.”

With respect to John Atkinson’s comments on our 1.5dB-resolution volume control bordering on being too coarse, we respond by saying that 3dB is the theoretical minimum change distinguishable by the human ear. A 2dB change should not be audible, and steps of 1.5dB should provide a comfortable safety margin.

The reason the heatsink temperature showed so much of a difference could possibly be due to the temperature-measuring sensor not resetting properly, or it may have been damaged. In the first instance, disconnecting the R200i from mains power, then reconnecting, would fix the problem. If the temperature device was damaged, then the only way to fix the problem is to replace the device. There is certainly no way the heatsinks would have had that much heat difference, and this would have been apparent by touching them. It appears that the incident cleared itself, as readings of both channels were taken and recorded in the measurement section.

When JA measured the R200i’s 8 ohm rated output, comments were made that the amplifier displayed “Over Current Left—Over Current Right” when full power was reached at 8 ohms (268Wpc), and that “it...
attenuated its output in a rather arbitrary manner." This is incorrect. The message would have read "L: Clipping—R: Clipping," which means that the algorithm to control clipping is working, hence the "wiggly trace." What the R200’s internal algorithm does is drop the output by -2dB, then step it back up to the set level. If clipping is detected again, then the level will be dropped -2dB from this point, and so on and so on, until the set output volume level is reached and clipping is no longer detected. Usually, the user will see the message and decrease the volume accordingly. If the message goes unnoticed (e.g., party scenario), the speakers will be totally free from harm and the output will sound relatively unaffected. This feature has been specifically designed to protect speakers from DC output due to clipping, which is detrimental to speaker longevity.  

Martin van Rooyen  
Managing Director, Pernexa Industries

V.Y.G.E.R. Atlantis  
Editor:  
When we picked up the Atlantis at Michael’s house, we found the arm to be defective. So, unfortunately, Michael did not experience the sonic performance that the V.Y.G.E.R. is capable of. However, we do look forward to Michael reviewing the ‘table again, with a non-defective arm.  

Bruce Fetherling  
Acoustic Dreams

Benchmark DAC 1  
Editor:  
Thank you for the DAC 1 overview by John Marks in this month’s “Fifth Element” column. There are a few points that were made that, I believe, require clarification. In previous CD-player/DAC designs, the problem of jitter generated by sources such as disc transports and interconnecting cables presented a very significant degradation of audio purity. Attempts to eliminate this distortion generator often saw heroic efforts and virtually unlimited monetary investments expended in attempts to stabilize the transport and reduce interconnect-cable capacitance (a source of cable jitter). The DAC 1 was expressly designed to deal with the problem of induced jitter that arise after the initial recovery of the digital source material from a disc, tape, or hard drive.  

We believe the design is eminently successful. At our laboratory, we placed more than 1000’ of Cat5e data cable between our signal source and the DAC 1. This was done without any detectable deterioration in performance, either audible or measurable. It is our experience that, provided the digital input signal can be decoded by the AES receiver, our circuitry is able to remove the induced jitter. It is on this premise that we claim our list of total jitter immunity for the DAC 1 rests.  

The direct benefit of this jitter-rejection ability is elimination of the previously needed specialized cabling between a transport and DAC. It also resolves the concern for the metal-to-metal oxidation issues that are oft-times found as distortion generators with analog connectors. That is, it eliminates the concern for the BNC-to-RCA adapter on the coaxial digital input, as questioned by Mr. Marks.  

I would also like to suggest that, since the DAC 1 has total jitter immunity, an audiophile-grade personal listening station may be assembled for a paltry $1350. This is accomplished by choosing an extremely inexpensive Apex AD-1100W DVD transport from Wal-Mart ($50), Sennheiser HD600 headphones ($450), and a Benchmark DAC 1 ($850).  

Allen H. Bodnik  
President, Benchmark Media Systems

Spendor S3/5se  
Editor:  
We were delighted to read Art Dudley’s review of our new Spendor S3/5se loudspeaker. Art states in his opening remarks that no technical miracle will ever allow a little speaker to sound like a big one. We agree; that is why we also make several big loudspeakers. But there was always something magical about the sound of the little Spendor S3/5 and its predecessor, the legendary LS3/5a. That is why our new design team felt a degree of trepidation when they took up the challenge of creating a new loudspeaker that would raise the sound quality and technical performance of these reference-class designs to a new level of refinement, while retaining the “magic” of the originals. Your accurate and perceptive review explains it all so well, there is really nothing we need to add!  

Philip Swift  
Managing Director, Spendor Audio Systems

Clearaudio Champion Level 2  
Editor:  
Paul Bolin said many positive things about the Clearaudio Champion Level 2 turntable’s look, feel, and sound. As the top of Clearaudio’s entry-level Champion line, this table combines value, looks, and performance with high mass, our Reference 70mm-thick platter, and quality German machining. Clearaudio celebrates their 25th anniversary this year as one of the world’s leading analog companies. The combination of their expertise and manufacturing efficiency is how they can price a turntable that looks, feels, and sounds like more than its medium price.  

What distinguishes the Level 2 from other Class B turntables is its ability to be upgraded in steps from our entry-level Champion to the Level 1 and, finally, the Level 2. Tonearms can also be upgraded, and one can also add either our Accurate Power Generator or new Synchro speed controller.  

Yes, the Level 2 may be more complex to set up than a Rega, but that is because:  

1) It can be upgraded from a Champion or a Level 1 with a 30mm platter, where you add the standoffs to raise the armboard height to match the taller 70mm platter.  

2) The Level 2, as well as any Champion model, can be mounted with a Unify, Clearaudio tangential arm, stock Rega, Clearaudio-upgraded Rega, Graham 2.2 or Robin, SME, March, Linn, and various other tonearms.  

We have always thought that the Champion Level 2 is one of the easiest turntables to set up out of the box because it comes essentially pre-assembled. Setting up a Level 2 consists of putting the platter on the bearing, setting up the motor and belt, and mounting the arm and cartridge.  

Paul’s Level 2 was one of the first with the Unify. This arm debuted at Home Entertainment 2002 in New York, and it now has damped cueing—his was an early sample. Most people don’t have to change armboards unless they change tonearms (the dealer does this anyway).  

Paul’s comment about ergonomics and hand-cueing the Unify tonearm speaks more to personal preference than design. We always stress that people decide what tonearm is right for them by looking at all available, including older interfaces.  

We appreciate the nice mention of the Benz Micro L2 wooden-body moving-coil that we provided Paul for the review. It combines the electrical generator of our Glider with the mechanical aspect of our Ruby frame and body. This “must hear...mid-priced MC” has special package pricing when purchased with the Clearaudio ‘table and arm. We thought, and Paul agreed, that this synergy would work for Paul’s system and demonstrate the versatility of the Unify.  

In the past 14 years, Musical Surroundings has established itself as a leading distributor of analog products in the USA. A key to our success is our knowledge and service. We only wish that Paul had made use of this and contacted us during the review. In doing so, Paul may have gained a deeper understanding of the product, as we have explained in our response, and better communicated it to the reader.  

He still got it right in describing the Champion Level 2 as a “solid package and a lot of performance for a very reasonable tariff.” Clearaudio and Musical Surroundings thank Paul, Stereophile, and most important, the music-lovers who keep playing records. Score one more for analog.  

Garth Leerer  
President, Musical Surroundings

Rives Audio PARC  
Editor:  
All of us at Rives Audio would like to thank Stereophile, Kalman Rubinson, and yourself for the excellent review of the Rives Audio PARC. We are pleased to see the review begin with the listening room. As Mr. Rubinson states, our company is
focused on small-room acoustics. We commonly refer to the room as “the invisible component.” In many respects, the room is the most complex and least understood part of the audiophile chain. While the survey that Mr. Rubinson referred to illustrates that 94% of the readers are dissatisfied with their listening rooms, I would estimate that there is at least another 24% that are not even aware of the degradations occurring in their sound because of the room.

The issues of the room also have some significant practical considerations, which Mr. Rubinson discussed. Spousal acceptance is certainly one, but readers should be aware that acoustical designs do not need to be eyesores. They can be integrated into the décor. We’ve even designed rooms with much of the acoustical treatment in a coffered ceiling, and thus completely disappearing.

Possibly the biggest issue with room acoustics is understanding the problems, the limitations, and the solutions of the room. This can be quite complex, and trial-and-error methods can be expensive and frustrating. It’s not as simple as opening a box, plugging in a piece of equipment, and listening to the differences, which may be why many people shy away from even attempting to deal with room acoustics. Every room is different, every client is different, and every solution is different. This is the main reason we founded Rives Audio — to take this confusion out of the equation and give audiophiles plans and directions on exactly how to improve their listening rooms, on an individual and custom basis at affordable prices.

In addition to the aesthetics issues of room correction, there are budget considerations. As Mr. Rubinson pointed out, mid and high frequencies can be relatively easily compensated for by diffusion and absorption, but low frequencies require much more. A wall of bass traps, or large, complex, difficult-to-build Helmholtz resonators, are acoustically valid solutions, but often not practical ones. They can be both expensive and often less than attractive.

This is exactly why we designed the PARC. We limited the PARC to deal with the one area of room correction that can otherwise be very difficult to address; namely, the bass response, which is often colored by room modes. In doing this, we were able to maintain signal purity through the midrange and high frequencies, to “do no harm to the signal,” as Mr. Atkinson pointed out in the “Measurements” section.

There were two suggestions that Mr. Rubinson made in the review that I should comment on. The first was the ability to apply gain in small amounts, as well as attenuation. We are still considering this. If we do make this available, it will be a simple software change that will be made available for all units.

The second suggestion was to provide the Bass And Room Evaluator (BARE) with the PARC. A sophisticated method of evaluating the bass response in a room, the BARE even uses a psychoacoustical response filter that functions much like the human ear. As Mr. Rubinson pointed out, it needs to be used with a computer, microphone, and, obviously, appropriate cables.

We wanted the end-user to have a simple (noncomputer) method of calibrating the PARC, thus we provide the Test CD (which has compensated tones for the RadioShack SPL meter) with every PARC. While it seems to take longer, it needs to be done only for initial setup, and does not require any special skills or training. Thus, for a onetime setup, it probably takes less time and is much simpler than it would be to install the BARE, get the cables and microphone, learn the program, and calibrate the PARC.

The BARE is included in our Test Kit, which is used by all Rives Audio dealers. This kit also includes a calibrated microphone, cables, soundcard, and ETF software for evaluating the room and calculating the optimum parameters for the PARC. This same kit is used by our dealers to take acoustical measurements of listening rooms for our acoustical consultations.

Richard Rives Bird
President, Rives Audio
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Perhaps it was because I’d spent the afternoon listening to singer-songwriters Townes Van Zandt and Gillian Welch, but as I sat down to write this column, the storm-tossed state of the music world had me in a gloomy mood.

To be fair, Welch always has that effect on me. I often think she ought to quit the music business at large, move to Appalachia, and rent out her services as a singer of funeral laments.

Welch’s new album, *Soul Journey* (nothing serious about that title), on her and husband David Rawlings’ Acony Records, is her usual mix of pervasive, guttural sadness and evocative tunesmithing, none of which ever gets above a Cowboy Junkies–like tempo. Her followers are messianic and her detractors are no less passionate, but whichever camp you throw in with, rest assured that Welch’s records will dig into your emotions. They will make you uneasy.

Then again, hand-wringing over the travails of music and the music business has become a cottage industry these days. The past month alone has provided enough fodder for an eon of barroom arguing and late-night tossing and turning. Anyone in the music business, or whose livelihood depends on it (eg, Stereophile), or who’s invested, emotionally or fiscally, in its product (gaze upon your own petroelum-laden shelves), should be worried.

Under the headings of “Complete Idiotic’s Guide to Fiddling While Rome Burns” (“A Finger in the Dike” also comes to mind) is the moronic decision by the Recording Industry Association of America (RIAA) to directly sue four college students for downloading free pirated music from the Internet. Settled in early May, the suit is forcing more than one to ponder quitting school to pay off the $12,000–$17,000 in judgments each now owes. The suits originally sought billions of dollars in damages, but the RIAA was reportedly happy with the reduced judgments, saying it would serve as a “warning.” While it does set a legal precedent, making scapegoats of an obscure few won’t stem the tide of the millions still downloading.

To the Record Biz, once more, with feeling: The genie’s out of the bottle. Give up. Move on. Find another way to make it pay. If you’d been out in front of this in the first place, instead of being merely content to raise CD prices and ignore artist development, none of this would have happened.

Too late to grab a piece of the download pie? Well, Apple’s new iTunes venture is certainly off to a promising start. Charging 99¢ a track or $10 an album, Apple’s new download site, www.apple.com/itunes, sold more than a million songs in its first week of operation (see this issue’s “Industry Update”). Unlike the major labels’ half-baked download sites, with iTunes you can keep the music you pay to download. And ten bucks an album is about what CDs should cost in the first place.

If major labels—whose life spans, for the first time in history, can now be measured in years—think downloads are a dangerous demon, Clear Channel Communications’ new “instant booged” initiative is Beelzebub incarnate.

The concept is simple. Within five minutes of seeing a show, when you’d otherwise be buying a T-shirt, fighting crowds to get to an exit, or wondering where the hell you put that roach, you’ll be able to buy a CD recording of that very show. If this takes off, every BMI and ASCAP office will have to have a potter’s field on the property to handle the resulting piles of lawyers felled by an overdose of futility.

Already being tested in Boston, the instant-bootleg concept features racks of CD burners kicking into gear the moment the last encore dies away. Two-disc sets will cost $30. The source of these recordings will be a line recording from the soundboard blended with microphones hung at various locales in the venues. Clear Channel is also making noises about offering the shows as MP3 downloads and/or DVD Video recordings.

The reason any of this heretofore full-on heresy is possible or even up for discussion—remember, record labels and such licensing arms as BMI and ASCAP have fiercely fought live-concert bootlegging for years—is that Clear Channel has a stranglehold on both radio-station ownership and concert promotion. Refuse to play hall with them and you don’t get booked into their venues or played on their stations, and your revenue stream shrinks to a trickle. To quote what has become something of a mantra for Matt Groening & Co.’s *The Simpsons*, “Welcome to Dick Cheney’s America!” Actually, that’s not fair, the current rage for media consolidation has been building for 20 years. As this went to press two labels, BMG and Warner Bros., had begun merger talks.

So how do any of these admittedly highfalutin issues affect audiophiles where they live—at home, surrounded by libraries of recorded music? Well, the time, fellow travelers, is growing near when we will peer into the abyss, as we once did with our LP collections, and decide it’s time to trim down the CD library in order to make room—for ourselves and for the CPUs that will be our new “record” collections. LP sleeves—album-cover art, CD booklets—CDs and LPs themselves—are all disappearing as I write this, and will soon be things of the past. Sure, we dedicated oldsters will never give them up, but the next generations have and will. That high-pitched squeal you hear in the background is the sound of the SACD/DVD-Audio “revolution” losing momentum.

As Gillian Welch sings in the first line of “One Monkey” (from *Soul Journey*), “One monkey don’t stop the show....” Sure enough, it’s taking a number of monkeys to stop the music business’s increasingly troubled, CD-driven show. But, as the rest of Welch’s line goes, “...so get on board.” Soon we won’t have a choice.
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